Incomplete

UK Butterfly

&

S-World

By Nick Ray Ball and Vinnie Bond

Inspired by Sienna Skye

Nov 24, 2022,

Oct 25th, to Dec 31st, 2022.

Suggested start

at Chapter 8

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Part 1

Inflation

Chapter 1

Why High Inflation is a Positive for the UK Debt-to-GDP Ratio

13.77__How-to-Frame-Inflation-as-a-Positive-for-the-UK-Debt-to-GDP-Ratio__(Oct_25_2022)

By **Nick Ray Ball** Oct 25, 2022

Chapter 1. Why High Inflation is a Positive

For the UK Debt-to-GDP Ratio

13.77__How-to-Frame-Inflation-as-a-Positive-for-the-UK-Debt-to-GDP-Ratio__(Oct_25_2022)

By **Nick Ray Ball** Oct 25, 2022

For Rishi Sunak, Rupal Patel, Jack Meaning & The Bank of England

First and foremost, I am not saying inflation is good, I am simply laying out the reasons why it's not as bad as is reported and giving you a better way to frame it to the media, bankers, politicians and the public at large.

Today I am writing the first of three papers and an introduction to S-World UK Butterfly AGI, inspired by a commiserations letter I wrote to Liz Truss on Friday, Oct 20, 2022.

The working titles of the other two papers are important for context, they are

2. **S-World AGI – UK Butterfly – How to score a perfect 4x on the Keynes Multiplier**, without any arguments.

3. **Loss Aversion in UK Politics and the Media**.

You may read the quickly written letter I wrote Liz Truss at the following URL: https://www.supereconomics.ai/13.69b__Dear_Liz,_Something_to_cheer_you_up,_when_all_is_dark__(Oct_24_2022)

So, to business then and the first of the three papers; Why High Inflation is a Positive for the UK Debt-to-GDP Ratio.

What I'm presenting is not in any way controversial, it is textbook economics, but with a loss-averse media favouring bad news, and the 3rd rule of macroeconomics being expectations, it has been either overlooked or sat on.

I know much more about US economics than UK economics, but for now, let us assume the similarities are true in this instance.

The USA never paid off its second world war debt, it just got inflated away, as a very small number within a much larger one. So, in terms of the important debt-to-GDP ratio, which in turn is a major signal to lenders – inflation is good.

I'm not saying it is desirable, but I will say that if it's a global problem or a Western problem at least, then no matter the cause (too much QE, Energy Prices, a general readjustment due to lower wages in the developing world, et al.) There is only so much that the UK government and the BOE can do about it. Maybe one can move it up or down 1%, but that will not make a great deal of difference to the global/Western situation.

My point is that there is not a great deal that can be done after fiscally responsible coordinated government and BOE actions have been deployed, as seems now on the cards. So instead of running from the problem, why not create a media-focused positive inflation strategy? By refarming inflation as presented.

On Friday I wrote some very quick numbers on a spreadsheet that draw on some further basic assumptions. [You can download the spreadsheet here]

1. Let us for the sake of having a figure to work from assume that real GDP/Output increases by 1% a year.

2. If the cost increases by 10% a year for 3 years and the cost is pro rata averaged out across the economy then the cost of all items would be 30% more + 3% for the three 1% years of growth, plus a little more for the compound nature of these things so a 33%+ increase to the cost of all output and so a 33% increase to GDP? (Note the deliberate question mark here, it is a statement, but it can be improved upon by specialists.)

A touch of post-script research and I remember there is both nominal GDP in which inflation is not factored and real GDP where it is. See https://www.investopedia.com/terms/r/realgdp.asp - so in the above, I am describing nominal GDP, whereas when historical GDP curves over the last 100 years which steadily rise at an almost predictable rate use real GDP (inflation-adjusted GDP), and so stagflation is in terms of real GDP, and my assessment is based on stagflation, so in the real world, the debt-to-GDP ratio will be even lower than my figures suggest as I cautiously only put in 1% for real GDP whereas it will likely be closer to 1.5% or more when you average out 2023, 2024 and 2025.

(Postscript note, but not if the government introduce austerity and the BOE increases interest rates above 4%)

2. For now, let us ignore the import and export variables, sure, we should be making more things and exporting them and or selling them to ourselves and we come to this in **S-World UK Butterfly – How to score a perfect 4x on the Keynes Multiplier**. But for the sake of simplicity, let's ignore this for now.

3. My data is far from perfect, but the principle holds. Here is the crux of the spreadsheet that assumes 10% inflation and 1% GDP growth for three more years, not saying that's going to happen, just saying that if it does, it is not a bad thing for the UK debt- to-GDP ratio, which if lowered would decrease borrowing costs and lessen the amount of our GDP spent on paying off existing debts in real terms. So let us see some numbers based on 3 more years of 11% inflation.

First, however, let us deal with my input assumptions, my variables, which will not be correct, but are close and the point is not the starting number and the ending number – the point is the swing.

I start with a quickly made estimate of UK GDP in 2022 at £2.6 trillion, my very basic sources were [this Statista.com search] suggesting £2.2T in 2021 and [this Google search] with sources including the World Bank (note it is in USD) (further note the rise of India) saying £2.7T in 2020, so I use £2.6T, but it may well be higher due to the 2021 figure being artificially low due to COVID.

For UK debt, I looked at two sources [Statista.com] and [TheGuardian.com] Statista suggested £2.1T in 2020/2021 and with 2021/2022 also being a COVID year I estimated £2.5 for 2022/2023 which if 2022/2023 GDP ends up at £2.6T is close to the Guardian.com headline; *Now Britain is in the 100% debt-to-GDP club, what's the spending plan?* Where £2.6T in debt and £2.6T in GDP would make an even 100%.

However, for the figures in the spreadsheet, I shall use an estimate of 2022/2023 GDP of £2.6T and dept of £2.5T for a starting debt-to-GDP ratio of

96.15%.

GDP	£ 2,600,000,000,000.00		2022
Debt	£ 2,500,000,000,000.00		2022
Debt-to-GDP		96.15%	2022

Next, I simply apply 11% inflation each year and add the estimated increase in borrowing and work out the 2025/2026 debt-to-GDP ratio if inflation is 10% a year and Real GDP growth is 1% each ear. Here is that simple spreadsheet:

GDP	£ 2,600,000,000,000.00		2022
10% Inflation + 1% Growth		11%	
	£ 286,000,000,000.00		
GDP	£ 2,886,000,000,000.00		2023
10% Inflation + 1% Growth		11%	
	£ 317,460,000,000.00		
GDP	£ 3,203,460,000,000.00		2024
10% Inflation + 1% Growth		11%	
	£ 352,380,600,000.00		
GDP	£ 3,555,840,600,000.00		2025

We see that in 2025, GDP would be £3,555,840,600,000.00 (£3.55T)

Now the trickier part; estimating borrowing, one can always have the possibility of an ELE (extinction level event), or another pandemic, so there can be no accurate predictions only estimated guesses. But based on current borrowing, let us take the FTs figure for Sep 2022 of £20 billion, and the ons.gov.uk Q1 2022 average figure of £15.8 billion and use £18 billion a month as our figure x 12 for £216 billion in 2022. And for continuity let's apply an 11% yearly increase to that.

Borrowing	£ 216,000,000,000.00		2022
10% Inflation + 1% Growth		11%	
	£ 23,760,000,000.00		
Borrowing	£ 239,760,000,000.00		2023
10% Inflation + 1% Growth		11%	
	£ 26,373,600,000.00		
Borrowing	£ 266,133,600,000.00		2024
10% Inflation + 1% Growth		11%	
	£ 29,274,696,000.00		
Borrowing	£ 295,408,296,000.00		2025
2023 + 2024 + 2025	£ 801,301,896,000.00		

And we have £801,301,896,000.00 (£0.8T)

Now we add that £0.8T to our 2022 starting estimate of £2.5T for a 2025/2026 estimate of debt of £3.2T relative to a GDP of £3.55T for a debt to GDP ratio of 92.84%:

	GDP	£ 3,555,840,600,000.00		2025
	Debt	£ 3,301,301,896,000.00		2025
Debt-to-GDP			92.84%	2025

This is still high, but it has gone in the right direction relative to our 2022 96.15%. Or as the Guardian Reported 100% (albeit if it was already 100% the figures would be different, so we must use the 96.15%.)

Further, any country that after borrowing a lot of money to pay for COVID can by 2025 move their debt to GDP level to a pre covid figure would be seen as fiscally responsible by the World Bank, the IMF, and others. Of course, the same may happen to all western economies, and maybe, just maybe, that's the reason for the inflation in the first place, and once Western county's debt to GDP levels are restored below that 100% benchmark it will stop all by itself. That's only a theory I had just now, but the figures, in general, are not.

As for right now, we need two more pieces of the puzzle, which will be presented in my next two papers, first how S-World AGI can create a Keynes Multiplier of 4:1, simply by matching government investment of say £400 billion over 4 years. With a private investment of three times as much. So, £1600 billion over 4 years.
Forget about the debate that has been going on with economists for nearly a century about the effect of the Keynes multiplier, where one tries to estimate the value of putting say £400 billion into the economy, on infrastructure projects like HS2 and the like. When you achieve a matching investment of 3:1, the collective (federal and local) tax receipts alone will add far more to the public purse than is paid out.

The last piece of the puzzle is when combining the two above into an economic strategy, the loss-averse media and other political parties will have so much good news that it more than compensates the 1:2 effect of Kahneman and Tversky's loss aversion theory, made economically famous by Richard Thaler and others. Where bad news (or threats) is twice as motivating as good news. (Unless the theory is out and in fact threats are more like 10:1)

And with that plan, that roadmap, the very same thing that derailed Liz Truss's vision, the third law of macroeconomics – expectations, will work in reverse and if deployed as a unified message across all parties (because S-World AGI already has Labour and the Greens votes, they just don't know it yet), then we could see an immediate boost the UK economy and great expectations will become great history.

End of paper, except for a little bit of my debt to GDP analysis history:

The Kobayashi Maru debt-to-GDP Game – Feb 2012

What do know about Debt-to-GDP ratios?
As someone without an economics degree?
Well, you can say I have an instinctual feel for them, as in February 2012 without any economics training and just an hour on Wikipedia one of my first economic works, written before my first economic book The Theory of Every Business, that was improved upon in parts two and three by combining it with influences from quantum mechanics, then string theory, I created the Kobayashi Maru GDP Game spreadsheet/software; you may download it here.
(But it will probably look awful because the standard colour pallet on Excel is different now)

As you can see below, it was a cautionary tale that focused on the Debt-to-GDP ratio of the US. The game was you could change 13 variables seen below in the colour light purple to see the future Debt-to-GDP ratio, and the Kobayashi Maru was there was no way to win, except perhaps the theory of every business I was preparing in American Butterfly.

PQS	"Predictive Quantum Software" - The Purple Emperor Edition V1.07

"The Kobayashi Maru GDP GAME" (2012)

US Economy
Total Debt
Public Debt
Interest
Social Security
Medicare
Medicaid
GDP

Please Input Your Estimates In The Purple Fields

Medicare Cost Calculator		Medicaid
Inflation =	2.80%	2.8%
Enrolment =	3.33%	
Tech Costs =	2.50%	2.5%
Drugs Cost =	2.50%	2.5%
	100.0%	100.0%
TOTAL =	111.13%	107.8%

Social Security Costs	
Cost of Living Adjustments:	2.8%
Enrolment:	3.3%
	100.0%
TOTAL +	106.1%

Interest Rate from 2015:	4.80%	Estimated Total Debt Increase Baseline:	$1,500
Medicare Costs 2010:	$523	Estimated Yearly Increase On Borrowing:	104.5%
Medicaid Costs 2010:	$406	Public Debt Increase as % Of Total Debt:	100%
Medicare Increases By:	111.1%	GDP Increases from 2012:	104.50%
Medicaid Increases By:	107.8%	Social Security Increases By:	106.10%

GDP Predictions

Government Tax Yield Usually Equals 18% GDP

	2009	2013	2017	2021	2025	2029	2033
Social Security, Medicare, Medicaid & Interest:	11.7%	15.3%	18.8%	22.0%	25.6%	29.6%	34.3%
GDP vs Total Debt Ratio:	82.6%	105.4%	122.7%	137.5%	150.0%	160.5%	169.2%

However, the game was won, and the US did not fall into the debt-to-GDP trap shown, as interest rates dramatically lowered and other factors combined to avert the catastrophe, thus far.

You will see it quickly revisited and explained in this exploratory paper from 2017, find the section – Obama Wins, and note this paper was never released. But it is the only work I have done until this, specifically on the debt-to-GDP ratio.

For better papers, I did release from 2017 see https://www.angeltheory.org and to see a good sample of work from 2012 to 2022 see https://nickrayball.com, but be quick because as soon as I have traction, this may well become a secret once again.

Final note, S-World AGI is not a purist AGI, it is as-if AGI.

What do I mean by as-if, well a good example is myself, and my spelling, I've never been officially written up as dyslexic, but to read my work without Word Editor and Grammarly you would think you were reading the work of a young child. So, for sure, I am 'as-if' dyslexic, as you would not be able to tell the difference between me and someone with dyslexia. It has its benefits, especially in the technological age. But I'll not get into that now.

Instead, let us just use the analogy and say that t10t (The 10 S-World Technologies) ~~that I have developed since 2011~~ are 'as-if' AGI in that the financial and beneficial nature of them would seem to anyone who witnesses their unleashed power as if it were real-world AGI – **Artificial General Intelligence**. At least as far as is written in the most popular books on AI like Life 3.0 et al.

The 10 Technologies are designed in a way that needs no innovation, as S-World AGI is a combination of AI that we know today and human intelligence that we all have. Plus of course, the spiritual and quantum gravity theory that helped inspired the S-World t10t plan.

I suggest you start looking at T7. S-RES, as presented on NickRayBall.com to see just one of the 10 technologies. But note it will be a week or maybe two before I have added all the links and written the homepage, and the best work so far – the 62 different S-World Algorithm sets are safely stored on a semi-encrypted website.

Chapter 2

Quotes, Postscripts 1. A Better Understanding of Inflation and the Trade Deficit

13.77b__Quotes-Postscripts-and-The-FRR-(Fractional-Reserve-Rate)__(Nov_3-to-13_2022)

Quotes from BOE economists Jack Meaning and Rupal Patel
from Can't we Just Print More Money
and internet sources

Joseph E. Stiglitz
Plus, Original Text and Economic Theory by Nick Ray Ball
Nov 3, 2022, to Nov 13, 2022

Chapter 2. A Better Understanding of Inflation and the Trade Deficit

Quotes & Postscripts 1

Postscript 1. (Nov 3, 2022)

By **Nick Ray Ball** Nov 3, 2022

From

Can’t We Just Print More Money?
by Rupal Patel and Jack Meaning.

Chapter 10. Can’t We Just Print More Money?

@ 07m:49s
“Third there are what economists call **income effects**, importantly, these will affect you differently if you are a saver or a borrower. **If you are a borrower lower interest rates mean you have to spend less each month on your mortgage payments, this means you have more money in your pocket and as we’ve seen when you have more money, you’re likely to spend more, again boosting the economy.**
On the flip side if you’re a saver, lower interest rates now mean you’re getting less each month on your savings, your monthly income has actually gone down and you’re likely to respond by raining in your spending.
The truth is that most of us are both savers and borrowers, we have money in our bank accounts and a mortgage for instance. So, your personal income effect would depend on the balance of those factors.
The strength of income effects across the entire economy depends on the balance of savers and borrowers and how much each group changes its spending in response to changes in income. If both savers and borrowers have the same sensitivity to changes in their income, then the equal but opposite income shifts of savings and borrowers would balance out so there would be no change in spending overall.
However economic evidence suggests that borrowers are more likely to spend a larger part of their newfound income than savers are to rain in their sending, meaning the income effect from a reduction of interest rates tends to boost spending in the economy.”

(P.S.1 to the P.S.1 on Nov 20, 2022)
Thus the more borrowers the better for spending, and thus the increase in interest rates to slow borrowers spending to deal with inflation. But if inflation is a global and temporary problem, all you do is stall the economy.

So here is an idea, why not let inflation just run its course? I saw on Monday (before Nov 3rd) the BOE report of the longest recession since time began, that seems, whilst of course, due to many factors, not the least of which was Brexit, but will be compounded by higher interest rates and so people with mortgages will have less money and many will have negative equity.

Now the following is pure conjecture, just a thought I had, that like many others at this stage, is just a part of the learning process, if everything you write has to be correct, you would not learn from hindsight.

So, here's the initial idea.

Why not keep interest rates lower, and let global inflation run its natural course, and when it ends, it ends?

Instead of BOE action aimed at keeping inflation low, suggest government action to keep income on par.

(P.S.2 of PS.1 also Nov 20, 2022) – Unless the idea is to lower workers' wages, as we hear about from Stiglitz soon. Note I am very anti-union, the best workers should be rewarded, and the worst easily sacked, (see UCS Hawthorne in Part 2 for software that lets everyone know who is performing best and worst.)

Since writing the above I have further researched inflation targets.

In 2010 the usually conservative IMF (later reported in Rewriting the Rules of the European Economy by 2001 Nobel prize winner Joseph E. Stiglitz) An inflation target of 4% was better than 2%, particularly in a time of change.

Devaluing currency to boost export competitiveness in Europe.

Consider accepting a devaluation of the pound and plan a bold new economy based on creating more of the things we buy in foreign currency in the UK, which is at the heart of the initiative presented in Part/Paper 2. S-World AGI – UK Butterfly.

In Joseph E. Stiglitz's 2015 work The Euro, of which some bullet points are presented in part 2, Stiglitz argues that the Euro itself is an economic problem for counties like Italy and Spain competing for exports against Germany.

In the days before the Euro, a devaluation of Italy's and Spain's currency would be a positive as it would help address the problem by making Italy, Spain and other country's exports cheaper relative to Germany and for that matter from China and developing nations where labour is cheaper, without the nearly impossible task (which I know from personal experience in 2009) of companies having to reduce workers' salaries in the face of economic shocks, technological advantage's gain by competitors, or catatonic forecasting mistakes by competent financial management with poor/standard technology, or all three at once as I faced in 2009 with www.CapeVillas.com

So why keep interest rate targets lower than the sometimes-mentioned 6% and just accept a weaker pound as part of the deal for now. Eventually, if the GDP-to-debt ratio falls below other countries the value of the pound will rise again, and so in that respect, the more inflation the better, if we could go for 5 years, the Debt-to-GDP seen in part 1 would be closer to 80%, compared to the 86.4% to 87.5% currently in the EU.

This action would increase the cost of imports, and so increase the sales of British-made goods, services and manufactured items and infrastructure. And at the same time make all British goods cheaper for European and global markets.

Keeping interest rates at the current 3% or at least no higher than 3.75% as opposed to a rise closer to 6% will stop the real estate market from collapsing and stop the negative equity trap, seen in the early 1990s.

A few years of 10% inflation (if that is the global trend) or a decade of a target of 4% inflation, not 2% means interest rates can remain at 3% or less,

And note that whilst rarely mentioned by the UK media **quantitative easing**, designed specially to increase low inflation to the target of 2% (after lowering interest rates was no longer an option), which was unchecked in experience other than in Japan, is arguably a contributor if not an equal cause of the global inflation to the energy problems, **as the world economy readjusts to the unnatural creation of over $15 trillion by the US, the EU and the UK (plus more from other countries) as reported in Jack Meaning and Rupal Patels Can't We Just Print More Money?**

On this page, https://www.bankrate.com/uk/mortgages/bank-of-england-base-rate we see the BOE interest rate from August 2000 to 2009 between 3.75% and 6% averaging about 4.75%, then a drop to 3% in November 2008, and to 2% a month later, then 1.5%, then 1% then 0.5% by March 2009 than staying below 1% until the record ends in March 2020.

Of course, it helps to look at this and to also know that at the same time as the interest rates were this low, there was the QE, which must have been how it was possible at all. Thus, without QE this low rate is unnatural !/? A question as well as a statement.

So maybe 5% is the natural order, without QE?

But for anyone who took out a mortgage since November 2008, or a business loan or any finance that needs to be maintained and refinanced, a jump from the March 2009 to 2020 average of about 0.5% to 6% would be a 1200% increase. (0.5% x 1200% = 6%), which is going to cause chaos, lower property values, cause mass negative equity and defaults, drive many businesses out of business et. al.

If the natural order in this millennium is 5% before QU started. What is the natural order if the inflation target is 4%
As recommended by the IMF in 2010 – “Especially during times of change”, such as Brexit, followed by COVID, followed by the loss of the high-profile boss of the BOE Mark Carney, then the war in Ukraine and the Energy crisis – which is a lot of change in under a handful of years.

> (P.S 3. To P.S 1, also on 20 Nov 2011:)
> *This postscript, to the postscript, is in part a comment about why the markets were so spooked after the Truss Mini Budget, which was what started this part of the book on inflation and the GDP to debt ratio in the first place.*

And all that before the loss of the UK and Commonwealth head of state whose face is on every note and coin passing away with a not particularly popular king replacing her, at the same exact time as he's been epically trolled by Netflix. What did we expect the pound to do?

Don't forget about branding - as an essential ingredient in managing expectations – the third law of macroeconomics according to Harvard's David A. Moss.
Not to mention a new unpopular Prime Mister, before we even touch on loss aversion by the media, creating a perfect storm, that led to austerity when none was needed because the markets got spooked – grow up, markets are not perfect.
Brexit was a mistake, but don't let it be for anything.

Would a 4% inflation target require a higher interest rate than a 2% inflation rate? One would assume so, and whilst these are obvious questions for BOE economists, remember I'm primarily a technology designer, not an economist. This entire exercise (Part 1 – Inflation) is a learning exercise for me to better understand inflation and the role of interest rates as part of adapting Technology 7. Š-ŔÉŚ™2021—☖≥ÉL to western economics as presented in Part 2. S-World AGI – UK Butterfly.
That's AGI for Artificial General Intelligence, like the Terminator, machines that are generally cleverer than us at everything. That most AI experts think is at least 40 years away, if possible, at all, but is presented – a tab earlier than anyone expected, in part 2.

Maybe with inflation I/you need to think about these things counterintuitively sometimes and see the opposing arguments within the opposing arguments. Now we're in S-World AGI and the world of economics inspired by Quantum Mechanics and Quantum Gravity.

I can at least now see both sides of the argument better, but still, a 1200% increase is going to hurt, if within a year. If it has to be, better to stretch that out over three to five years. But I do understand the counterargument that if the Fed is at 3.75% and the BOE is at 3%, then that will draw money out of pounds and into dollars.
But again we can go back to a lower pound being a strategy worth considering

anyway.

But still, moving to 6% will hurt and should in my humble opinion be avoided until at least 2024 if at all possible.

And remember, the argument for inflation being good for the UK Debt-to-GDP ratio has already been made in chapter 1 and is online at:
https://nickrayball.com/Why-High-Inflation-is-Good-for-the-UK-Debt-to-GDP-Ratio__(28-Oct-2022).php

So, one tactic, if my above counterintuitive consideration is just wrong is: Given the UK's unique circumstances: Brexit + Covid + Energy Crisis + Lost Head of State + Shortest Premiership in History + Recent political and financial turmoil et. al. – Is that BOE could run with inflation of 10% for a handful of years to clear off some of the debt (relative to GDP).

I'm sure I'm not the first to think of this, and it's not a recommendation, just a theory, and intellectual exercise in counterintuitive rationalising, which I will attribute to my fun but still amateur adventures in QM and LQG. *(Quantum mechanics and Loop Quantum Gravity)*

last thought.

Cut taxes on businesses (P.S.4 of P.S. 1 – Nov 21, 2022) per American Butterfly, because in the US federal business tax was only 4% of all taxes and this is more of a disincentive to businesses that will lose more money than it is a good income gain for the country. (The UK probably has a higher business tax than the US, as their average of all taxes is later than the UK's)

In the UK business tax is now 19%, this was due to go up to 25% but was rolled back in September 2022, but this may have changed again on the November 17th 2022 Jeremy Hunt Budget, with the update not added yet to the government webpage) but adding more windfall taxes seems prudent.

Continuing:

Can't We Just Print More Money?
by Rupal Patel and Jack Meaning.

Chapter 10. Can’t We Just Print More Money?

10:18
“**The final channel of transmission is particularly important if you’re a small internationally connected economy like the UK, this is the effect of the exchange rate, when central banks lower interest rates, this tends to lower the exchange rate, and sterling falls in value when UK interest rates fall**. If the interest rate in the UK goes down, but the interest rate in the UK doesn't then you’re going to get a relatively better return if you switch your money out of pounds and into dollars, so money flows across borders, and more people want to buy dollars and sell pounds. This shift in demand means that the price of switching from pounds to dollars, the exchange rate, changes, making it more expensive to buy dollars with pounds.
This in turn pushes up the prices of imports which as we heard about in chapter six, pushes up inflation.

(P.S. 5 on P.S 1 – Nov 21, 2020) – Drawing on content to be shared in Paper/Part 3 – Loss Aversion – In that **politician, economists, and the media** often report negatives, not positives, because positives do not sell to the public anywhere near as well as negatives **(for votes won, books sold, or ratings gained/papers sold).**

And drawing on a wealth of text soon to be presented from both Joseph E. Stiglitz's The Euro and Rewriting the Rules of The European Economy. The above statement:

> ***“This in turn pushes up the prices of imports which as we heard about in chapter six, pushes up inflation.”***

Does not mention **a weaker pound that pushes up the price of exports, also increases the competitiveness of British exports,** and whilst a conversion with my Polish economist friend Aga, who introduced me to the CASS business network and an event that first introduced me to VCs, her conclusion in 2012 was that there essentially are no exports as manufacturing is in the UK is but a small piece of the pie, whereas services account for the greatest portion. **Note we also export services.**

> *Note this interesting but 8 years out of date page*
> *https://www.ons.gov.uk/economy/economicoutputandproductivity/output/articles/fivef*

actsabouttheukservicesector/2016-09-29
And this page from 2021 is newer https://commonslibrary.parliament.uk/research-briefings/cbp-8353/

A new, but also an old theory of mine, and it's just an exploratory theory, is that in a way GDP = Money from all exports, plus all new money coming into the country, be that investment, international real estate buyers, from Russians to the Far East *(in the last year 3 of the 8 houses in my road (in Epsom Surrey (England riches country)) were bought last year by new and most welcome Far east neighbours who are a lot friendlier than the incumbents)*, plus all other cash coming in the country for whatever reason.

This cash is then spent and re-spent – kind of like an unorganised **T7. Š-ŔÉŚ™2021—⌂≥ÉL** (that we examine in detail in part 2), from one service to another, which then multiples money in, (for example to retail, where their staff spend money on hospitality, who in turn spend some of their money of other, who's staff spend on retail and hospitality, re-spending the money about 4 times, and importantly in this system, most re-spends add to tax revenue. So, in a very simplistic way GDP = all money in x services re-spending Śpin (maybe about 4) in re-spending that money via the services sector = GDP.

Of course, one can factor money already in the UK being re-spent and re-spent in the same way, and indeed that is the first **Š** in the **Š-ŔÉŚ equation/algorithm**, and we must factor government spending, but in a way, the government mostly provides services.

So there is more to it than ignoring manufacturing and construction because the service sector adds more to GDP, so let's move that 4 to a 3 and say that (maybe) for every good or service exported its value is increased by 3 by the re-spending of the money in the service sector, so every export (or new money from outside the UK into a property or new infrastructure) is tripled, (in terms of GDP) by the service sector. So, when economists look at the graphs and see manufacturing and construction as a small piece of the pie, are they are missing the bigger picture, of the services sector re-spending that money?

(P.S. 6 on P.S 1 – Nov 21, 2020) – **Imports and Exports – and The Trade Deficit.**

This link is useful https://commonslibrary.parliament.uk/research-briefings/sn02815/

> In 2021, the UK's exports of goods and services totalled **£636 billion,** and imports totalled **£654 billion.** The EU accounted for 42% of UK exports of goods and services and 45% of imports in 2021.
>
> **The UK generally imports more than it exports meaning that it runs a trade deficit.**

Here we see those imports, exports and the trade deficit, are not as bad as I had feared. It's not good, but it could be worse. *(Especially as I don't think this includes money into the country spent on real estate, and I would expect there to be more money coming in than out in this sector.) (Note to self – Fact Check this.)*

This is from the same link as above:

> A deficit of £154 billion in trade in goods was offset by a surplus of £136 billion in trade in services in 2021. The overall trade deficit was £18 billion in 2021. **The UK had a trade deficit with the EU of £25 billion in 2021 and a trade surplus of £7 billion with non-EU countries.** (11 Nov 2022)

It would however be useful to see some trade deficit figures that showed before and after Brexit.

This is interesting:

> "**Almost everyone's a loser: EU-UK trade sharply lower than in a world without Brexit**."
> https://www.politico.eu/article/almost-everyones-a-loser-eu-uk-trade-sharply-lower-than-in-a-world-without-brexit
>
> How much trade has the UK lost since Brexit?
> The Economic and Social Research Institute (ESRI) in Dublin found that Britain's exit has cut the potential value of goods exports to Europe by **16 per cent**, while EU exports to the U.K. were even more sharply lower, representing a 20 per cent loss in potential sales. (19 Oct 2022)

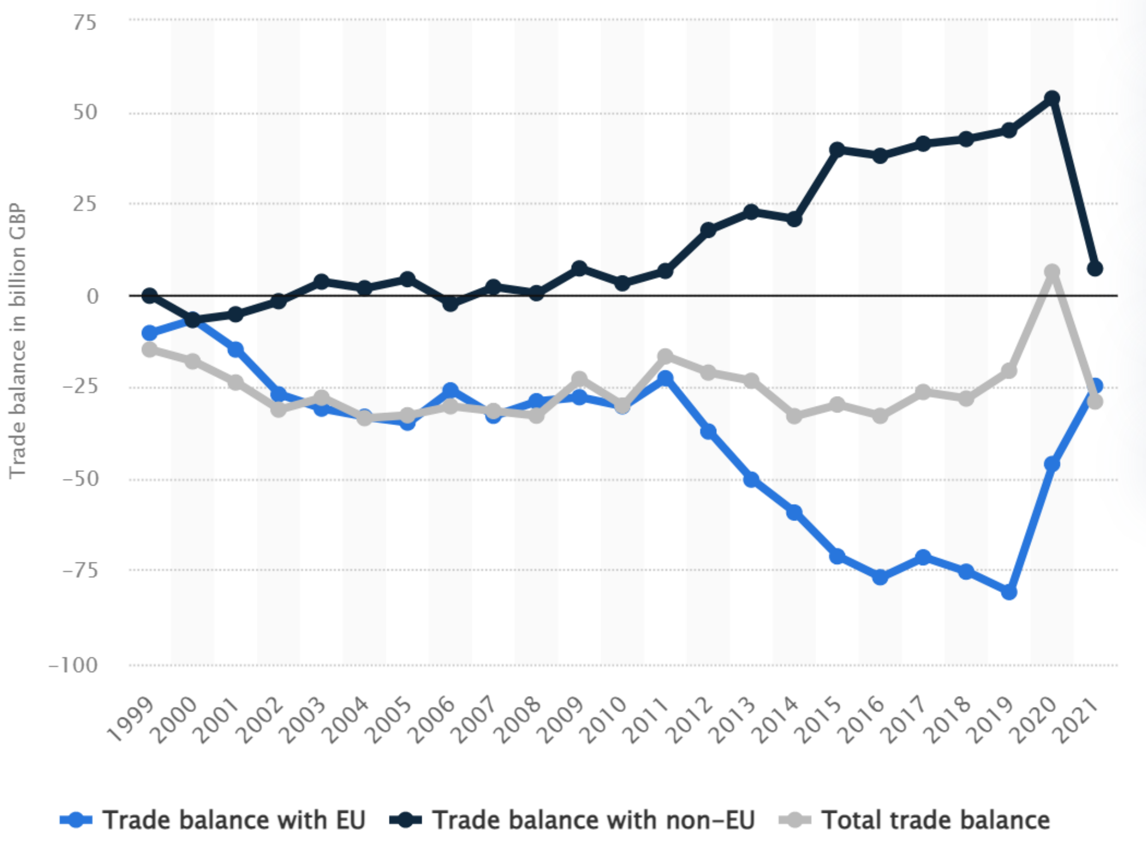
Thus at least 16% was lost in trade, both ways.

From the same Google Search – And note in 2012 when I did American Butterfly, this type of research was impossible as this type of data was only available for the USA online, mostly due to Wikipedia of all sources, but it was accurate.

> **Is the UK better off after Brexit?**
> https://en.wikipedia.org/wiki/Economic_effects_of_Brexit
>
> The economic effects of Brexit were a major area of debate during and after the referendum on UK membership of the European Union. **The majority of economists believe that Brexit is likely to harm the UK's economy and reduce its real per capita income in the long term**, and **the referendum itself damaged the economy.**

Whilst this is kind of like asking the feeder of the cat, does your cat like to be fed, sometimes you need to state the obvious.

> This is good from: https://www.statista.com/statistics/1116212/united-kingdom-uk-trade-balance-eu-and-non-eu/
> **Goods and services trade balance of the United Kingdom (UK) with the European Union and countries outside the European Union from 1999 to 2021**



So, a relatively stable trade deficit from 2001 to 2011, then a sudden divergence, to a greater deficit with Europe and a greater surplus with the rest of the world.

This must have been what gave the early Brexiteers the idea that an exit from Europe was a good idea and that it was Europe that was holding us back.

Then British Prime Minister David Cameron promises a referendum on Britain's membership in the EU if the Conservative Party wins the next election (reported on Jan. 23, 2013)

Then in 2014 came the spike in exports to non-EU, which almost flattened a year later when the referendum was held, after which we see slugging but still a greater and greater trade surplus with non-EU counties. The 2015 United Kingdom general election was held on Thursday, 7 May 2015

Then on June 23: The United Kingdom votes in a referendum to leave the European Union. By 52% to 48%. A majority of voters in England and Wales have backed "Leave", but Scotland and Northern Ireland have voted "Remain". David Cameron resigned as prime minister.

From 2011 to 2019 exports versus imports to Europe shrank year on year.

This EU deficit did seem to look up in 2019, indeed things were looking very good according to this source, as in 2019 the EU trade deficit lowered, and the outside EU surplus improved as well and for the first time, the UK had a trade surplus.

What happened in 2019 to cause this once-in-a-20-year trade surplus?

But then came COVID majorly affecting the UK first in March 2020
https://www.instituteforgovernment.org.uk/charts/uk-government-coronavirus-lockdowns

So there is one piece of essential data missing and **one general piece of advice that data notwithstanding and that is whatever the economic policy was in 2019, from both the governed and the BOE in terms of the trade deficit – Repeat it.**

Continuing:

Can’t We Just Print More Money?
by Rupal Patel and Jack Meaning.

Chapter 10. Can’t We Just Print More Money?

Still with us – good, but **there's one final complication, all of these mechanisms take time to work their way through the economy. Monetary policymakers can't just click their fingers and suddenly inflation springs up or slows down. It's a bit like a sharpshooter aiming at a moving target, you have to aim ahead of where the target is when they pull the trigger because they know it will have moved by the time the bullet reaches it**.

Likewise, when interest rates move – it takes a while for the results to come into effect, this means that policymakers are constantly trying to set policy for where they think the economy will be, not where it actually is. These lacks (or lags) are not particularly well understood and can be different at different times, and in different conditions, **in most instances, though the effects of monetary policy take between six months and two years to be seen in the price inflation all around us.**

One important consequence of this is – **if inflation is high today because of something that had already happened, but is not expected to last, there is little that central banks can do about it.**

If they were to increase interest rates in response to inflation today by the time that rate rise had an effect, the temporary inflation would have gone, **<u>they would merely be slowing the economy at a time they didn't need to.</u>**

By **Nick Ray Ball** Nov 6, 2022

Postscript 2. (Nov 6, 2022)

To complement the two quotes above from Can't we Just Print More Money by BOE economists Jack Meaning and Rupal Patel, I needed to find a quote from a book I read in 2018, which I thought would be a real mission, but fortunately, my filing system (of sorts) was up to the task, plus I had some luck.

I thought the quote was from Democrat-leaning 2001 Novel Prize-winning economist **Joseph E. Stiglitz,** from his book **Creating a Learning Society,** which was **the major influence behind Technology 8. Net-Zero DCA (Dynamic Comparative Advantage) Software**.

But whilst my 7,000 words of quotes and notes will make for a good addition to the dedicated T8. website https://www.64reasonswhy.com this book was not the right one, so I went through my notes from **Straight Talk on Trade - Dani Rodrik** but no joy there either, albeit this book is **always a pleasure and never a chore.**

Then I tried 2008 Novel Prize winner Paul Krugman's End This Depression Now! But no Cigar. I was about to start on Oxford Professor Paul Collier's fine books when I saw a book, I had started but had not finished – **The Euro by 2001 Nobel Prize winner Joseph E. Stiglitz**, and this looked to be on track, so I re-downloaded the book, and to my surprise, the section I wanted was almost exactly where I had left the book.

Which reminded me of a speech at an assembly by my old headmaster Joseph Curry, who said the best place to put down a book, is at its most exciting part, so you are keen to pick it up again. So, this one's for you, Mr Curry. (Glyn Boys – Ewell, Surrey.

Chapter 3

The Euro

by Joseph E. Stiglitz

13.77b__Quotes-Postscripts-and-The-FRR-(Fractional-Reserve-Rate)__(Nov_3-to-13_2022)

Quotes by 2011 Nobel Prize-winning economist and former Chief Economist of the Word bank: The Euro by **Joseph E. Stiglitz**
Nov 6, 2022

The Euro
And its Threat to the Future of Europe

By 2011 Joseph E. Stiglitz – 2001 winner of The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.

But in my view, Stiglitz's most prestigious attribute is that of all the economics books I have read, the vast majority by Nobel Prize winners &/or professors from prestigious brand economics-specialist universities like Harvard, Chicago and Oxford.

Stiglitz was the hands-down winner in citations, every book, it seemed would quote this or that paper by Stiglitz, almost always co-authored, and that's a further plus in my eyes.

Note that Stiglitz is a Democrat, so some of his politics favour Democrat Policy, such as bigger government. However, as I am currently more Republican than Democrat myself, I feel a fair arbitrator, it's the economics I'm most interested in, but the book and his more recent Rewriting the Rules of the European Economy: An Agenda for Growth and Shared Prosperity that I review after The Euro, are both economics and Political Strategy/Policy.

And besides, this is a paper on the UK, not the US, or Euro economic policy, and I know of no openly Republican-leaning economists who have written about the UK or Europe.

It is however very good economics, and whilst a tad old, it is inciteful and most applicable to the coming forecasted (by the Bank of England and most others) longest recession (depression) in the UK and, British, and English history.

Note my comments are, as always in this paper, in a serif font,
and Joseph E. Stiglitz quotes will be indented and written in a non-serif font.

Chapter 3
The Euro
By Joseph E. Stiglitz – 2015

As is the theme throughout the book:

> Quotes are in the usually smaller sans-serif font and indeed.

My commentary is in the usually larger serif font, not indented.

So for example the following paragraph is from Joseph E. Stiglitz and the following paragraph is my commentary on that quote.

> "**This book is about economics and economic ideologies** and their interactions with politics**. It is a case study of how, even with the best of intentions, when new institutions and policies are created on the basis of oversimplified views of how economies function the results can not only be disappointing but even disastrous!"**

For relevance to the UK, ponder that in place of the different counties in Europe, the different counties of England, *(my limited local knowledge only extends to England).* And in place of the European Central Bank and the Euro, consider the Bank of England and the Pound.

My Bookmarked **Quotes** from Chapter One of **The Euro** by **Joseph E. Stiglitz.**

Chapter 1 (Audible Chapter 2)

> 10.23
> This book is about economics and economic ideologies and their interactions with politics. It is a case study of how even with the best of intentions when new institutions and policies are created on the basis of oversimplified views of how economies function the results can be not only disappointing but even disastrous.

> 11.15
> **A single currency entails a fixed exchange rate among the countries**, and a single interest rate, even if these are set to reflect the circumstances in the majority member

countries, given the economic diversity there needs to be an array of institutions that can help those nations for which the policies are not well suited. Europe failed to create these institutions.

12.31
Power was centralised in the European central bank established in 1998, and with strong constraints on deficit spending – **the individual countries were given insufficient flexibility in the conduct of their fiscal policy, taxes and expenditure** to enable a country facing adverse circumstances to avoid a deep recession.

Worse still, the structure of the Eurozone itself built-in certain ideas, about what was required for economic success, for instance, that **the central bank (ECB) should focus on inflation as opposed to the mandate of the Federal Reserve in the United States, which incorporates – unemployment, growth and stability** as well.

15.46
Moreover, **the founders of the Euro were guided by a set of ideas, notions about how economies function that were fashionable at the time but were simply wrong**. They had faith in markets and **lacked an understanding of the limitations of markets and what was required to make them work.**

16.06
The unwavering faith in markets is sometimes referred to as **market fundamentalism**, sometimes as neo-liberalism.

Market fundamentalists believe, for instance, that if only the government would ensure that inflation was low and stable markets would ensure growth and prosperity for all.

While in most of the world market fundamentalism has been discredited, especially in the aftermath of the 2008 global financial crisis**, those beliefs survive, and flourish within the Eurozone's dominant power Germany**. They are held with such conviction and certainty, immune to contrary evidence that **these beliefs are rightly described as an ideology.**

As I note in the preface, **similar ideas, pushed by the IMF and the World bank around the world led to a lost quarter century in Africa**, a lost decade in Latin America, and a transition from communism to a market economy in the former Soviet Union and Eastern Europe that was, to say the least – a disappointment.

> 18.06
> **In my time as chief economist of the World Bank**, I learned that one must be extremely careful in the timing and pacing of reforms, and initial failure increases resistance to further reform, this is the story of the Euro.

At this point in reading, I thought – This is the story of the Liz Truss reforms, where the timing was wrong, given a hostile public and media.

And when shortly after when Jeremy Hunt MP unveiled an opposite plan of austerity, I thought about a quote from BSG '**All this has happened before, and all this will happen again**.'

This was precisely why I was behind Liz Truss, **well actually I was behind Penny Mordant**, but when she did not make the final two, I was against the German-influenced economics.

Maybe we don't need austerity and low inflation, we need a massive investment in producing our own energy and a healthy dose of inflation, and inflation equalling pay rises, to wipe out half the value of our debts over the next two decades, or few years if global inflation keeps up its pace.

Postscript on 26th Nov, if you are reading this Gavin or Rupal, I just went back and noted your quotes from chapter 6, about how this is bad for banks, and how it moves money from the old to the young. No further comment on that right now, but it does come up later I believe.

Of course, you can't just spend your way to the top, you need to spend in a way that grows the economy more than you're spending and that's S-World AGI – UK Butterfly, but for now, let us go back to a few more quotes for Stiglitz's; The Euro.

> 24.46
> The Euro was not the innocent victim created elsewhere markets ever prone to irrational exuberance and pessimism mistakenly and irrationally presumed that the elimination of exchange risk - with the single currency there no longer was any risk associated with changes of the value of say the lira Italy's currency relative to Spain's, the peseta, meant the illimitation of sovereign risk the risk that a government could not pay back what it owed.

The markets shared in the euphoria of the creation of the Euro, and like the politicians, who had helped create it, didn't think deeply about the economics of what had been created. **They didn't realise that the way the Euro was created had actually increased sovereign risk.**
With the creation of the Euro in 1999 money rushed into the periphery countries, the smaller countries like Greece Spain, Portugal and Ireland surrounding the core of Europe – France, Germany and the UK and interest rates came down.

Repeating the pattern seen around the world where markets were liberalised – the rush of money into a country was followed by a rush of money out. As markets suddenly grasped, that they had been excessively euphoric, in this case, the global financial crisis was the precipitating event, **suddenly Greece, Spain, Portugal and Ireland found themselves without access to credit and in a crisis for which the founders of the Eurozone had not planned.**

26.23

In the East Asia crisis, a decade earlier, when sudden changes in investor sentiment reversed capital flows, exchange rates plummeted in the affected counties, helping the countries adjust.
In the peripheral Euro countries, this couldn't happen the leaders of the Eurozone had not anticipated such an event and as such, **they had no game plan.**

Note that this was the quote I was looking for, explaining why the devaluing of a currency is an economic tactic as well as a liability. Good for exports, bad for imports, but as the less reliant we are on imports the better off we are, then the default should be to favour exports over imports and so a lower pound at the right time is a good, not a bad thing.
We will discuss this more in part 3. Loss Aversion and the role the media plays in expectations.

31.53

Before the crisis, Spain and Ireland were running surpluses, their revenues exceeded their spending, and **both had a low ratio of debt to GDP**.

If Germany's theory that deficits and debts were the cause of crises, and that the best crisis prevention policy was enforcing strictures against deficits and debts were correct **then Spain and Ireland should never have had a crisis.**

32.49
Designed by the Troika, which is the Triumvirate of the International Monetary Fund (IMF), the European Central Bank (ECB) and the European Commission (the executive of the European Union – The EU). These programs effectively required crisis countries to surrender large elements of economic sovereignty to their partners, in return for the assistance.

Money is leant to the crisis country, it is seldom given, but with strong conditions, the loan together with its conditions and the country's timetable for meeting the conditions called the program. Unlike conventional loans, where lenders typically add conditions to make it more likely that the loan will be repaid.

33.31
The conditionality imposed by the Eurozone branches into areas not directly related to loan repayment, it **attempts to ensure that the economic practices conform to what the finance minister of the Eurozone countries, <u>dominated in particular by Germany</u>, thinks the country should do.**

This coercion has backfired, and **the conditions imposed have often led to economic contraction making it less likely that the money that was borrowed will be repaid.**

Interesting, I was looking for another quote, by who I could not remember, that told of how the IMF had completely messed up Greece in 2008, and then apologies, only to find it towards the end of Chapter 10 of Can't we Just Print More Money.
I don't have it to hand but will have it bookmarked and will try and add it in the next readthrough, for now, I will highlight this place.

These programs did save the banks and finical markets but otherwise, they were a failure. **Things that should have gone down are up and things that should have gone up are down. Debt is up, both absolutely and relative to GDP, so** it is less sustainable. In many crisis countries, inequality is up, **as are suicides and mass suffering**, and incomes are down.

As this book goes to press (2015 – **seven years after the finical crisis**) **only one of the crisis countries Ireland has returned to pre-crisis levels of GDP. The Troika's**

forecasts were consistently very much off the mark. They predicted that the crisis countries would return quickly to growth. The depth and duration of the rescissions were far greater than their models had anticipated.

34.54
Austerity
There were two critical parts of each of the programs, macroeconomics focusing on cutbacks in expenditures, and structural reforms. The dominant powers in the Eurozone not only believed wrongly that low deficits and debts would prevent crisis, but they also believed the best way toward restoration to the health of the country in recession was a big dose of austerity.

Cutbacks in expenditure intended to lower the deficit. Herbert Hoover was President of the United States at the time of the 1929 Stock Market crash, his policies of austerity converted the crash into the great depression since hoover such policies have been tried repeatedly and have repeatedly failed.

The IMF tried them more recently in Argentina and East Asia, chapter seven will explain more fully why they failed and why they have failed in Europe.

They failed to restore prosperity, worse they deepened the recession, austerity has always and everywhere had the contractionary effects observed in Europe – the greater the austerity the greater the economic contraction. Why the Troika (the European Commission, the European Central Bank and the International Monetary Fund.) would have thought that this time in Europe it would be different is mystifying.
36.37
Countries in crisis couldn't lower their exchange rates which would boost their trade by making exports cheaper, thus **in the view of the Troika to regain competitiveness** they had to lower wages and prices and **restructure their economy to be more efficient for instance by getting rid of monopolies**. Unfortunately, the Troika did a terrible job in identifying the critical structural reforms.

Some of the reforms focused on trivia, others might be important for standards of living over the long run but would have little short-term effect on the current account deficit. Chapter eight will show that some of the reforms were even counterproductive, at least in the short run, as far as restoring the economies to health.

Of course, some of the Troika reforms led to lower wages directly by weakening workers' bargaining rights and indirectly by increasing unemployment. **The Troika hoped the lower wages would lead to lower prices of exports and thus higher exports,** in most cases though, **the increases in exports were disappointing.**

There were of course alternative ways by which the Eurozone could have brought about adjustment, **if German wages and prices had risen, the value of the Euro would have fallen, and thus the crisis countries would have become globally more competitive.** This would have been a far more efficient way of adjusting, **the costs imposed on Germany would have been small relative to those now being imposed on the crisis countries**. But this would have put a little more of the burden of adjustment on Germany **and Germany would not have any of it.**

Germany has become the dominant country within the Eurozone and as such, they could ensure that all of the burden of adjustment rest on their poorer partners – the countries in crisis.

Thus, both austerity and the structural reforms failed to bring the crisis countries back to prosperity, by blaming the countries and focusing on fiscal deficits, Germany and others in the Eurozone had misdiagnosed the source of the problem. **What is needed is not structural reform of individual counties, especially when they are so often poorly conceived, ill-timed and even counterproductive so much as structural reform of the Eurozone.**

47.13

The problem is that Germany has used its economic dominance to impose its own views, and those views are not only rejected by large parts of the Eurozone but also by the majority of economists.

Of course, in some areas like seeing the coming of the 2008 crisis, **the majority of economists** did not do well, but later in this book, I explain why they **were especially right about the effects of austerity.**

Market fundamentalists, to which we referred earlier assume that markets on their own are efficient and stable. Adam Smith often viewed as the godfather of this perspective actually argued to the contrary, that there was an important role for government.

Research in economies, over the past half-century, has shown that not only is there a presumption that markets are not efficient and stable it has also explained why that is so and what governments can do to improve societal well-being.

Chapter 4

Fractional Reserve Banking and S-RES

Original Text and Economic Theory by Nick Ray Ball

Nov 13th, 2022

Chapter 4.
Fractional Reserve Banking and S-RES

By **Nick Ray Ball** Nov 13, 2022

A few thoughts on part 2 so far before continuing works from Joseph E. Stiglitz beginning in Part 3 of this paper.

Instead of changing the Interest rate from 3% to 4% and even 6%, what if interest rates max out at 4% and one lowered the FRB (Fractional Reserve Banking) rate? If there is an FRB rate in the UK?

In the USA FRB, banks, are allowed to lend out a high fraction of deposits, for example, 90%. So, when a bank receives a £10 million deposit, they can lend out £9 million so simulating an increase in the money supply. It's not like QE (Quantitative Easing) which created new money to buy back bonds, so lowering the costs of new bonds sold (of the bought back bonds resold) (like when a public company buys back shares and usually the share price increases.) instead it is said to increase the velocity of money, see this blog by Daniel Goldman called Fractional Reserve Banking: The Myth of Creation of Money.

However it does increase the amount of money in circulation, just like lowering interest rates encourages borrowing so more lending and again more money in circulation, and the reverse of increasing interest rates is supposed to decrease the amount of money in the system, and thus decrease inflation.

For example, in FRB if the rate is 90% when a bank receives a $1,000 deposit, it can lend out $900 whist only keeping $100 in reserve, effectively increasing the money supply as there is more money in circulation, instead of sitting in the bank's vault.

Which increases the amount of money being spent in the economy, and so increasing this rate from say 90% to 80% would lower the amount of money in circulation. However, the last time I research this, a couple of years ago, as best I could remember the Federal Reserve had done away with the process and banks can lend out all of the deposits, keeping none in reserve, see the Board reduced reserve requirement ratios to zero percent effective March 26, 2020.

Of course, you need to consider not just one deposit of $1,000 and $900 being lent out but this happened millions of times over, by millions of customers, and in many cases, greater numbers than $1,000, so adding billions of dollars into the US economy.

So my question is what is the UK fractional reserve banking rate if it exists at all? As best I can work out in the UK fractional reserve banking is described as Reserve ratios, but the only BOE documentation I can find is from 1971, which states;

> "Reserve ratios for banks and finance houses, which came into effect on 16th September, were described in a supplement entitled Reserve ratios and Special Deposits issued with the September Bulletin. **All banks in the United Kingdom have agreed to maintain minimum reserve ratios of 12t% and finance houses at least 10%."**
> Reserve ratios further definitions 1 - Reserve ratios: further definitions 2

Exactly what the 12t% means I cannot say, and I can't find any updates to this in the UK, Google is just giving me US results, but I do remember Australian economist Steve Keen, who was lecturing at Kingston University in 2020 saying that banks needed to keep 100% of their capital in reserve and I always wanted to ask him to explain this in relative to fractional reserve banking, so maybe the UK system is different.

But for now, I'll just say that in the US and if it applies in the UK if you wish to reduce the money supply (or the money in circulation), lowering the FFB rate or reserve ratio percentage from 90% to 80%. (Or in the US from 100% to 90%). would decrease the money in circulation, without having to increase interest rates.

It's an interesting theory and has many sub-algorithms to consider, which may well return to as this paper develops, but my first thought is that lowering the FRB rate percentage, may cause less economic harm than increasing interest rates.

One sub-algorithm is that the banks themselves lose out twice here. They get less interest if interest rates are not increased as expected, from today's 3% to for example 4%, not 6% as some forecast. However, 4% is a lot better than less than 1% that has been applied since the financial crash of 2007-9, and no UK banks have failed because of this.

The second loss to the banks would be if the new FBR rate was applied to existing loans, this would wipe out massive chunks of bank's balance sheets and is unthinkable, so a new FRB rate would have to be for future loans, and I expect that’s the way it would be by default.

In future, when a million £1,000 deposits are added to a bank’s balance sheet, instead of being able to loan out £900million (at an FRB rate of 90%), at a new FRB rate of 80%, they would only be able to loan out £800 million (so constraining the money supply), but as that’s at 4%+ compared to less than 1% they are better off. Or do all banks just add a fixed percentage to the BOE rate?

Either way, with less money in the system inflation, is slowed, and if you need to slow it more just change the FRB rate to 70% or 60%. If that is this system applies in the UK at all.

Lastly, on this point, the only reason I know about it is because of Š-ŔÉŚ™ which has millions of words of hours of video devoted to it. Its simplest presentation which is available without a dedicated login and password is currently found here: https://nickrayball.com/$1039_Trillion_BASIC.php

I will however provide some detail: Š-ŔÉŚ or S-RES (the accents are only there to let the letters stand out when describing it) is Savings + Revenue x recycle Efficiency x Spin.

Where recycle Efficiency is the amount of money that is spent by one company in a network of companies to another in the same network, so keeping the money within the network so it can be spent again, and Spin is the number of times that money is spent within the network within a year.

I have until today (Nov 17, 2022) always describe this as increasing the money supply, but to be completely factual it may be better considered as increasing the production supply, increasing the output of the network, and as we know output is how GDP is measured.

So instead of increasing the money supply, it rather increases the productive capacity of money. And because of that difference inflation is only a factor if the price of the goods and services produced increases. Which is a variable that can be largely controlled by the network when a high enough É is achieved.

Because if É is 99% then 99% of all goods and services created are created by network companies using parts and raw materials supplied by other network companies if imports were to increase in price by 10%, that's only a 10% rise to 1% of the goods and services in the network, which is negligible compared to the 99% of goods and services, who's price is ultimately calculated by S-World AGI – The 10 Technologies, in the best interest of the network and the host country.

In the case presented https://nickrayball.com/$1039_Trillion_BASIC.php S-RES increases the ~~money~~ (output) supply by 32x by essentially increasing productivity over a long period, where Š is for savings and Ŕ is new revenue, the Śpin of money, the amount of times the savings and new revenue is spent each year increased once each year,

And by 32 years, the network of companies involved are working and producing GDP that is mostly consumed by other companies and people who work or own the companies in a closed network (monopoly) according to the recycle-Éfficiency rate (É) which in the case presented maxes out at 99.5%.

Which increases the real GDP, in that productivity increases, so far example if the network started by making 10,000 loaves of bread, by the end it would be creating and eating 10,000 x 32 loaves of bread, as the network grows and there are more people to feed. Or of course, one can trade some of this bread, but in the Malawi model (T6. S-World UCS™ History 3), where the $1039 trillion paper derives from - because trade figures could cause arguments, I only added nominal amounts of trade.

Of course, were not only talking about loaves of bread, were talking about most items that anyone would ever wish to buy. From all the materials needed to build a house and furnish it, to complete railways, even shiny new aircraft carriers. Or so it says in the early UK Butterfly papers.

Further Š-ŔÉŚ™ is superior to any form of fractional reserve banking because where in fractional reserve banking if the rate is 90% and more than 10% of depositors want their money back at the same time you have the ingredients for a bank run.

But in Š-ŔÉŚ™ the money is always in the network central bank**, or potentially for the UK a dedicated vault in the BOE that is untouchable.** So, no risk of bank runs.

The only threat to Š-ŔÉŚ™2021—☖≥ÉL is inflation itself at 10% eroding the Šavings, but it's a disappointment, not a disaster, as long as there is enough new revenue coming in, which was worked out in 2021 with this simple addition the basic equation/algorithm;

Š-ŔÉŚ™2021—☖≥ÉL, where ☖ is a symbol that represents a city (but in the UK can just indicate total investment) ≥ must be equal to or more É Leakage. So as long as there is more new investment than the amount of money that is spent on imports, the amount of money in the bank always increases. This is in turn accelerated by the Śpin which at 32x has increased its production capacity to increase output from one to 32, making it a growth system such as the world has never seen, and so a good investment, thus new money Ŕ keeps funnelling into the network in a virtuous circle until the desired Śpin is reached, at which point no new investment is necessary.

Of course, there are many caveats, that's why it has taken 11 years nearly to work out all the kinks, the underlying assumptions so to speak, not least the tax and politics, which in 2020 were consolidated as Tax Symmetry, see T8. Net-Zero DCA Soft.

And that's why there are 10 Technologies and within so far 62 different sets of algorithms, some of which contain many thousands of sub-algorithms all beating as one.

In the book Life 3.0 by Max Tegmark, Tegmark suggests that the future of AGI – Artificial General Intelligence (as imagined in science fiction films) should be its beneficial nature, and throughout his book, which is the first book you find if you Google 'Books on AI' he tells the extended story of his vision of what AGI (good or bad) could bring.

And the thing is, and this is why I call it S-World AGI, for all his and his teams' imagination, most of the best future he could imagine, in terms of 'beneficial' is bested by the can create now S-World AGI 10 Technologies design.

Add to the S-World AGI – UK Butterfly pre-paper notes, the above is a perfect ending.

And to quickly cut to the chaise about the next paper S-World AGI – UK Butterfly, the problem with adapting this solution that was created for Malawi and Southern Africa, is that in Malawi we did not need to worry about inflation, not in the early decades because all dealings would have been in USD, and the Šavings and Ŕevenues are so small relative to the number of dollars in the world it makes no difference. But in Western economies, this is not the case, but in any case is not a problem because in 2016 I threw out the entire technology design I had created then called Predictive Quantum Software, as the limiting effect (the diminishing returns from third-party software in a system with trillions of APIs made the system unworkable)

So I started again, this time creating the design for each component technology as part of one system, now called The 10 Technologies, and all APIs had one common feature, one initial input and that was a price, and the Predictive Quantum Software pivoted on price and became first I 2016 M-System

add graphic

and then in 2021 The 10 Technologies that control all prices, so increasing output by what we want, and lest stick to 32x as it's the maximum in the standard model, but the price stays the same or goes wherever we want it to, so, for now, let's keep it the same.

But because I did not do all this just to make everyone 32 times better off I added Technology 8, which creates Special Projects, for the left we have the end of global warming and for the right, we have the end of economic immigration, so of that 32x let's say only 8x appears in people's pockets, so in terms of what people would notice GDP is up by 8 and the price stays the same.

And in theory, whereas the Malawi model takes many years to reach this point, because the entire infrastructure of the new country mostly needs to be built from scratch, in a UK model (UK Butterfly) this can happen far quicker, just by networking existing companies and using the existing transport system, and decarbonize it as we go, as that is the name of Technology 8. Net-Zero DCA Soft. (that's Dynamic Comparative Advantage) a term I learned from Joseph E. Stiglitz in his book, Creating a Learning Society.

So far in the Malawi model so far over 64 different projects, see the three different books called 64 Reasons whet that describe this technology.

The complete book (far from complete but is detailed)
The Summary
Basic.

Chapter 5

Rewriting the Rules of the European Economy

13.77c__How-to-Frame-Inflation-as-a-Positive-for-the-UK-Debt-to-GDP-Ratio__(Oct_25_2022)

Quotes from **Joseph E. Stiglitz**

Plus, Original Text and Economic Theory by Nick Ray Ball

Nov 14 to ?? 2022

Chapter 5.
Rewriting the Rules of the European Economy
By Joseph E. Stiglitz

13.77c__Rewriting-the-Rules-of-the-European-Economy__(Nov_14_2022)

By **Nick Ray Ball** Oct 25, 2022

For Joseph Stiglitz, Peter Theil and the team that wrote the book Rewriting the Rules of the European Economy

Introduction

In part three of this paper on inflation I will briefly run through the quotes I bookmarked for Joseph E. Stiglitz's The Euro, which I sort out for a specific quote that I was looking for, which as best I remember essentially said that counties such as Spain, Italy, Portugal and Greece were at a disadvantage because they could not lower the value of their currency to deliberately make their exports more attractive, relative to Germanies, which was a far better political way to lower wages, relative to cutting wages.

So far, I have not found that specific quote, but I have found a lot of material that supports it and important so much more useful material along the same lines that it requires a dedicated chapter (part) to this paper (book).

Which in all honesty was originally just supposed to be a quick paper on the UK debt-to-GDP Ratio that we found in part 1, as a lead out to the important Paper 2. S-Word AGI – UK Butterfly, but in searching for a quote I wanted for Paper 2 in the book Can't We Just Print More Money by Bank of England economists Rupal Patel and Jack Meaning, and then the quotes from The Euro by Joseph E. Stiglitz's led to a broader paper and lead out simply called Inflation.

Because of the real crux of Paper 2. S-World AGI – UK Butterfly is simply that we use my work from 2011 to 2022, which was since 2017 designed as development economics for the poorest nations where the currency would be the US dollar and so inflation was not an important factor, to a redesign for Western Economies where right now inflation is the most important factor. And thus, this paper becomes entangled with the second, not just a lead out to it.

But before transcribing the 22 quotes that I have bookmarked and labelled from chapter one of The Euro (2015), I looked on Audible to see if Stiglitz had by chance written a follow-up.

I had already bought his People, Power, and Profits – Progressive Capitalism for an Age of Discontent (2019), but like the Euro had not completed it.

Then I found the perfect book: Rewriting the Rules of the European Economy: An Agenda for Growth and Shared Prosperity Book by Joseph Stiglitz. A companion to his acclaimed work in Rewriting the Rules of the American Economy (2015) by Joseph E. Stiglitz, along with Carter Dougherty and the Foundation for European Progressive Studies which lays out the economic framework for a Europe with faster growth that is more equitably shared.

Note that I became a huge fan of Stiglitz after his book; Creating a Learning Society – A New Approach to Growth, Development, and Social Progress (2014) (but only studied by me in 2019 and 2020) which became the pivotal ingredient certainly on the naming of what is within my work – The 10 Technologies – Technology 8. Net-Zero

DCA Soft. Which is an acronym for Dynamic Comparative Advantage Software.

For my most complete (yet of course terribly incomplete) book on this please see and read the 406-page: SuEc Book 3: 64 Reasons Why – Complete Book (Feb 2, 2019, to Oct 18, 2020). Or its 148-page 64 Reasons Why Summary (Sep 5, 2019, to Mar 24 2020) or its 61-page basic version (Nov 24, 2020, to Feb 18, 2021).

Note that all versions so far are from a Democratic (US Party) bias, whereas now, if I was forced or willingly submitted to a Polygraph, I would have to say I was a Republican (Go Ron DeSantis for US President 2024).

Because my first and only presentation of this work (A beautifully printed version book of 64 Reasons Why Summary in February 2020 was callously thrown in the bin by the gatekeeper for Oxford's Kate Raworth. And the subsequent switch in targets to the hopefully more intelligent gatekeepers for Peter Theil led to research on Peter Theil and the Republican Party.

After a few years of that research, I become a republican myself. This is not necessarily an irreversible switch, but rather a rebalancing and education that now allows me to see both sides of the argument. This phenomenon may become a central theme of Paper 3. Loss Aversion. But back to Peter Theil for a moment.

In 2020 I fell in love with his book – Zero to One, which was a major influence on many Technologies but in particular the prized Technology 7. Š-ŔÉŚ™2021—☖≥ÉL which in 2021 become determined economics with this algorithm/equation Š-ŔÉŚ™2021—☖≥ÉL .

This is a central or the central focus of Paper 2. S-World AGI – UK Butterfly which is best presented in the paper/book The S-World Algorithms (which is for now confidential.)

But the basics can be found in the 320-page: SuEc Book 2 – THE HOW Š-ŔÉŚ™ and The City ☖ (Oct 12, 2020, to Feb 20, 2021), the 257-page book that is better in many ways that focus on the underlying assumptions: Š-ŔÉŚ™ and The City Addendums (Nov 15, 2020, to Apr 10, 2021).

Plus the two very incomplete books for; Peter Theil starting with the 218-page: 10x Our Future – Zero To One, 64 Reasons Why and The Grand Design (Mar 24 to Apr 28, 2020) which present vast qualities of his book Zero to One, and the superior but still vastly incomplete 149-page SuEc 4: 10x Our Future – A Work in Progress (Aug 9 to Sep 16, 2020).

Note the SuEc, which in retrospect without accreditation is a tad grandiose (but with accreditation is darn good branding) and is physically misleading as the work has far more LQG than SuSy.

SuEc is a play on the acronym for supersymmetry SuSy. SuEc then is an acronym for SuperEconomics.

There are four books in the SuEc series, which were originally written in order, but were completed in reverse order. The correct order is:

SuEc 1. The 10 Technologies
Started in March 2011 and has been the main focus in 2022.

SuEc 2. Š-ŔÉŚ™ and The City (Technologies 7 and 9)
Started in Mid-2011, but only become a viable theory in 2017 and was

a core focus from 2019 to 2021.

SuEc 3. 64 Reasons Why (Technology 8)
A companion to SuEc 2 and a rewriting of A More Create Capitalism Apr 24, 2018, to Feb 20, 2021.

SuEc 4. 10x Our Future (Technology 10)
The beginnings of the journey from AI to AGI, as Technology 10 S-World Angelwing.

That began with the two books for Peter Theil in 2020 (but saw a lot of key work in 2017 and 2018 as seen on www.AngelTheory.org or www.SuperEconomics.ai. Under the E-TOE, M-System and Paradigm Shift dropdown menus).

Significant progress was made in 2022, but as the transition from AI to (as if it were) AGI (in that a distant observer would believe true AGI had been achieved 40 years ahead of time) was the understanding that the simple role of technology 10. S-World Angelwing was to create the greatest combinatorial explosion of technologies 1 to 9.

And so it was deemed most important to first provide a complete description of Technologies 1 to 9. And that is where we are today, 15 Nov 2022.

However the most recent work is provided on websites that need a login, or docs that are not available publicly online, but with this said, currently I am providing far more than I should on www.NickRayBall.com.

But be quick because as soon as I find someone who can contact others, who expresses an interest all work will be secured.

11.45 Nov 15, 2022 - By coincidence I got an invite to join a Tech conversation on LinkedIn by

Sam Shead- Tech and Innovation Editor at LinkedIn with the subject title:
Chancellor Jeremy Hunt will unveil the autumn statement this Thursday and tax rises appear to be on the agenda.
Tech leaders: what would you ideally like to see in the statement and what do you think will actually be in it?
And I added the following comment which is quite useful as a basic summary.

Hi Sam,

Thanks for the email to join this conversation.

I am writing two papers, the first simply called Inflation, and the second is called S-Word AGI - UK Butterfly a 2022 update on my first book on technology and economics AmericanButterfly.org written over 10 years ago.
As you can guess from the title S-Word AGI (which is not predicted for 40 years if at all), it's a paper on technology, but adapted to the UK economy as a solution to the exact problem this post reports.
I will post the link to the paper on LinkedIn in about two weeks.

The first paper: Inflation is closer to completion, just a few days, but the crux of it is currently, the simple idea that in place of BOE increasing interest rates from 3% to 6% to slow down the money supply, which will cause havoc, in theory, a better solution may just be to increase to 4% and decrease the FRR (That's the Fractional Reserve Rate). Which is the amount of money that banks must keep on their balance sheets.
If it's currently 90%, and it's lower to for example 80% this will slow the money supply, without the carnage caused by increasing interest rates to 6%.

I am soon to present this paper, via LinkedIn, to Bank of England economists Jack Meaning and Rupal Patel (authors of Can't we just print more money) for their opinion. Wish me luck!

Returning to Tech and Innovation and Paper 2. S-World AGI - UK Butterfly. (And The 10 Technologies).
Should you be interested, maybe it would be a good idea for you to review it and if you like it, write about it on this platform as your posts will be far more read than mine, as I am but an amateur on LinkedIn.
Unfortunately, most of the websites, for the 10 Technologies require a login, but you can get some basic info on a website I've created for basic presentations.
www.NickRayBall.com
Note that the key Technology T7 is quite well detailed and further the page https://nickrayball.com/$1039_Trillion_BASIC.php is the best summary of its power, albeit for developing economies, not advanced economies, hence the 2022 update for the UK - Paper 2. S-World AGI - UK Butterfly. And hence the need for paper 1, Inflation, as without a way to control inflation in advanced economies, (whereas in developing economies we would just work in an advanced economies currency) the way T7 increases the money supply (up to 32x) is almost useless.

Should you wish to know more, I can provide a login to the more advanced presentations.

Best Regards
Nick Ray Ball

Rewriting the Rules of the European Economy

13.77c__Rewriting-the-Rules-of-the-European-Economy__(Nov_14_2022)

By **Nick Ray Ball** Nov 19, 2022

Introduction: Europe Today and the Path Forward.

20.40

The markets will save us mentality seeped into every subject this book addresses. The European Union abandoned government spending as a tool to cushion downturns and institutionalised a central bank that – out of an unfounded fear of even increase in inflation raised interest rates as Europe neared a deep downturn, the opposite of what was needed to stimulate the economy.

The macro allocation of state resources for infrastructure, education and other public goods often devolved into a debate about how, not whether the private sector could do it better, despite ample evidence that governments are often best suited to carry out some of these definable tasks.

24:24

Even small changes in the standard economic model, like the presence of small imperfections in information, undermine all the standard results.

I choose the above quote because it cuts to the heart of the theory that fascinated me so much in 2011, that for the next two years I would write a series of four books, under the name American Butterfly, where the word butterfly was from chaos theory and the butterfly effect. A global positive economic butterfly effect started in Orlando Florida, USA. See the birthplace of S-RES: American Butterfly
Book 1. The Theory of Every Business
Book 2. Quantum Economics (Spiritually Inspired Software)
Book 3. Superstring Economics (The Network on a String)
Book 4. The Butterfly (Incomplete first rough draft, later added to in A More Creative Capitalism)

In chaos theory, the butterfly effect is the idea that small changes in the initial state of a non-linear system can have drastic effects on its later state. The concept is usually illustrated with a butterfly flapping its wings in Brazil and thereby setting off a tornado in Texas. (Source)

> 26:08
> Particularly worrisome today are the threats from competitive markets today are the threats to competitive markets that arise from platforms like Amazon Google and Facebook

I included this, to illustrate the non-party bias that this book enjoys, I can't say I know which party Amazon is associated with, but for sure, if you watch Fox news, you will know that Facebook and Google are considered overly democratic.
Had this book been a US Democratic Party platform broadcast, Google and Facebook would not have been criticised.

> 28:25
> Bad theory in Europe, took the form of beliefs held strongly, despite a wealth of evidence to the contrary. Among the key beliefs that have shaped Europe's economic framework are the following nine.
>
> **Rewriting the Doctrine and Changing the Paradigm.**
>
> 28:42
> **ONE**
> **The Austerity Doctrine**
> The Austerity Doctrine dictates that governments need to keep deficits below three per cent of GDP. Large deficits undermine confidence, so it was believed, and a reduction in confidence undermines investment and weakens the economy. Bringing

deficits under control increases confidence and restores the economy to health.

A Europe-wide commitment to this doctrine is essential because the failure of one country to keep its deficits in order imposes costs on others through runaway inflation.

The evidence is to the contrary and is discussed in chapter one. No economy in a recession has recovered through contractionary policies. There is no evidence of spillovers, especially of deficits in one country leading to Europe-wide inflation. Large deficits in Greece had no impact on its neighbours and no effect on Europe-wide inflation.

Any cost was borne solely by the people of Greece, what was needed was fiscal stimulus, not an aversion to deficits. **The three per cent number was conjured from thin air, and not based on theory or evidence.**

29.55

TWO

Government needs to keep debt below 60% of GDP

> https://www.ceicdata.com/en/indicator/european-union/government-debt--of-nominal-gdp#:~:text=European%20Union%20Government%20debt%20accounted,Mar%202000%20to%20Jun%202022.
> European Union Government debt accounted for 86.4 % of the country's Nominal GDP in Jun 2022, compared with the ratio of 87.5 % in the previous quarter.
> EU government debt to GDP ratio data is updated quarterly, available from Mar 2000 to Jun 2022.

Government needs to keep debt below 60% of GDP otherwise growth will slow, as with the austerity doctrine the failure of any one country to do so imposes costs on others. The commitment to keep debt and deficits below the 60% limits is known as The Stability and Growth Pack.

The evidence shows scant links between debt and growth; indeed, casualty may go the other way. Countries that experience a misfortune, the demand for their natural resources declines for example, or they are afflicted by civil conflict. Grow more slowly and wind up with more debt.

In other cases, some factors lead simultaneously too low growth and more debt, in making investment decisions, policy should aim for returns that exceed the cost of capital, as we discuss in chapter three.

The debt doctrine focuses on only one side of the balance sheet, the liabilities side, but we should examine the assets side as well. The result of this oversight is that productive investment is curbed which lowers growth and living standards from what they otherwise would have been.

Like the deficit number, the 60% number was conjured from thin air, and not based on theory or evidence.

31.19
Three

By **Nick Ray Ball** Nov 19, 2022

Risqué note de bas de page.

Inflation Effects on Inequality, Loss Aversion, and the First Mention of MMT (Modern Monetary Theory)

> The title of paper 3 loss aversion is about the media's bias towards loss aversion, in that they report bad, not good news (because it improves their ratings. This basic behavioral incite that has reshaped the world, originally by Phycologists Kahneman and Tversky 1979, lass aversion was made economically famous by 2017 Nobel Prize winner **Richard H. Thaler** (Chicago) in his and Cass Sunstein's book **Nudge** (2008).
>
> In Thalers' follow-up; Misbehaving the final chapter tells of how Thaler came to London to meet with The Conservative government to set up the https://www.bi.team (**The UK Nudge Team**) which was and still is today headed up by Chief Executive **David Halpern** - one of the prime target recipients of this work, once part 3. Loss Aversion is included.

Note that the left and right are to me a very mixed bag, watching my favourite show The Gutfeld show shamelessly republican broadcast from the home state of Ron DeSantis in the mid-morning, and before and after transcribing Stiglitz, then swopping from Republican and Democratic arguments all day.

But the following is a democratic argument, and attacks yesterday's budget by the conservative party, not for its content, but for the narrative, what they are saying and what they are not saying.

So far, I have explored Inflations effects on the UK Dept-GDP ratio.

But the effect, of say inflation of 50% over the next 8 years, will help address the point made by but not quoted in detail by Stiglitz, that in the US, UK and Europe income inequality has delivered drastically over the past two decades.

50% inflation would address this problem as all borrowers, be those businesses, mortgage payers, and all debts if refinanced at affordable rates, will be 50% less after 50% inflation.

If one has borrowed £250,000 to pay for a home, after 50% inflation, their liability, will be half of what it was. Same for all debt. If wages and other income keep up with inflation.

You never hear the media report that a lower pound improves export competitiveness, you never hear the media, or yesterday the Prime Mister and the Chancellor say that inflation is good for those in debt and bad for those who have money in the bank. I will cover this in more detail in paper 3. Loss Aversion.

But this is true, for every winner, there is a loser, inflation is bad for those with money in the bank, but good for everyone (and every country) who has debt.

And **remember, the US and UK never paid off their war debts, they were inflated away.**

This is not a theory, this is the simple easiest truth, like all economic truths there are caveats, a million, million, million sub-truths and connotations, but the simplest answer is often the best begging for a conversation.

And the media ignoring the positive effects of a lower pound and the positive effect of inflation is steering the country into austerity, for which we have just heard many opposing arguments.

And this is before; we even start to look at theories like MMT (Modern Monetary Theory) which is well described in The Deficit Myth: Modern Monetary Theory and the Birth of the People's Economy. by Stephanie Kelton.

To sum it up in a single paragraph, the last time the USA ran a general surplus, was under Democratic President Clinton. This is why for a while in late 2016 I called the RES equation the Clinton Equation, in honour of his achievement.

But as it turned out the year after the surplus the USA went into recession – coincidence? Not argues Kelton and MMT, which says when you take away government spending you take away money from the home economy. Thus, a recession.

This is, of course, Keynes's argument that in recessions governments should spend, and then claw the money back in the productive years, so creating an even balance, but of course, this argument has been criticized, because governments almost always forget to claw the money back in the good times leading to debt.

Ironically however in the Clinton example it was a Democratic government trying to claw back previous Republican debt, against the guidance of the usually cast as left-wing MMT advice, that led to a recession.

But the basic idea is very simple and is in my opinion true, but as the UK heads towards the biggest predicted recession of all time, the government is trying to claw back the money from the COVID borrowing at exactly the wrong time. (IN my humble opinion.)

Part 2

S-World AGI – UK Butterfly

Chapter 6

From Inflation to

S-World AGI

UK Butterfly

~~13.77c__How-to-Frame-Inflation-as-a-Positive-for-the-UK-Debt-to-GDP-Ratio__(Oct_25_2022)~~

Original Text and Economic Theory by Nick Ray Ball

Nov 17, 2022

Chapter 6.
From Inflation to
S-World AGI – UK Butterfly

By **Nick Ray Ball** Nov 17, 2022

This part of the book started as a postscript returning to the question:

Question: If managed correctly, so people's income increases in line with it, what's wrong with inflation anyway?

Not for banks themselves, as where the government wins in that its debts are less, the banks lose their liquid holdings. So, at this point, banks, even central banks, may not be the best motivated to advise. But if you want to stop inflation, if banks have less money, they can't lend as much so decreasing the money in the system and doing exactly the same thing as increasing interest rates, to dissuade people from borrowing.

But BOE should not feel threatened because this entire paper and UK Butterfly itself comes down to one simple easy-to-answer question for **the BOE and is the focus of this paper: UK Butterfly** by **S-World AGI.**

Since studying the way Japan invested heavily in infrastructure, after QE and raising interest rates were no longer effective - as presented in the final (chapter 10) of Can't we Just Print More Money by Jack Meaning and Rupal Patel.

(ADD QUOTES HERE)

My question is extremely simple, and given the BOE economists, Jack Meaning and Rupal Patel's discussion of the Keynes Multiplier is an absolute no-brainer.

The question is simply this.

If S-World AGI can achieve 3:1 investment, so for example over 10 years the government invested £10 billion a year which was matched by an investment, of £30 billion a year, mostly spent on making things in the UK with a particular focus on energy. Then before you even start to calculate the Keynes Multiplier, the tax receipts alone will be more than the investment.

I can't find a link to an estimate of all taxes, but from memory, it has been mentioned in the books I read, and it's about 40%. That is what the government and all local councils gain from VAT + Income Tax (ON salaries, dividends and all personal income) + National Insurance + Stamp Duty + Capital Gains Tax + Council Tax + Corporation Tax + Windfall taxes + All other taxes = about 40% of GDP (a more precise estimate would be a low would be 36% and a high of 50%), but for now I'll just use 40%.

If all taxes accrue 40% of GDP
£40 billion in spending leads to £40 billion x 40% = £16 billion in taxes, plus the government owns a stake in whatever is created. But only pays £10 billion, so a £6 billion gain each year, before you even start to apply the Keynes Multiplier, which will, in any case, be optimised by S-World AGI for a maximum effect of at least 2.

So, if you wish to add theory to pure and simple math you can multiply the £40 billion by 2, for £80 billion = £32 billion in taxes and an extra £48 billion for the people.

Of course, the only question here is can S-World AGI achieve the 3:1 investment, but that is a different question, if we start the butterfly effect, (UK Butterfly) with a commitment to add £1 billion for every £3 billion raised and spent, it is primed for success.

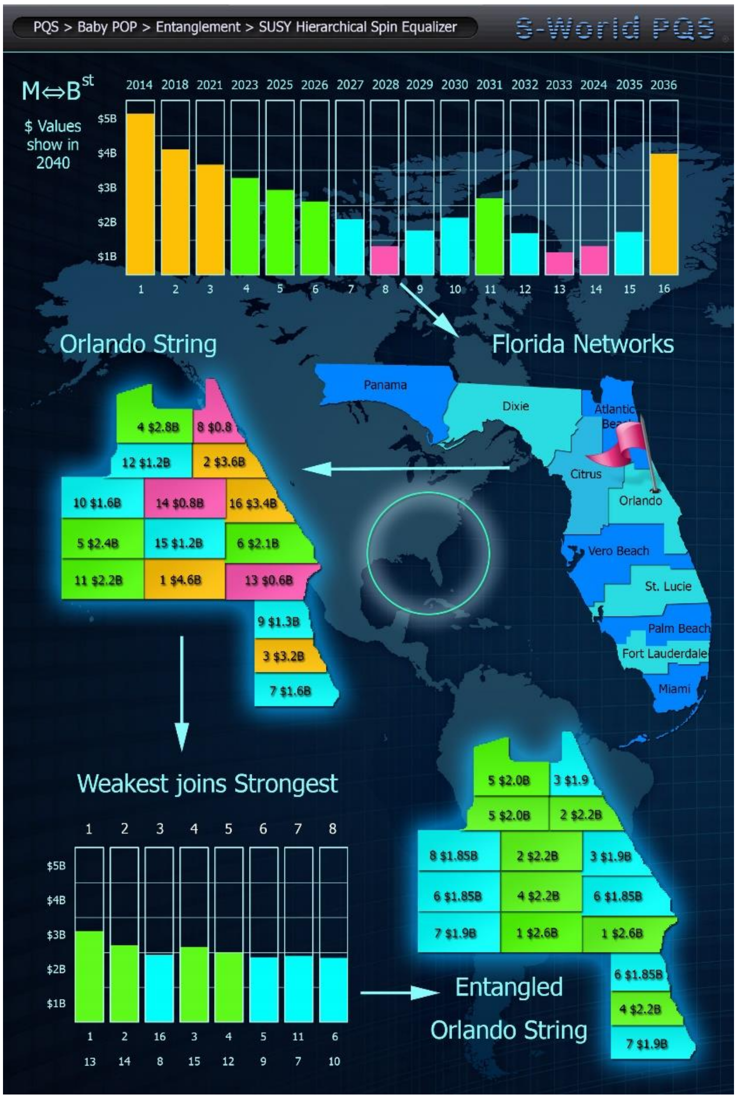
And in any case, we don't need a commitment, just an agreement that the BOE will advise the government and if necessary, lend it the money to invest, should S-World AGI – UK Butterfly achieve the necessary 3:1 investment.

But be careful, the reason for UK Butterfly was a proof of concept for the Southern African model on the one hand and the United States on the other. But given recent events in Florida, and the obscure but very real question about the popularity – or indeed unpopularity of http://network.villasecrets.com/the-secret/ch10/UCS-Hawthorne-for-Richard-Thaler rolled out as a working code for all workers, where if you are not a committed hard worker you make far less and indeed would not last more than a few weeks.

I see this as a plus in Florida, and indeed Malawi, but maybe a negative in the UK, so maybe the UK is not the best starting place for **S-World AGI** to spread its wings.

And whereas the general idea was that politics would get in the way in the US, so a UK prototype would be necessary, current thinking is that Florida will be a better prototype for the USA especially if **Ron DeSantis** wishes to ride the butterfly into Whitehouse.

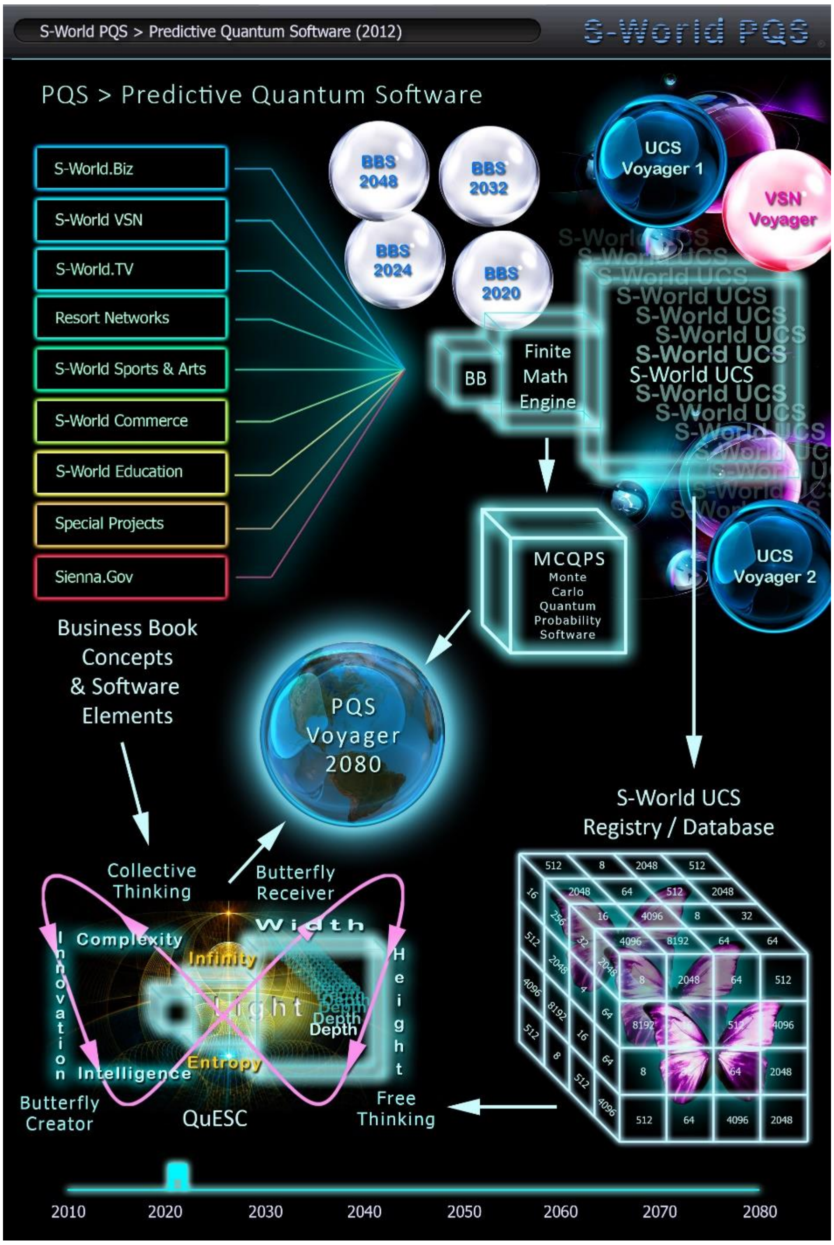
So be warned, (Loss Aversion Usage 1) – UK Butterfly will become **American Butterfly 2**. – 11 Years after my first three books described the original plan, based in – yep you guessed it – **Florida USA.**



http://americanbutterfly.org/pt1/the-theory-of-every-business/index
http://americanbutterfly.org/pt2/spiritually-inspired-software/index-spiritually-inspired-software
http://americanbutterfly.org/pt3/the-network-on-a-string/index-the-network-on-a-string

(And of course, in Florida, I don't have to use the name Quantum Economics for Book2. That was in the end titled: Spiritually Inspired Software. After the design of the PQS – Predictive Quantum Software – That was the first design of the now Ten technologies that comprise S-World AGI

The PQS – Predictive Quantum Software - 2012



http://americanbutterfly.org/pt2/spiritually-inspired-software/the-entangled-butterfly#the-pqs

American Butterfly is close to coming full circle.

Nearly 11 years since I flew from South Africa to meet with Conservative Justice Mister Chris Grayling to present S-World, only to find the door. This will be the last chance for the conservatives, should I start American Butterfly 2 on Jan 1st, 2023, and receive an invitation from the USA. If I go, I doubt I will ever return.

From Inflation to S-World AGI

To quickly summarise; S-World AGI comprises 10 technologies, 9 individual but interconnected technologies, and one combinatorial AI, that seeks to create the greatest combinatorial explosion from the lower technologies creating (as if it were – in that you could not tell the difference between its financial and beneficial results relative to the #1 ranked by Google book on what AGI could bring – Life 3.0 by Max Tegmark) **AGI – Artificial General Intelligence.**

This is powered, and financed by the simple but highly complex in its underlying assumptions economic technology — Technology 7. Š-ŔÉŚ™, inspired by quantum mechanics, which together with Technology 9. Grand Śpin Networks and some LQG inspiration, crafted the series of books Š-ŔÉŚ™ and The City ☖.

Starting with the 320-page: SuEc Book 2 – THE HOW Š-ŔÉŚ™ and The City ☖ (Oct 12, 2020, to Feb 20, 2021), the 257-page book that is better in many ways that focus on the underlying assumptions: Š-ŔÉŚ™ and The City Addendums (Nov 15, 2020, to Apr 10, 2021).

Even though the actual books presented here were written in reverse order After T7. Came T8, then called 64 Reasons Why now called T8. Net-Zero DCA Soft. Where DCA is Dynamic Comparative Advantage, and name and indeed concept I learned from Joseph E. Stiglitz's (yes the same one) Creating a Learning Society: A New Approach to Growth, Development, and Social Progress (2014)

For my most complete (yet of course terribly incomplete) book please see and read the 406-page: SuEc Book 3: 64 Reasons Why – Complete Book (Feb 2, 2019, to Oct 18, 2020). Or its 148-page 64 Reasons Why Summary (Sep 5, 2019, to Mar 24 2020) or its 61-page basic version (Nov 24, 2020, to Feb 18, 2021).

lastly, in the SuEc series so far came two very incomplete books for; Peter Theil starting with the 218-page: 10x Our Future – Zero To One, 64 Reasons Why and The Grand Design (Mar 24 to Apr 28, 2020) which present vast qualities of his book Zero to One, and the superior but still vastly incomplete 149-page SuEc 4: 10x Our Future – A Work in Progress (Aug 9 to Sep 16, 2020).

I AM HERE BUT MUST GO BACK AND READ OVER Postscript 2, to this point again

And The 257-page book that is better in many ways that focus on the underlying assumptions: Š-ŔÉŚ™ and The City Addendums (Nov 15, 2020, to Apr 10, 2021).

T7. Š-ŔÉŚ™2021—☖≥ÉL is a technique to increase output (GDP). Developed for Malawi as it was the poorest economy on the planet in 2018 for GDP per Capita after the thought experiment MARS Resort one showed RES to work in countries that started from nothing where tax was paid in output. Which turned out to theoretically increase Malawi's GDP from almost zero to one per cent of GDP.

Inflation was not a factor as in place of local currency the system worked in USD. But in 2020 it was considered that the initial investment was too high, and a western model was needed to prove the concept, and so began UK Butterfly.

I was however hindered by inflation, as at the time I considered the technique a way to increase the money supply, rather than a better way to spend what you have, and a way to simply increase output.
But before I came to that conclusion, which came to me in this very paper, I realised that because in 2016 I threw away 5 years of planning due to the limiting returns of third-party software on APIs and the t10t design was started from scratch again and pivoted on just one factor – Price.

Control of prices is the most fundamental algorithm within the so far 62 algorithm sets that make up the S-World Algorithms and The 10 Technologies. And when you can 32x the money supply (or in fact output) and keep inflation at zero, that's 32x growth without any economic threat.

Theoretically from 2022 GDP which so far is estimated at 2.6T to 83T, shave say 75% of that off for Special Projects (**Net-Zero et al.**) and you have 20.8T - a near 10-fold escalation, and some **current economics says that will equate the average person being 5 times better off than they are now**.

~~Now back to the first of the quotes from Joseph E. Stiglitz's book The Euro, which will continue in Part 3.~~

Audible Chapter Two: **10m:23s**

Part 7

Originally planned as Paper 2.

The UK Butterfly Lead Out Can't we Just Print More Money

By Jack Meaning and Rupal Patel,

With comments and theory by Nick Ray Ball

Nov 23, 2022

By **Nick Ray Ball** Nov 22, 2022

The UK Butterfly Lead Out

Can't we Just Print More Money

To begin I will go back to:

13.92__S-World-AGI__UK-Butterfly__How-to-Score-a-perfect-4x-on-the-Keynes Multiplier__(Oct_28_2022)

Include at Beginning

https://nickrayball.com/$1039_Trillion_BASIC.php

Can't We Just Print More Money?

Chapter 10 Bookmarks?

By **Jack Meaning**, **Rupal Patel** and the **Bank of England** 2021 and 2022
Plus, Comments and Economic Theory by **Nick Ray Ball** Nov 23, 2022

@ 1m.22s

Introduction

At the time of writing (Published on 19 May 2022, so let us for now assume, it was written in 2021) **the Bank of England has created almost £1 Trillion of new money** and used it to buy things in the economy, that's almost £15,000 for every person in the UK, and were not the only ones. **The US federal reserve has created over $7 Trillion, and the ECB has created a similar amount of Euros**. Seemingly out of thin air.

(Total QE by the UK, EU and USA – Over $15 trillion between 2009 and 2021.)

To Understand why central banks have undertaken such an astronomical expansion of the money supply, this chapter will explore the economic levers that central banks can use to guide the economy. We'll explore how these levers affect you and the world around you and ultimately what restrains the hand of central bankers as they hover over the money printing button. And we'll delve into the other ways that governments can influence the economy using taxation and spending to try to keep it running as smoothly as possible.

It's a lesson in economic policy-making that will take us on a journey around the world and across time. That journey begins in Japan.

@ 2m.37s

Japan

The 1980s was a boom time for the Japanese economy, the country had become the darling of global capitalism producing everything from high-tech gadgets like Walkman's to cars. But then **in the early 1990s**, the bubble burst or more accurately **two bubbles burst - a house price bubble and a stock market bubble**. The consequence was a slowing economy as people and companies started spending less. As the economy slowed inflation fell, because (as we heard in chapter 6) lower demand means prices grow less quickly, or even reduce.

The bank of Japan needed a way to stimulate the economy and raise inflation, their goal similar to most central banks was to keep prices stable.

The bank of Japan like other central banks around the world conducts its business by influencing the cost and availability of money in the economy a process known as monetary policy. And in the 1990s the weapon of choice for implementing monetary policy was interest rates. Because central banks are the bank for other banks they are in an important position, they can set the terms on which they will lend to those other banks when they need a little extra money, they can also set the interest rate that they will pay to other banks on any deposits held with the central bank, just like your high street bank does for you.

When central banks change these terms, it has a series of knock-on effects on the rest of the economy, through a series of channels known collectively as **the monetary transmission mechanism.** These channels are a little fiddly, but bare-with-us they're important.

First, by changing the rate they charge to other banks central banks induct those banks to in turn change the rates they charge borrowers and pay to their depositors, this operates in a variety of ways. Most straightforwardly take a tracker mortgage – its interest changes in line with the interest rates set by the central bank. The central bank interest rate has less-direct consequences too. Banks compete against one another to offer the best rate to attract customers, when the central bank switches its interest rate this makes it more or less expensive for banks to offer deposits and lend. This means they either need to pass on any changes in cost to their customers or lose out to competitors who will.

Eventually, the central bank's rate feeds through to a whole range of interest rates in the economy, from credit cards to bank deposits, and business loans to savings accounts. This in turn affects people's economic behaviour. **Interest rates influence whether you should spend now or save now and spend later.** Higher interest rates increase your incentive to save and decrease your incentive to save or invest. **So, when interest rates go up more people save, fewer people lend, fewer businesses invest, and the economy slows.**

On the other hand, lower interest rates decrease your incentive to save and increase your incentive to spend today adding a boost to the economy. With characteristic creativity, economists have named this process – **The interest rate channel of the monetary transmission mechanism.**

<u>Second.</u> Interest rates are linked to the value of assets in the economy – these might be financial assets such as stocks, or fiscal assets such as houses. **When interest rates go down the prices of these assets tend to go up.** That means people holding assets are better off, and when people get richer, they tend to go out and spend some of their increased wealth. A prime example of people borrowing a bit more when the value of their house goes up, then spending it. In this way – **lower interest rates lead to an increase in wealth and in turn an increase in spending, again giving a boost to the economy. This is known as the wealth channel of the transmission mechanism.**

Ok, so a good argument has been made here for lower interest rates being good for the economy.

And by coincidence, as I make my first commentary, I realise that the next paragraph is the quote from Part 2: Quotes, Postscripts 1. A Better Understanding of Inflation and the Trade Deficit

@ 07m:49s
"**<u>Third</u>** there are what economists call **income effects**, importantly, these will affect you differently if you are a saver or a borrower. **If you are a borrower lower interest rates mean you have to spend less each month on your mortgage payments, this means you have more money in your pocket, and as we've seen when you have more money, you're likely to spend more, again boosting the economy.**
On the flip side if you're a saver, lower interest rates now mean you're getting less each month on your savings, your monthly income has actually gone down and you're likely to respond by raining in your spending.
The truth is that most of us are both savers and borrowers, we have money in our bank accounts and a mortgage for instance. So, your personal income effect would depend on the balance of those factors.
The strength of income effects across the entire economy depends on the balance of savers and borrowers and how much each group changes its spending in response to changes in income. If both savers and borrowers have the same sensitivity to changes in their income, then the equal but opposite income shifts of savings and borrowers would balance out so there would be no change in spending overall. However **economic evidence suggests that borrowers are more likely to spend a larger part of their newfound income than savers are to rain in their sending, meaning the income effect from a reduction of interest rates tends to boost spending in the economy."**

That is the end of the session from Part 2. I'll now write out the final point, before greatly summarising the rest of the chapter by skipping to the bookmarks I've made and labelled and mostly just writing out my bookmark headings.

There's a lot I'm missing out, so please go out and buy, or order:
Can't We Just Print More Money? By Jack Meaning, Rupal Patel and the Bank of England and listen to or read it from begging to end.

@ 9m:26s
Fourth there are a group of channels that work through the banking system itself when interest rates are lower banks can offer loans to people more cheaply so the amount of lending in the economy tends to increase. For a start, there's more demand for loans as people look to borrow to fund their spending and investment today.
At the same time, banks are more willing to lend. Not least because the cost of issuing and maintaining a lone is lower and people have more valuable assets to offer as security thanks to the wealth channel.

As we saw in the previous chapter this increase in lending boosts the money supply, and also boosts economic activity, by allowing people to spend and invest. All of this leads to an increase in demand and so an increase in inflation.

The final channel of transmission is partially important for a small internationally connected economy like the UK. This is the effect of the exchange rate.

@10.28
Bookmark 1.
The Exchange Rate:
When central banks lower interest rates this tends to lower the exchange rate, sterling (the British Pound) falls in value when UK interest rates fall. If the interest rate in the UK goes down, but the interest rate in the US doesn't then you're going to get a relatively better return if you switch your money out of pounds and into dollars. So, money flows across borders and more people want to buy dollars and sell pounds.

I want to briefly theorise about this point, and note that I am primed, so have in my mind, the rough outline on Loss Aversion, the third of the regional three papers I wished to write, which also covers the following point.

On 15 September 2022, the newly appointed Prime Mister Liz Truss announced a mini budget that sent the financial markets into turmoil and lowered the value of the pound to nearly one US dollar, I remember renewing about 10 domain names, and it cost about 10% more than usual, then days or weeks later the pound was back again.

I had been a fan of Penny Mordent's (who was narrowly pipped at the post for the Prime Ministership final two runoff) leadership speech because she said she knew change was needed, I did not have confidence that she or any other government minister knew what that change should be, relative to S-World AGI - UK Butterfly, and having read enough of Stiglitz and other economists works to know that austerity in the face of a recession has always, always been a looser.

I had no problem with Rishi Sunak, I thought it would be good for the UK to have a not white male in command, in the same way, I become a fan of the USA and a de facto Democrat when Barack Obama gained power in the USA. But I was worried about Rishi Sunak's traditional English, and indeed not English as we hear from Stiglitz earlier his traditional German economic theory, was not best suited for a recession, inflation or not, especially as it seemed obvious that the inflation was temporary and global, caused by excessive QE, lower labour costs in developing nations, and the increase in energy costs, the last in particular was a given as in my reading it has been theorised that about 70% of all growth is attributed to energy.

There is of course the current argument that Jo Bidens 'New Deal' which has changed names so many times I don't know what to call it, which I've quickly looked up and found this report from Democratic-leaning news broadcaster CNBC: How Biden's $3.5 trillion economic plan compares to LBJ's Great Society and FDR's New Deal. PUBLISHED SAT, OCT 2 20219:00 AM EDT
probably did as much to signal to the public and banking sector that there was a load more money being borrowed and spent, which as we shall discuss in Paper 3. Loss Aversion increased the expectation of inflation and so caused what seemed to me to be a temporary situation, a rebalancing of maybe 20% caused by the four factors above that just needed to be ridden out, rather than

addressed full-on by the BOE with a 1200% increase in interest rates and the UK government with austerity.

So, when Liz Truss announced her growth plan, I got behind her and mostly due to my recent swap from the Democratic Party to the Republican Party in the US, I joined the Conservative party. But I was concerned about Loss Aversion and the UK Media reporting, and I was right in that, but from the last sentence above from Can't we Just Print More Money, I wish to consider it.

Was it wise for Liz Truss to announce such a plan, at the same time that the media was focused on inflation and the BOE was warning against the plan? Obviously not!
Has it caused harm by switching the Conservative Party from a Growth strategy to an Austerity strategy? Yes, says Stiglitz as mentioned earlier, a poorly timed good policy can hurt a good policy if it backfires due to poor timing.

3 Positive Arguments - never broadcast due to Loss Aversion.

There were many arguments the press could have used to spin things positively, such as:

One:
"It is good that the pound is lower because our exports will be more competitive and we are back on course to continue the great progress from 2020 when for the first time this millennium, due to non-European exports the UK made a trade surplus and a lower pound while making imports more expensive is exactly the right strategy for long term growth and so more money for everyone!"

(Note the use of "non-European exports", playing to the crowd, as no one likes to think that leaving Europe with no way back in was a bad idea.)

Or:

Two:

"Whilst Inflation is bad for people with a lot of money in the bank, it's good for all who are in debt, and that includes the UK, as a few years of higher inflation will reduce our Debt-to-GDP ratio, so making the UK a more attractive place to put money, and so stabilising the UK for the long term."

Or:

Three:
"For over a decade now the IMF have been advocating a higher inflation target, especially at a time of change, such as Brexit + Covid + a Change in the top at the Band of England, a War in Europe, and the loss of the Head of State.

Economics across the world agree that austerity in the face of a recession, let alone a depression has always led to unnecessary economic pain, so the bold initiative by the New Prime Minister is well-considered in our view!"

The press could have reported on any of the above points, but because of loss aversion, where a threat is at least twice as newsworthy as a gain, the UK Media, broadcast only negative assessments and the markets were spooked.

I'd say the markets were already spoked because of the death of the head of state, our queen, whose face is on every coin and note and that swing of 10% was as much to do with that than it was any other factor, loss aversion aside.

Unfortunately, the markets were spooked, and this resulted in the tax cut policies being reversed, and the resignation of Liz Truss, at which point I wrote her a letter of commiseration, and indeed it was that letter that set the theme of this book, that you are now reading.

Here is the original quickly worded letter:
http://www.supereconomics.ai/13.69_ Dear_Liz, Something_to_cheer_you_up,_when_all_is_dark_ (Oct_20_2022).pdf

This was then followed up a week later with a congratulations letter to Rishi Sunak, including what is as I write now, the first chapter in this book.
(Albeit that will probably change as the first chapter is usually a chapter summary and introduction, as we found in Stiglitz's two books presented so far.)

https://nickrayball.com/Congratulations-Rishi-Sunak--and--How-to-Frame-Inflation-as-a-Positive-for-the-UK-Debt-to-GDP-Ratio.php

Which soon after become: https://nickrayball.com/Why-High-Inflation-is-Good-for-the-UK-Debt-to-GDP-Ratio__(28-Oct-2022).php.

Note that what you just experienced was a caffeine rush as I took the equivalent of 1.3 cups of coffee, in the form of a pro-plus caffeine pill.

So now back to the point in Can't we Just Print More Money where we left off:

> @10.28
> Bookmark 1.
> The Exchange Rate:
> When central banks lower interest rates this tends to lower the exchange rate, sterling (the British Pound) falls in value when UK interest rates fall. If the interest rate in the UK goes down, but the interest rate in the US doesn't then you're going to get a relatively better return if you switch your money out of pounds and into dollars. So, money flows across borders and more people want to buy dollars and sell pounds.

Ok, for argument's sake, why did the pound drop if not purely due to the media's loss-averse adjusted broadcasting?

Well, I can't rightly say, but I bet the authors of Can't we Just Print More Money have a good theory or two, and seeing as they are the first people I will send the first draught of this book two, why not ask them to comment, if they do, I'll add it below. For now, however, were going into the bookmarked quotes, before I write up the first draught of the actual Loss Aversions chapter, which will now be focused on the three quotes above, and then I'm going to find the link to the previous works on UK Butterfly so setting me up for a great days work on tomorrow, Angel Sienna's 12 Birthday, the date that historically the most important books and papers are written.

Comments from Jack Meaning or Rupal Patel on why the Pound Crashed if not due to Loss Aversion

Add Comments Here.

We have now arrived at the second of the original two quotes from (currently) Part 2: Quotes, Postscripts 1. A Better Understanding of Inflation and the Trade Deficit

> @ 11m.18s
> Still with us – good, but **there's one final complication, all of these mechanisms take time to work their way through the economy. Monetary policymakers can't just click their fingers and suddenly inflation springs up or slows down. It's a bit like a sharpshooter aiming at a moving target, you have to aim ahead of where the target is when they pull the trigger because they know it will have moved by the time the bullet reaches it**.
>
> Likewise, when interest rates move – it takes a while for the results to come into effect, this means that policymakers are constantly trying to set policy for where they think the economy will be, not where it actually is. These lacks (or lags) are not particularly well understood and can be different at different times, and in different conditions, **in most instances, though the effects of monetary policy take between six months and two years to be seen in the price inflation all around us.**
>
> One important consequence of this is – if inflation is high today because of something that had already happened, but is not expected to last, there is little that central banks can do about it.
>
> If they were to increase interest rates in response to inflation today by the time that rate rise had an effect, the temporary inflation would have gone, **<u>they would merely be slowing the economy at a time they didn't need to.</u>**

Chapter 7

Can’t We Just Print More Money
Chapter 10
Bookmarked Quotes

Chapter 7.
Can't We Just Print More Money

Chapter 10

Bookmarked Quotes

@ 12m:42s
Bookmark 1 – **Japan** - Paraphrased
"The economists at the bank of Japan understood all these processes well as inflation fell, they cut interest rates. **From 1991 to 1995 they cut the interest rate they created for banks that were borrowing from them from 8% to 0.5%.** This was a drastic change, and it took interest rates to a lower level than they had been at any time in Japan's History. Yet it wasn't enough - prices contend to slow and even to fall. Here the Bank of Jap encountered a new problem their weapon of choice was out of ammo, they had hit the much-feared lower bound. The point at which interest rates call fall no further."

In practice, the lower bound is slightly below zero, because in the real world there are costs to holding cash, and it's less transferable.

Cash is less useful to some than a chunk of government debt which varies.

How far into the minus numbers of interest rates can go is an ongoing discussion amongst economists, and likely varies across counties and at different times depending on how reliant a country's banking sector is. In some economies**, it may be lower than -1%.**

@16.44
In the 1990s Japan thought there was considerable uncertainty around negative rates and how practical they were. And also, what the side effects were for the rest of the financial system.

So, Japan began printing money, this printing of money aimed to increase the quantity of money in the system and ease the economic slowdown and so it became known as **Quantitative easing.**
Or Asset purchasing Programs or simply: QE.

@17.36

How does QE work in practice?

It's not quite as simple as running off more bank notes, instead, **the central bank buys** something from people or companies in the economy. This is usually an asset without much risk to it like a government bond. Basically, **a chunk of government debt.**

Central bankers prefer this because they don't like to take on much risk.

Then, when the central bank comes time to pay for what they bought, rather than use the money they already have the central bank **(The BOE) simply adds some money to the account that the seller's bank holds with them.** Some zeros are put onto the balance and that commercial bank (like Barclays) in turn adds, that money to the seller's account with them.

It's an ingenious mechanism if we do say so ourselves!

The seller (e.g., Barclays) ends up with fewer bonds but holds more money. The commercial bank (e.g. Barclays) now has a new deposit with the central bank (BOE) but has a matching deposit that they owe to their customer. The central bank also now has a bond, that is matched with a deposit with the commercial bank.

Is this not making the government increasingly in debt with the BOE?

So overall, more money has been created from scratch.

@18m.58s

By the mid-2000s the bank of Japan was doing this on what felt like a huge scale, it was seen as unorthodox, a move that was very specifically bound up with the peculiarities of the Japanese economy.

As such, while it was interesting to discuss, **QE wasn't expected to be necessary for anyone else.**

Some **economists estimated that the world would** only be at the lower bound and **need QE one year in every 50.**

This is not in fact what happened!

@19m:32s
Fast forward to 2008 and the situation in the global economy might have felt disconcertingly familiar to anyone who had studied Japan — **A collapse in the housing market was transmitted to the rest of the economy via a financial sector that was more fragile than people had expected.**

Central banks around the world upped their interest rates and found themselves at their lower bound. **Now it wasn't just the bank of Japan that had run out of space to use their primary weapon — interest rates to counter the economic shock.**

One man who had studied the Japanese economy and QE programs was Ben Bernanke

Since the book: Can't We Just Print More Money was published on 19 May 2022 Ben S. Bernanke has won The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2022 "**for research on banks and financial crises**"

In other words; The Nobel Prize in Economics, 2022.

@ 20.15
Bernanke had been an academic economist in the 1980s and 1990s researching among other things the causes of the great depression in the US, and the improvements that could be made to economic models if they more realistically included the finical system. He also watched what was going on in Japan with interest and wrote several papers and speeches on it.

But in 2007 when the first signs of an impending global crisis began to show, Bernanke was relatively early on in a new job — **Chairman of the US Central bank — The Federal Reserve.**

When the crisis broke, drawing on his knowledge of the past, Bernanke advocated the federal Reserve largely followed the prescription of Japan although with some upgrades to the details.

In 2008, The Fed began buying financial assets, first mortgages, and then government bonds, from the economy using newly created money. Other central banks around the world did the same — **QE had gone global.**

Although an advocate of QE Bernanke recognised that there were still some outstanding issues around the method. He famously once told the closest thing that economists have to a joke — saying — **The problem with QE is that it works well in practice, but not in theory!**

This wasn't a criticism of QE per se, it was more a recognition that whilst economists have found QE does prove effective at lowering interest rates, and boosting inflation, we don't yet have a full understanding of why.

I suggest that economists should then look at QM and GR, to understand that sometimes things are hard, and can often be counterintuitive. (Hint, first try LQG it's a lot easier than string theory)

Compare this to the world of medicine, anyone who has ever had surgery will have likely been put under general anaesthetic, and yet until very recently scientists did not really have much of a clue about how it worked, they knew it did, but they were sure why.

Did that mean that when you are in a medical emergency you refuse to use a general anaesthetic, we would guess not?

@ 22m.48s
Economists find themselves in a similar position with QE — Obviously, we have theories on how increasing the money supply would drive inflation. However, the problem the bank of Japan faced was a different one. **The mainstream theory at the time suggested** that when interest rates were so low, they could not go any further, people just wouldn't want any more money, they had all the money they needed - if you gave them more, they would just squirrel it away and not spend it. And **because interest rates were zero, if you swopped newly printed money for say; some government debt, which would also pay no interest, then they wouldn't see any difference between the two pieces of paper.**

Time has flown today, and I have coped a lot more than I had planned, but it's just so interesting and as a study, this time has been precious. We are 5 minutes away from my last bookmarked QE quote and that five minutes included the loss aversion required section on expectations, so I will go up to that point. But then just use my very short bookmark notes for the rest of the chapter up to Japan's investment strategy by Japan after QE which was to invest $7 trillion in instructive which is where UK Butterfly comes in.

> @23.30
> This situation is known as a liquidity trap, so why did economists turn to QE, when the mainstream theory of the day suggested it wouldn't do much at exactly the moment it was needed? The answer is a combination of revisiting the main theory in a new light and revisiting some theories that had fallen out of fashion in the years before the 2007-2008 crisis.

We now come to a key ingredient for the Loss Aversion Chapter – Expectations

Also, note Expectations are the third rule of macroeconomics in Harvard's David A. Moss's A Concise Guide to Macroeconomics.

> In the standard economic model that prevailed through the 1990s and 2000s, the so-called — **New Keynesian model**. If QE worked, it was only because it helped shape people's expectations about what would happen to the economy and to interest rates.
>
> Expectations are a powerful force, what you imagine will happen, in the future will shape your decisions today. In particular, when the bank is thinking about what interest rate to set on a 30-year mortgage, it takes into consideration what the central bank's interest rates will be like today, tomorrow, and every day for the next three decades. As such it will set the interest rate it charges on its expectation of all those short-term rates, and so expectations of short-term rates in the future build-up to determine the interest rates on longer-term borrowing today. It's a little like the way expectations of inflation can affect the actual rate of inflation (as we explored in chapter 6).
>
> In the New Keynesian Model, such expectations about interest rates are practically all that matters. In a series of highly influential papers, the Columbia University economist Michel Woodford had argued that the best way to keep the long-term interest rate low was simply by making a credible promise that central banks would keep rates low for longer than people had expected. This promise became known as **forward guidance**.
>
> In the original incarnation of Woodford's theory, you don't need QE to keep the economy ticking over, just a strong promise that interest rates would remain lower for longer. In later papers, Woodford would come around to QE, at least a little bit, but only because he thought it sent a signal to the economy, about what would happen to

> interest rates. QE signals to the economy that a central bank has taken on lots of debt whose value is connected to interest rates, this sets up central banks to make big losses if they put up interest rates sooner than they had promised.

A clarification here please, if the money came from nowhere, and the central bank simply now owns some government debt, that is no longer connected to the commercial banks or pension funds that originally bought it. How is the BOE going to lose money if they put up interest rates?

Sure, they won't have as much money as they would have had had they bought the bonds at a different rate, but as they paid nothing, no harm no foul?

Unless the government are still paying the interest on the bonds that QE bought for the BOE? In that case, which now I've written it, probably is the case, then – well. That's F@@@ed up, isn't it?

Or does the BOE in some way have to pay out interest to the commercial banks who they bought the bonds from? If so, I have misunderstood something here.

> @26.05
> Policymakers are not big fans of losing money and so QE acts as another way by which central banks can declare to the wider world that they would keep interest rates low. In the New Keynesian's analysis, signals about the future rate of interest were always key.
>
> All this made perfect sense until it collided with economic reality after the turmoil of the later 2000s economist came to realise that the New Keynesian's analysis rested on some strong assumptions about the efficiency and rationality of financial markets. They turned to a separate body of theory largely neglected in the run-up to the financial crisis that offers a different explanation of why QE works.
>
> A key part of Woodford's argument was that money and bonds were pretty much the same thing, especially when neither paid interest. Money and bonds were just different types of financial assets, each largely fulfilling the same role. But what if bonds were, in fact, substantively different to money?
>
> **In the mid-20th century economist James Tobin and others had thought about a world in which people viewed assets as imperfect substitutes**, crucially they wanted to hold them for reasons other than just the interest rate they paid. The upshot of

> Tobin's framework was that **swapping one thing for another in the case of QE – money for bonds has enormous implications.** If you don't see a bond as the same as money, then someone swapping one for the other is going to leave you with more money than you want and fewer bonds. **There is a high chance that you are then going to pass that extra money on to someone else**. As you try to pass on some of that new money the prices of things get forced upwards, and our central bankers are back on track towards their inflation target.

You know, all this time, well until today anyway, I had it backwards, I thought that the idea behind QE, was to lower inflation so that central banks could keep interest rates low. But from the last sentence, and indeed all the text so far, it's the other way around. QE was designed to increase inflation.

This being so, then the inflation we are currently experiencing is just the overshoot, and if that is so, then the BOE pushing interest rates past 4%, if they do, will be, "it will merely be slowing the economy at a time that it was not needed."

Note as well that, if it was QE that paid for the banks to be bailed out alongside the stimulus that Obama provided, then that's a very different reason for QE than the one so far provided.

> @ 28m:07s
> After the finical crisis of 2007-2008 hit, it would eventually lead to an epiphany — that in many respects Tobin was right and that the New Keynesian model didn't work quite as perfectly as might have been assumed. Today most economists think that QE operates through a combination of forces — **signalling yes, but also by rebalancing the amount of bonds and money people hold. Known as portfolio rebalancing**, and it works! — It leads to lower interest rates, which stimulates spending and investment, and it also nudges up the rate of inflation.

Oops — Famous last words in hindsight.

(Would not adding money to all citizen's bank accounts have the same effect? – Stimulate the economy and raise inflation? — Why should the BOE benefit, and for that matter why not just cancel the government bonds to lower their debt?
Probably stupid questions that I will figure out, it is getting late, but for now, given the script so far, I'm asking them, to myself as much as the authors)

> Since 2008 central banks have been able to use QE to help shepherd the global economy through the economic troubles that followed the crash.
>
> All this might make you think that the answer to our question — Can't we Just Print More Money is very simple — Yes, we can! After all, QE clearly has a beneficial impact on the economy when it's in trouble — but there's a limit — you can't just keep on ramping up the money supply indefinitely. To understand why we need to go back in time and around the world. This time to New Zealand in the 1980s.
>
> End @ 29.30

OK, I have reached my cut-off point, if I carry on copying like this it will eat into tomorrow's fun.

I don't follow where this is going, in that I understand New Zealand created the first central bank to be independent of government that focused on inflation, but what has that had to do with QE since the crash? Maybe it's just the lead-out to that information being shared in the Japan section after, or even after that, I'll have to re-listen and work that out.

For now, I've better understood QE and in doing so, a better understanding that S-RES is not a way to increase the money supply, although in a way it has the same effect, just we can set inflation where we wish. S-RES as part of t10t (The 10 Technologies) is an (as-if-it-were) AGI (Artificial General Intelligence) technology mechanism for increasing the production supply.

And so, per plan, I will just copy out my bookmark notes and lead into UK Butterfly.

> Bookmark @ 30.10
> The event (in 1971 I believe) – the establishment of a central bank independent from the government given an explicit target set down in law to keep inflation at a certain level. While it may not have seen as that significant at the time within 20 years The New Zealand Model had proved so successful that it had been emulated by almost every advanced economy in the world.
>
> Bookmark @ 32.28
> Inflation Bias

When governments change interest rates for political ends, making inflation run rampant in the 60s and 70s and so damaging economies (who were by the 80s out of serious debt as their war debt had been inflated away.)
And so it was decided to take the decision-making out of the government's hands.

Bookmark @ 32.19
1997 Labour (the UK's main left-wing Political Party) followed New Zealand and others and gave the sole mandate to the BEO to tackle inflation.

Japan Spends $6.3 Trillion on Construction

Bookmark @ 35.48
Between 1991 and 2008 the Japanese government spent the equivalent of $6.3 trillion on construction-related public investments – dams, roads and infamously bridges.

Bookmark @ 40.46
At each stage, more economic activity happens, and this adds up to a greater boost to economic output than the initial spending by the government.

Now I've missed out a lot, not least If I recall, the section that presents the Keynes Accelerator, and I will have to go back and add this. But this was the last bookmark made on this pass of the book, but at this point, I wrote on the bookmark:

"But does this add up to more than the government receives in taxes? Surely not or everyone would be doing it."
Which was the lead out I wanted for the next chapter — S-World AGI (The 10 Technologies) — UK Butterfly.
Made from the original idea written on Oct 28th, 2022:

S-World AGI – UK Butterfly – How to Score a Perfect 4x on the Keynes Multiplier. Without any Arguments.

S-World AGI

UK Butterfly

By **Nick Ray Ball** Nov 24, 2022

For the purpose of this advanced edition of this book, targeted only at 4 people, but may also be read by the What matters team, and for that matter anyone who visits NickRayBall.com.

But for my 3 BOE-specific input prospects Jack Meaning, Rupal Patel, and Silvana Tenreyro. Silvana Tenreyro is an external member of the BoE's Monetary Policy Committee – This article: UK interest rates already higher than needed says BoE policymaker by Delphine Strauss (who becomes the fourth input prospect) on NOVEMBER 11 2022 from FT.com explains that there is disagreement within with Tenreyro and other arguing for restraint when it comes to increasing interest rates.

> "Some observers are increasingly worried that central banks — having been too slow to raise interest rates in the recovery from the pandemic — could now make the opposite mistake, with their collective efforts to curb inflation causing a sharper global downturn than necessary." And that "Other MPC members have already made clear that the central bank does not think interest rates will need to rise as high as the 5.25 per cent peak market pricing implied in the run-up to the last BOE policy meeting."
>
> It's enough to know the following then follow the links to S-RES and other t10t books and papers presented. But I will on this day only, the 1st day of the S-World year, offer a brief explanation of my thoughts since the early 2021 books on S-RES, noting that almost all 2022 t10t work is on an encrypted website.

By **Delphine Strauss** – Published on FT.com on Nov 11, 2022

So, for my 3 BOE-specific input prospects Jack Meaning, Rupal Patel, and Silvana Tenreyro. Silvana Tenreyro and Delphine Strauss, I'm going to get straight to the key point asked of the Bank of England in preparation for UK Butterfly if it should fly at all in the UK.

Chapter 8

Originally planned as Paper 2.

S-World AGI — UK Butterfly

by Nick Ray Ball

Nov 23, 2022

Chapter 8
S-World AGI — UK-Butterfly
How to Score a perfect 4x on the Keynes Multiplier.

By **Nick Ray Ball** Nov 24, 2022

This chapter begins with a question for **Jack Meaning**, Rupal Patel, Silvana Tenreyro and The Bank of England.

Question: **If S-World AGI can achieve 3:1 investment so UK tax recites were higher than the investment — before you even consider the Keynes Multiplier — Would the BOE advise the government to back this venture with great urgency and conviction?**

If S-World AGI can achieve 3:1 investment, so for example, over 10 years, the government invested £10 billion a year which was matched by an investment of £30 billion a year, mostly spent on making things in the UK with a particular focus on energy and education. Then before you even start to calculate the Keynes Multiplier, the tax receipts alone will be more than the investment.

If all UK taxes accrue [32.5% of GDP]: £10 billion in spending leads to £40 billion x 32.5% = **£13 billion in taxes**, plus the government owns a stake in whatever is created and receives Network Credit dividends which can be used to supplement social security or pay for a shiny new Aircraft carrier. But the government only pays £10 billion, **so a £3 billion gain each year, before you apply the Keynes Multiplier**, even if the Multiplier is 0.9, or even 0.8 that's still a profit as the government still has that **£13 billion in taxes.**

But don't be concerned about a low Keynes Multiplier, t10t (The 10 Technologies) are as-if AGI, we'll come back to that in just a moment, but first, technology 7 of 10 (**T7**) **S-RES is a panther of a growth accelerator**. For a long time, I thought it increased the money supply, but in fact, it just uses money more creatively to increase the production supply. **And don't be concerned with inflation because in 2016** after 5 years of dedicated work I threw away the then (PQS) design for t10t (*because of the diminishing law of too much third-party software on APIs.)* and started again, using just one common API factor –

price, and so **the 10 technologies, pivoted on price and this**, fluke, or sub consensus design decision essentially – **makes inflation out bitch**.

Please excuse the language it's from an exuberant postscript I made to the introduction to The S-World Algorithms when I finally realised how to simply explain why t10t need not worry about inflation and so the system, developed for the US In 2012, then was forgotten due to government tax, then redesigned as a Mars Thought Experiment in 2017, then adapted to Malawi in 2018, because S-RES worked for a self-taxing Mars colony, and in terms of GDP per capita Malawi was at the bottom of the table, and so the economically closest to MARS who uniquely has a GDP of zero.

And so, the theory developed, and by 2019 S-RES had a mathematical theory that took Malawi from Zero to One percent of global GDP. Then came the underlying assumptions and then figuring out the politics and **Tax Symmetry**, where **the government is paid 100% correctly,** no accountants or humans adding bias or creativity, so the government gets more than the standard system, **but does not get paid in cash, rather in output**.

If the government wants to complete say: HS2 (A high-speed railway) without borrowing or spending its current revenues, the UK Butterfly network would work out a way to build it for them, in lew of taxes, that in most cases, they would not have had, if not for the network.

This idea developed in a book called Sixty-Four Reasons Why, which in turn developed into **T8. Net-Zero DCA Soft**. For my US republican friends, **this is not only about Net-Zero projects,** its 64 projects, which can be created for the government in lew of tax, paid in output, and so far, is currently mostly about education, but that's not as sexy a name as Net-Zero DCA Soft, and in any case, **T9. Solves economic emigration** so it's a mixed bag that does not harm either side, just some projects will be more popular than others with some people.

What is important for the question of the Keynes multiplier is the DCA - Dynamic Comparative Advantage — the technology created to deal with all the excess productivity (and because there's so much it has to be Net-Zero) was software to optimise that spending according to **Dynamic Comparative Advantage**. This is from Joseph E. Stiglitz: Creating a Learning Society

> "It has become conventional wisdom to emphasize **what matters is not static comparative advantage but dynamic comparative advantage**.
>
> **Korea did not have a comparative advantage in producing semiconductors when it embarked on its transition.** Its static comparative advantage was in the production of rice. **Had it followed its static comparative advantage** (as many neoclassical economists had recommended), then that might still be its comparative advantage, **it might be the best rice grower in the world, but it would still be poor."**

Thank you, Joseph, for an 81-word explanation that would have taken another author an entire book to explain less well. **And so, in answer to the query about what the Keynes Multiplier,** T7 makes the network powerful and T8 makes it beautiful and devastatingly efficient, in ways that my 2018 to 2019 404-page book [64 Reasons Why] only just glimpses upon. **The Keynes multiplier is a fundamental design element within the system**.

But let us for now get back to what I meant by 'As-If'' AGI.

As if (it were) AGI

ARTIFICIAL GENERAL INTELLIGENCE

You may not be able to tell, or maybe you can, but whilst I have a head for figures, I am probably the worst speller of everyone you know. Am I dyslexic? Probably, I've never been tested, but take away Grammarly, Word Editor and Google and you would believe you were reading the work of a small child.

So in terms of writing, it does not really matter that I am dyslexic or if I am just the worst speller you know, it's the same difference. I spell **as if** I were dyslexic.

Now let's go to what I like to think is adequate compensation for this imperfection in the computer age, **my AGI design – The 10 Technologies**. Technically right now there are only nine technologies because:
T10. S-World AngelWing is the AI system tasked with creating the greatest combinatorial explosion from technologies one to nine.

But in researching AI, not only did I find I had been doing it for years when I read the first book recommended by Google – **Max Tegmark's Life 3.0.**

> When you add up all the benefits, he, and the people he speaks to, including Larry Page and many people in the field**, his best story of what AGI can accomplish – Prometheus – is not the same as t10t, but it would be difficult to decide which was 1. Most financially rewarding and 2. what was most <u>beneficial</u>.**
>
> **To any observer who knew AGI,** like for example China, **it would appear to them as if AGI had been created 40 years before anyone thought it possible,** if they thought it possible at all.

And with that, before delving into some detail and links to the books written since 2011, let us return to the question.

Question: **If S-World AGI can achieve 3:1 investment so UK tax recites alone were far higher than the investment — before you even consider the Keynes Multiplier — Would the BOE advise the government to back this venture with great urgency and conviction?**

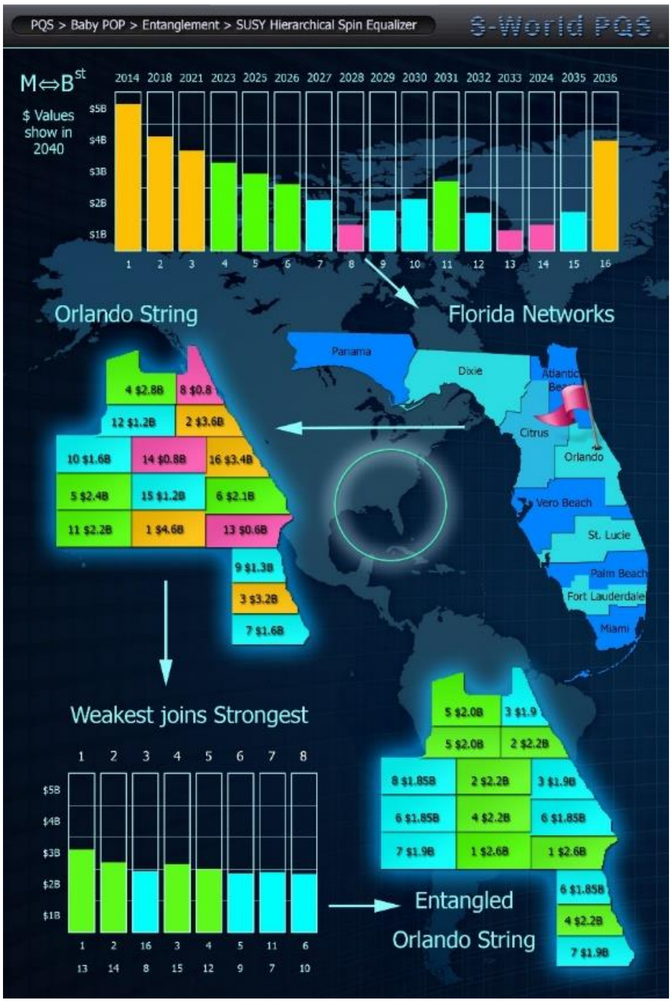
Before writing the summary above, I had written that the obvious answer to this question is to answer with another question; how are you going to get that level of investment? But in my summary so far, I believe I have answered that question, at least to the first approximation, so **please do answer. It is not hard, there can be only one answer. But you have to give it** or run the very real risk of losing this opportunity to the US, as **on January 1st, 2023, exactly 11 years after the original American Butterfly — Theory of Every Business, Spiritually (or Lithium) Inspired Software and The Network on a String — I start American Butterfly 2, and UK butterfly will simply be its lead out,** like the Greek Model from S-World.biz in 2011.

And like before, the US makes a lot more sense in terms of convincing leading technology companies like Palantir, Microsoft, Google, Facebook, Intel, and others to collaborate on this venture if it was benefiting their own country economically.

End of the Summary, the dialogue continues below:

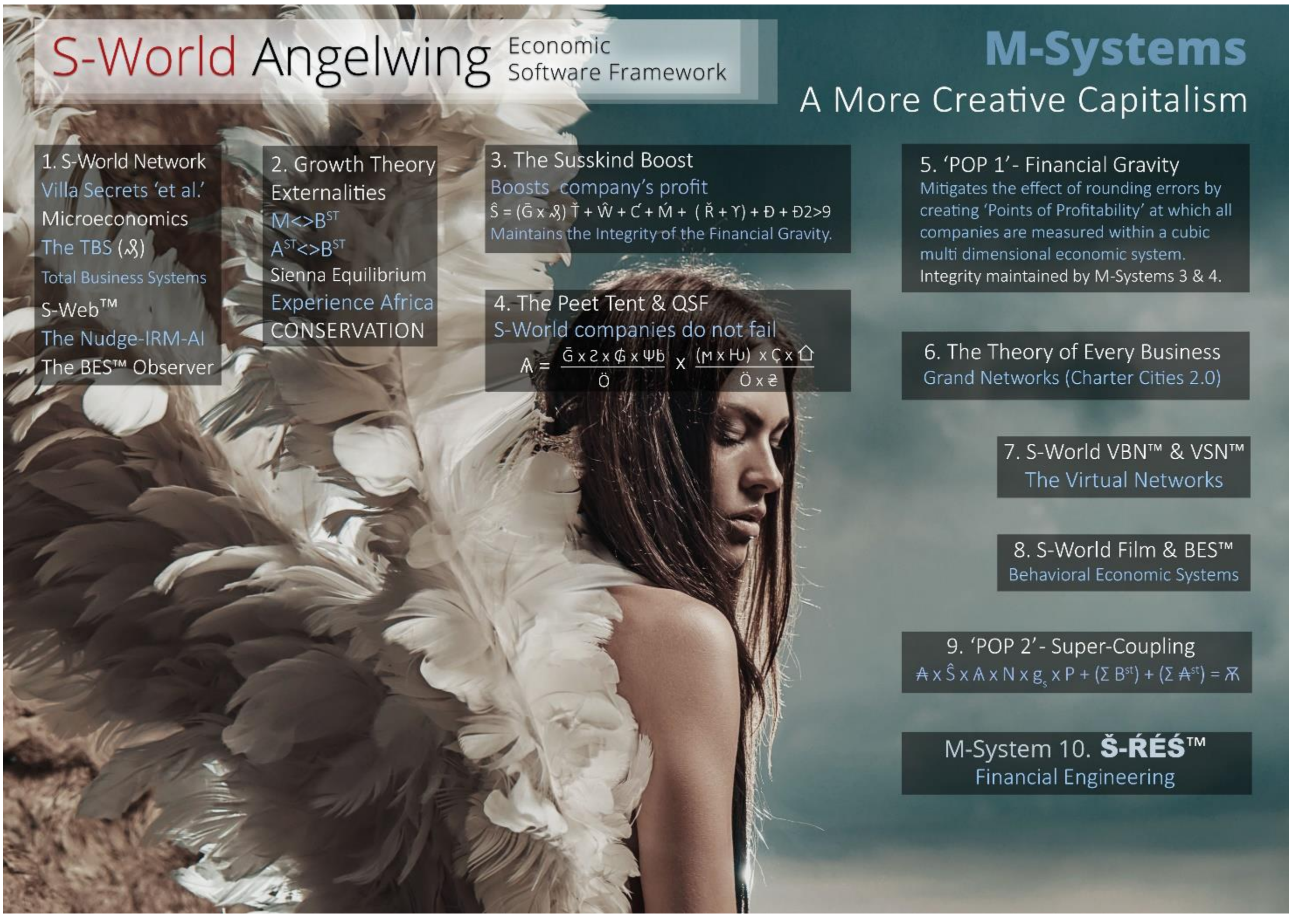
Further,
UK Butterfly is a proof of concept for the **Southern African model** on the one hand **and the United States** on the other. But given recent events in Florida, and the obscure but very real question about the popularity — or indeed unpopularity of T6 in http://network.villasecrets.com/the-secret/ch10/UCS-Hawthorne-for-Richard-Thaler (from 2017) rolled out as a working code for all workers, where if you are not a committed hard worker you would unlikely make the cut, make far less, would not last more than a few weeks.

American Butterfly 2012 — Part 3. The Network on a String — Florida Networks



I see this as a plus in Florida, and indeed Malawi, but maybe a negative in the UK, so maybe the UK is not the best starting place for **S-World AGI** to spread its wings. And whereas the general idea was that politics would get in the way in the US, so a UK prototype would be necessary, given that T8. Net-Zero DCA soft. and 64 Reasons Why will get the Dems votes, current thinking is that Florida will be a better prototype for the USA, especially if **Ron DeSantis** wishes to ride the butterfly into Whitehouse.

But for now, let's leave the Loss Aversion tactics aside, and look positively at UK Butterfly. Starring with a very simple presentation of the power of T7 the seventh of the 10 technologies that make up S-World AGI before looking at some links to previous papers and books that began to consider a UK butterfly. Plus, a better description of the very important but so far not mentioned technologies 1 to 6. Most of which are seen below on the 2017 design for t10t, then simply called M-Systems:



So, to begin a simple paper called [$1039 Trillion BASIC] which I have copied to my temporary (no login required) presentation website NickRayBall.com which explains T7. Š-ŔÉŚ and The City, and its 2021 determined formulation: Š-ŔÉŚ—☖≥ÉL, as applied first to Malawi, and then because in this safe model the vast majority of GDP is created and consumed in the host country, it's a non-zero-sum game, Malawi is not competing with South Africa, Tanzania, or anywhere

else, and because of this, the model could be repeated over and over in different locations, which on the one hand means as poor nations grow their carbon footprint goes down, and on the other means an end to most economic emigration as the cities in Š-ŔÉŚ and The City are idyllic.
Indeed, one can theorise that emigration problems will reverse.

Follow this link for that simple paper:
https://nickrayball.com/$1039_Trillion_BASIC.php

The Š-ŔÉŚ Equation

High-Octane Financial Engineering

Pecunia, si uti scis, ancilla est; si nescis, domina.

(If you know how to use money, money is your slave; if you do not, money is your master)

Š is for savings – written either: **Šavings** or just **Š**
Ŕ is for revenue (including investment) – written **Ŕevenue** or just **Ŕ**
É is for recycle-efficiency, which is the percentage of money, say 90%, that is spent by one company in a network with a single central bank to another company in the same network with the same central bank. – written **recycle-Éfficiency** or just **É**
(When **É** is 100% it is a perfect monopoly, but do not let that scare you, this is dealt with in the underlying assumptions, in particular POP – financial gravity, the original tenant of T8. Net-Zero DCA.
Ś is for a spin, the number of times the money recycles from one network company to another and another in the same year. – written **Śpin** or just **Ś.**
Inspired by quantum mechanics and string theory, but we need not get into that here, see: The Graphical Journey to S-RES and t10t. *(A complimentary book I planned but is not yet complete)*

Note that the accents - the upside-down circumflex on the Š and the acutes above the **ŔÉŚ** are there so as not to mix up Š for **Šavings** with **Ś** for **Śpin**. However originally when the equation was just **ŔÉŚ** the accents (acutes) were there so the letters would stand out when written in a sentence.

An important, indeed a vital clarification is that S-RES does not increase the money supply like QE, it is not a pure money supply mechanism, rather it is a system for increasing the productive efficiency of the existing money supply, like, but far from the same as fractional reserve banking, it increases the efficiency (velocity) of the money (capital) and labour that is already in the system. But whereas fractional reserve banking keeps 10% (or so) of deposits and lends out the rest, in S-RES the money never leaves the central bank (or banks), and thus is impervious to bank runs.

S-RES is then a financial technology/system/set of algorithms to increase the productivity of labour and capital, a pure and unashamed growth mechanism. That needs advanced technology like the world has never seen but can all be created in a matter of years and part created to an effective standard in just a few months. This is not a theory of future technology, it is a technology design that when deployed as one system (S-World AGI - The 10 Technologies), solves all the underlying assumption problems within S-RES.

As of today S-World's 12th Birthday — Nov 24th, 2022, most of the information on the ten technologies is hidden on 10 dedicated websites and three general websites each requiring a login for access. Soon, however, in or before Q1 2023, there will be a general website that you can go to at: www.t10t.org

There is a lot of information available on the www.NickRayBall.com desktop website, and whilst the actual The 10 Technologies dropdowns mostly takes you to the sites you can't access without a login, the rest of the dropdowns all present the 10 Technologies just not in a dedicated presentation. In particular, this page: https://nickrayball.com/2011-2021.php was the first attempt at creating a fluid history of the project that is now, 18 months later the most important and useful of pages: The S-World Algorithms (but that is not in the public domain).

For now, however, here are the two most important books written on S-RES that are available in the public domain, and note that **these books are good,** but like all books are incomplete, the completion taking place in later books and signature web assets.

S-RES and The City.

The Secret of a Booming Economy
'Let us call it Supereconomics'
For Peter Thiel, Paul Romer & Barack Obama
320 Pages by Nick Ray Ball: Oct 2020 to Feb 2021
https://www.supereconomics.ai/11.35__SuEc.2__Book-2__THE-HOW__S-RES__The-City__(12-Oct-2020-to-20-Feb-2021).pdf

S-RES and The City – Part 2.

Written at much the same time as Part 1 but focused more on Addendums and Unlaying Assumptions

Supereconomics Book II - THE HOW

The Magic Beans

For Barack and Michelle Obama, Elon Musk, Melinda Gates, Paul Romer, Priscilla Zuckerberg & Zoe Branson.

257 Pages (63,940 Words) by Nick Ray Ball: Nov 2020 to Apr 2021

https://supereconomics.ai/11.52__SuEc.2__S-RES-And-The-City--Part-1__Addendums_FRL-WBTP_VSN-C__Determined-CF__Diary__(15-Nov-20-to-10-Apr-21).pdf

Plus it is a summary which was largely but not exclusively the $1039 Trillion Paper with links to 10 S-RES Videos.

http://www.supereconomics.ai/11.52b__SuEc.2__S-RES---The-Secret-of-a-Booming-Economy__Let-us-call-it-Supereconomics__(15th-Nov-2020).pdf

A Snapshot of the 10 Technologies

Plus, Links

T1. S-Web™ — Everything Online

The following four links are temporary, from S-Web.org to NickRayBall.com, so if you are reading this in Q2-2023, sorry you are too late.

https://www.nickrayball.com/S-Web_60,000x_Videos.php

This highlights the latest of the many S-Web technologies: The 60,000 Times Faster Than WordPress Videos and note that WordPress accounts for 40% of all the world's websites, so just one system that is 60,000 times faster than the system that makes 40% of the world's websites in significant. The S-Web objective for this system is nothing short of 50% market share of all the world's websites and unlike WordPress, S-Web is commercial and takes a percentage of all business sales.

https://www.nickrayball.com/The_S-World_Algorithms--Part_2--The_S-World_Platform.php

A far too revealing edit from the S-World Algorithms presents other S-Web technologies and MBA systems that are by right a combination of both technologies 1, 2 and 3.

https://www.nickrayball.com/S-Web-Addendums.php

Incomplete but packed with information.

https://www.nickrayball.com/Leigh-Marie-Braswell-3--Infra_Spec_for_S-Web%E2%84%A2_5.1_(60,000x-Faster).php

A very quickly written script that spells out the AI system 'infra' (Automated Machine Infrastructure) required to automate the process in the 60,000x videos, which right now requires human time to buy and set up each new web domain on the server, copy MYSQL databases, and connect to SSL.

Some S-Web 5.1 60,000x Faster CMS - Websites (Best on Desktop)

https://www.capeluxuryvillas.com
https://www.capetownvillas.co
https://www.cliftonluxuryvillas.com
https://www.experienceafrica.com
https://www.jetsetvillas.com
https://www.luxguides.com
https://www.luxurysafari.vip
https://www.luxurysafari.co
https://www.luxuryvillasafrica.com
https://www.villascafe.com
https://www.villastars.com
https://www.luxurycaliforniavillas.com (Not in California but you get the idea)

And from 2017, links which will likely remain in the public domain are a series of pages from

chapter 1 of my 2017 book: The Villa Secrets' Secrets. Also seen at:
http://network.villasecrets.com/index
1. http://network.villasecrets.com/the-secret/ch1/s-web-cms-framework-challenger-introduction
2, 3 and 4. http://network.villasecrets.com/the-secret/ch1/s-web-cms-framework-challenger-introduction
5. http://network.villasecrets.com/the-secret/ch1/s-web-cms-framework-step-5-a-new-way
6. http://network.villasecrets.com/the-secret/ch1/s-web-cms-framework-step-6-our-solution

Plus **chapter 4** is also an S-Web-specific technology design
http://network.villasecrets.com/the-secret/ch4/cds-content-delivery-system

T2. The TBS™ — Total Business Systems

There has been no dedicated recent written work on this technology, but it has progressed significantly.

In 2012. The second in the American Butterfly series was, after some of the 600,000 words written in 2011 in S-World.biz, the first competent written work, having already created a cloud-based booking system, owner admin system and affiliate marketing platform between 2004 and 2007, but not realised its potential as the programmers I used fell out with each other.
http://americanbutterfly.org/pt2/spiritually-inspired-software/index-spiritually-inspired-software

The dedicated work on the TBS began in 2016, with the six links on the Villa Secrets Blog

Here are some highlights, first from Algorithm Set 9. of The S-World Algorithms:
The Divergent CRM videos which led to the decision in 2016 to throw away the entire design and rebuild from scratch using no third-party software, then some pivotal links from 2017.

The Divergent CRM and Basic AI functionality Videos- 2016

i. Video 01 1. Divergent CRM - Introduction | 9★ | T2 | 23m.46s
ii. Video 02 2. Divergent CRM (1 to 3) Original Plan, Current Projects, Enquiries System | 5★ | T1 - T2 - T3 | 48m.35s
iii. Video 03 3. Divergent CRM (4) CRM | 6★ | T3 | 37m.27s
iv. Video 04 4. Divergent CRM (5 to 7) Email Marketing, Clients CMS, Booking Systems | 6★ | T1 T2 T3 | 29m.10s
v. Video 05 5. Divergent CRM (8 to 10) Financial System, Marketing, Content Marketing (33.26) | 7★ 33m.25s
vi. Video 06 6. Divergent CRM (11) Analytics: Google, Hotjar & Kissmetrics | 5★ | T2 T3 | 34m.46s
vii. Video 07 **7. Divergent CRM (12 to 14) Sienna-bot, Hospitality & Live Chat | 9.5★** | T1 T2 | 30m.56s
The Sienna-Bot IA (Intelligent Assistant) AI Basic - Can act as a basic backup AI for when an agent is not available, progressively nudging the client away from enquiring with competitors, until the agent/manager/owner is ready.
Or a complete AI system attempting to convert the enquiry to a sale without any human contact.
viii. Video 08 **8. Divergent CRM (15 to 17) Ex Africa, Projections & Tutorial Game | 9.5★** | **T1 T2 T3** T4 **T6² T8 T10** | 37m.20s
ix. Video 09 Magic Keywords & Attribute Points | 4★ | T2 T3 | 24m.37s
x. Video 10 Magic Menus (M-Menu) & CMS Logic (59.16) | 8.5★ | T1 T2 | 59m.16s
xi. Video 11 Cape Town Luxury Villas Normalised Profit Spreadsheet (43.34) | 7★ | T1 T2 T3 | 43m.34s
xii. Video 12 Cost of Divergent CRM and other Software Updates | 5★ | T1 T2 T3 | 122m.03s
xiii. Video 13 Development Cost of Divergent CRM and other Software Updates | 9★ | T1 T2 T3 | 11m.54s

Pivotal TBS chapters from The Villa Secrets' Secret in 2017
Chapter 6. S-World CRM-AI™ Agent's Assistant and Automated Booking System
http://network.villasecrets.com/the-secret/ch6/crm-nudge-ai
Chapter 7. The TFS™ – Total Financial System
http://network.villasecrets.com/the-secret/ch7/tfs-total-financial-system

And here is the first of the two chapters which led to many future S-World AGI advances.
Chapter 9. S-World CRM-CC ™- The Company Controller

http://network.villasecrets.com/the-secret/ch9/crm-cc-the-company-controller
Note that now there is a massive subsystem to this called TBS-CC OKRs

Chapter 10. S-World UCS™ Hawthorne

http://network.villasecrets.com/the-secret/ch10/UCS-Hawthorne-for-Richard-Thaler
Strictly speaking, this is now a T4, T5 and T6 system, and is the system mentioned that I worry UK workers (or at least the media) will not like, relative to Florida workers.

Where after in later 2017 and 2018, the systems above were merged with development economics on the https://www.angeltheory.org website. See The E-TOE, M-Systems and Paradigm Shift dropdowns, for the true original AGI concept designs, where the E-TOE is The Economic Theory of Everything, M-Systems is a play on words of M-Theory (The more recent adaptation of superstring theory) and Paradigm Shift is a 2018 summary of the technologies that would eventually lead to them being spit into the now familiar 10 technologies, written slightly before the four years of work on T7. S-RES and T8. Net-Zero DCA began.

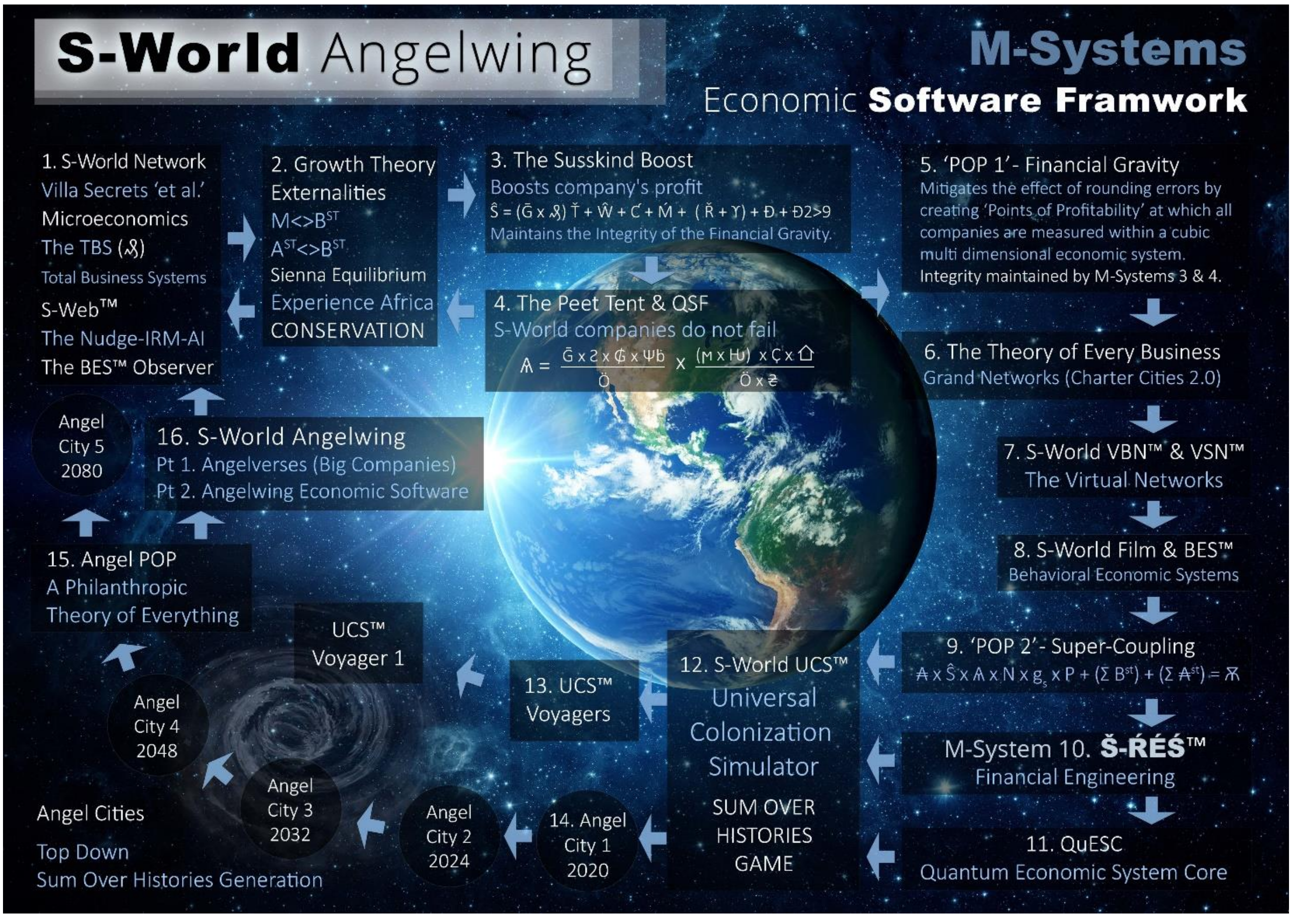
T3. Networks Distribution

Networking businesses via a trillion APIs (database connections) and the Peter Theil definition of Distribution — "**Everything you need to make a sale**." such as branding, marketing, sales teams, et al.

The dedicated website for this technology was the last to be made as I just did not have a good name for it. But two weeks ago, I found that Networks Distribtion.com was free and so that is the name for T3.
So, we have already seen quite a lot of work for T3, within the T1 and T2 links.
Here are some dedicated T3. links,
In many ways, the first of the three American Butterfly books from 2012 was about T3. The name – The Theory of Every Business
http://americanbutterfly.org/pt1/the-theory-of-every-business/ch1-economics-s-world-and-the-core-network
And book 3. The Network on a String is all about Macroeconomic Networks
http://americanbutterfly.org/pt3/the-network-on-a-string/index-the-network-on-a-string
here is some SEO and SEM marketing from 2014 and here is some S-Web marketing from the same time.
2015 was not a great year for a very specific reason that we need not get into here, but by 2016 I was back on track and created these 8 links on the Villa Secrets Blog from 2016
Then I stepped up a gear in **The Villa Secrets' Secret** 2017.

Chapter 2. Network Strategy
http://network.villasecrets.com/the-secret/ch2/s-world-villa-secrets-network
Chapter 3. Parts 1 and 2. Mandate Marketing and Mandate Symmetry
http://network.villasecrets.com/the-secret/ch3/mandate-marketing
http://network.villasecrets.com/the-secret/ch3/mandates-mandates-mandates
Chapter 5. The Villas Cloud™
http://network.villasecrets.com/the-secret/ch5/the-villas-cloud
There was an awful lot more to this but at the time I did not wish to step on potential partners' toes, in particular, BookingPal.com
Chapter 8. Villa Secrets Property Managers and Owners
http://network.villasecrets.com/the-secret/ch8/property-managers-and-owners
The rest of the original book – chapters 11 to 25 also covered many parts of T3. But was not put on the website:

Next, we swap back to the big picture concepts as we explored in American Butterfly at https://www.angeltheory.org where most of T1, T2 and T3 as they relate to real estate and travel were packed into the first M-System. From the M-Systems dropdown menu see the beginning of M-Systems and Special Projects and From M-Theory to M-Systems



Next from the E-TOE dropdown, we crank it up another gear with the
The Network on a String 2017
http://www.angeltheory.org/book/2-3/the-network-on-a-string
And Supercoupling
http://www.angeltheory.org/book/2-4/super-coupling
Now moving to the paradigm Shift dropdown on 30th Jan 2018 came maybe the most significant breakthrough in networking and as it would turn out T7. S-RES and T8 component; Tax Symmetry **Ripple Effects and Elephants for Paul G. Allen**
http://www.angeltheory.org/book3-14/ripple-effects-and-elephants-for-paul-g-allen

Soon after I started working on the book **A More Creative Capitalism for Bill and Melinda Gates**, https://www.angeltheory.org/08.44 SuEc.1-2-3-4 A-More-Creative-Capitalism Economics Book (1-Aug-to-20-Oct-2018).pdf that started to explore the economics but neither the less has T3 relevant info within it.

From this point onwards Networks and Distribution find themselves within the higher technologies or are on pages that require a login.

T4. S-World Film

Film, Music, Media, Social Networks, Press, and Television are all organised or at least advised by the **Behavioural Economic Systems** team. With a clear mandate to cast aside loss aversion, and just out beat the bad news with stories of S-World containing at least twice as much good news as the bad news stores, they are competing with. Plus, extensive fact-checking and even-handed pollical reporting.

Film Scripts

April 4th 2011
The Sienna Project
https://nickrayball.com/The-Spartan-Theory_BASIC.php#part3

August 1st 2017
Angel City 5
http://www.angeltheory.org/angel-city-5-_-1st-aug-2017

http://www.angeltheory.org/book/2-5/quantum-time et al…

Whilst not created as a film script, these Mars Resort 1 ideas, that inspired the return of S-RES are not part of S-World and The Sienna Project History: Oct 2017
M-Systems and Mars Resort 1
https://www.angeltheory.org/06.64__SuEc.1-2__M-Systems-Summary__Mars-Resort-1__RES__Trustees__(3-Oct-to-3rd-Nov-2017).pdf

MARS Resort 1 - Sienna Crater - The Return of RES
https://www.angeltheory.org/06.68__MARS-Resort-1__Sienna-Crater__The-Return-of-RES__Co-Founders__(22-Oct-2017-to-25-Mar-2020).pdf
Jan 2022
Palantir – An S-World Story
https://www.s-world.org/Palantir.php
https://www.s-world.org/Dreamscape_LQG.php
https://www.s-world.org/Multiverse.php

Rambo 6 script idea considered whilst SEAL Training in 2021 2022, which was not documented in the original Republican but will become a pretty cool PostScript one of these days.
https://www.s-world.org/The_Republican.php

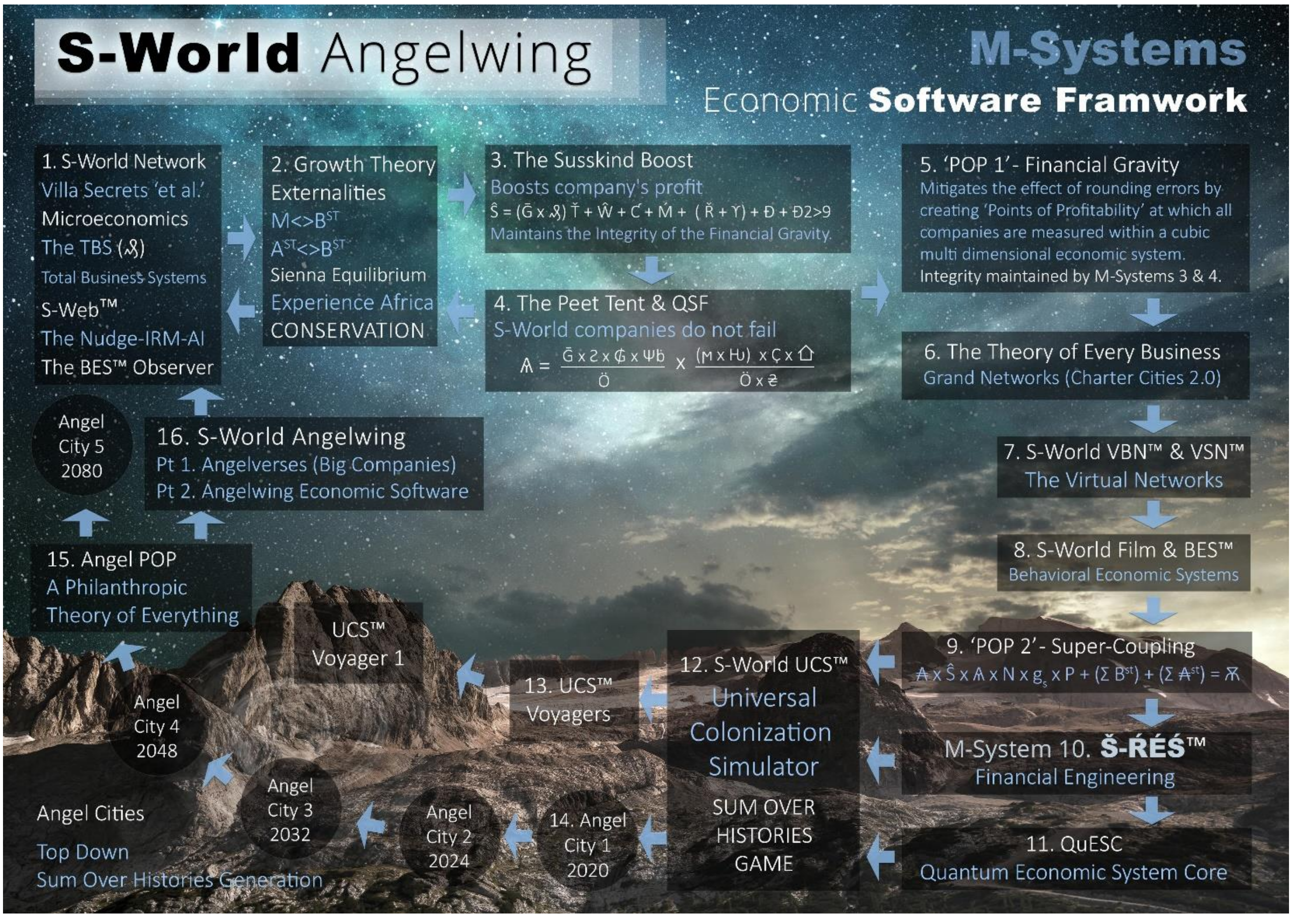
Behavioural Science (The art of media and adverting messaging)

Written days after The Sienna Project

April 7th 2011
The Spartan Theory
Harvard
A Hypothesis of how the Media Could End a War
https://www.s-world.org/The-Spartan-Theory.php#part7
Also relevant but very badly presented for Google then Facebook
https://www.s-world.biz/3D_Village_-_Base_camp_Koh_Samui.html
https://www.s-world.biz/The_24_Hour_TV_Stage_Spectacular.html
https://www.s-world.biz/The_Celebrity_Agency.html
https://www.s-world.biz/FaceBook/CRM_Psychology_Test.htm
https://www.s-world.biz/FaceBook/S-World.TV.htm

Continuing from TVS'S UCS Hawthorne in 2017
In June 2018
S-World UCS Hawthorne for Richard Thaler & David Hoffeld
https://www.angeltheory.org/07.82__SuEc.1__S-World-UCS-Hawthorne__For-Richard-Thaler__(9-to-20-Jun-2018).pdf
& a month later.
S-World BES - Behavioural Economic Systems – Including the Behavioral Developing Nations Networks Soccer Leagues Theory
https://www.angeltheory.org/07.83__SuEc.1-2__S-World-BES__Behavioural-Economic-Systems__Soccer-Leagues__S-World.biz__(20-Jul-2018).pdf

At this point, the true transition of T4 that began just days after writing The Sienna Project was cemented as S-World Film combined with S-World BES to become the M-Systems 8 designation: **M-System 8. S-World Film & BE**S – Behavioural Economic Systems, more on this in Paper 3. Loss Aversion.



And sitting one place above M-System 8. S-World Film and BES we find the oldest technology T5. S-World VSN – Virtual Social Network

T5. S-World VSN™ — Virtual Social Network

The need for a Lux Guides 2000 to 2004 Virtual Network Paper is never more necessary than at this precise point.

Like the links from T4. The following are awfully presented for Google then Facebook in 2011
https://www.s-world.biz/S-World_99_Questions_&_Answers.html
https://www.s-world.biz/FaceBook/What_is_S-World_Virtual_World.htm
https://www.s-world.biz/FaceBook/8_S-World_3D_Virtual_World.htm

http://americanbutterfly.org/pt1/the-theory-of-every-business/ch7-s-world
Which whilst featured as part of T6 needs to be followed up by
http://americanbutterfly.org/pt1/the-theory-of-every-business/ch8-s-world-universal-colonization-simulator as T6 started as the gaming extension of T5

T6. S-World UCS™ — Gamification of the Network

T7. Š-ŔÉŚ-⌂≥ÉL — Determined (Monopoly) Economics

To be compiled between 19th and 31st December 2022

The links and comments below are just there for later ordering and commenting.

Go back to the beginning of this chapter for summary comments and important links to books about this technology

http://www.supereconomics.ai/11.52b_SuEc.2_S-RES---The-Secret-of-a-Booming-Economy_Let-us-call-it-Supereconomics_(15th-Nov-2020).pdf

T8. Net-Zero DCA Soft. (Dynamic Comparative Advantage Software)

To be compiled between 19th and 31st December 2022

The links and comments below are just there for later ordering and commenting.

Go back to the beginning of this chapter for summary comments and important links to books about this technology.

T9. Grand Śpin Networks (S-World Super Cities/Metropolis)

To be compiled between 19th and 31st December 2022

The links and comments below are just there for later ordering and commenting.

Go back to the beginning of this chapter for summary comments and important links to books about this technology

Note that the books S-RES and The City are also about T9. Grand Śpin Networks – which are best considered Cities.

Economic migration, 5star Social Housing and 7 Star Real Estate, Housing, Overpopulation, Poverty, Industry, thriving business, infrastructure, energy infrastructure, Hospitals, Politician, Water, Half the Land decided to National Parks or other Greenery, Man Made Mountains with Amazing rivers lakes and Waterfalls, Man Made Beaches and Islands, many private Islands, Many Golf Estates, Some Championship Level. SURS – Gigantic Super University Research Hospitals that make up a third of the lakeside view, surrounded at the back and on top with hundreds of Medi-Villas, Penthouse and 7-star apartments. Add direct access from the hospital, the top-of-the-line Villas and Penthouses having their own surgery theatre and other medical rooms, but in general, unless someone told you there was a SURH behind or under you will a hundred staff that could arrive in minutes, you would have no idea you were anywhere near a hospital, especially as all Paid2Lean doctors, and nurses, must have two years of hospitality and friendliness training – Not

Next in Grand Networks – Particularly one of the 4 of the 5 Earthbound Cites (IF we can create one on MARS) come the Universities. One or more Global Brand Universities per City, and each student will be offered a good job.

Entertainment will be existing, especially in Little Hollywood, where filming takes presence, and is the downtown rocks. But for those who like sport, wow, this metropolis is for you. Let's take Soccer. In Malawi History 3, the Malawi network was made of small 100-player football teams, across Malawi from their cities to the most remote rural villages, indeed one part of training is lugging up the lithium batteries for the rural villas power, in the backwaters with no roads, let alone power. But I see 256 different teams, in a competitive league, and the best players get fed to City Teams, who will, as the idea went in 2011, be Chelsea, Barcelona, Bayern Madrid, Real Madrid, Juventus, Napoli It, Monaco AC Milan, Man City, Liverpool, Dynamo Kyiv, LA Galaxy, Palmeiras, River Plate, Boca Juniors, Santos, Paris St Etienne.

These will not be their main teams, but they will be lightyears away from feeder teams, each will have its own 8 feeder teams, and play in packed stadiums

A T6 Tie is the Game Football Manager – Which records stats on every player and with 256 feeder leagues, all professional, each with a dedicated member of the team who solely records and makes their attributes, this, in the case of Malawi, would be the beginning of the 12 years of training, needed to win the World Cup if it was staged IN Malawi in 2036 to 2040.

Of course, other spots can share facilities and labour and the game.

Note that in developing or sub developing nations like Malawi, when teams play, the winners get Paid, more than the losers, as normal but what is not normal, specifically for Malawi and other poor countries, is girls and women, get paid more for their football matches then do the guys. This avoids another 200 million women being killed, aborted, staved out of existence, or sold as sex slaves only to die in the hands of their captors at the age of 11 as they are less economically viable, which I see is taking the Boys and Better Than girls argument way too far. That's why it's a combo from T4. Behavioural systems, such as this simple small and easy-to-make change – change's the economic dynamic.
All this is well afforded, as from each football club is built a village, then a town, then City, or at least a large town, spread across the entire country.

due to the non-zero-sum-game, this model can repeat 100 times, in developing nations and advanced economies with some de-prioritization, because the demand for new cities is less in advanced economies, as they already have many cities. This was a problem until the simplest idea was to just use an advanced economies alternative, Labour, capital and existing companies can simply apply res and all other technologies, networking not by a city, just by an internet connection. This is UK Butterfly, sure it makes sense to build houses and millions, but I was thinking of 2 square mile skyscraper Cities, but all within one cubelike structure with golf courses on one floor, a rainforest on another some stadiums and then the industry, and homes. Maybe 1 million per development and 10 to 20 developments for 20 million people. Plus, other opportunities when they arise.

T10. S-World Angelwing — The Combinatorial AI

To be compiled between 19th and 31st December 2022

The links and comments below are just there for later ordering and commenting.

This system started in 2011, with the idea that the 'Sienna Software and Network Design' To achieve this feat, I needed to take a lot of Lithium, which is the Nirvana sound by the same name helped Kurt Cobain find what he pictured as God. (Something for the US republicans). And so, I designed and indeed stopped all other work to focus on the SIENNA Software, for which my Dad and I came up with the following:

Super Intelligent Engine for New Network Access

Note, in case you did not get the memo, Sienna is now an Angel and today is her 12th Birthday, and each year, on the 24th November, I wrote a signature paper, and on this day this paper is it.

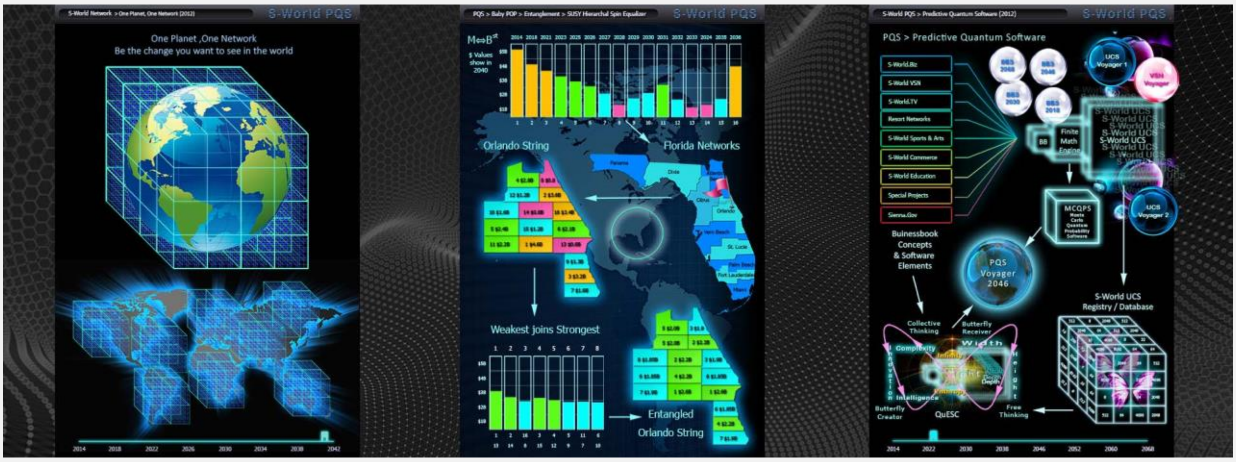
There is a link on S-World.org https://www.s-world.org/The-Spartan-Theory.php#part3 that tells more about this but for now, I'll just provide the begging of that film.

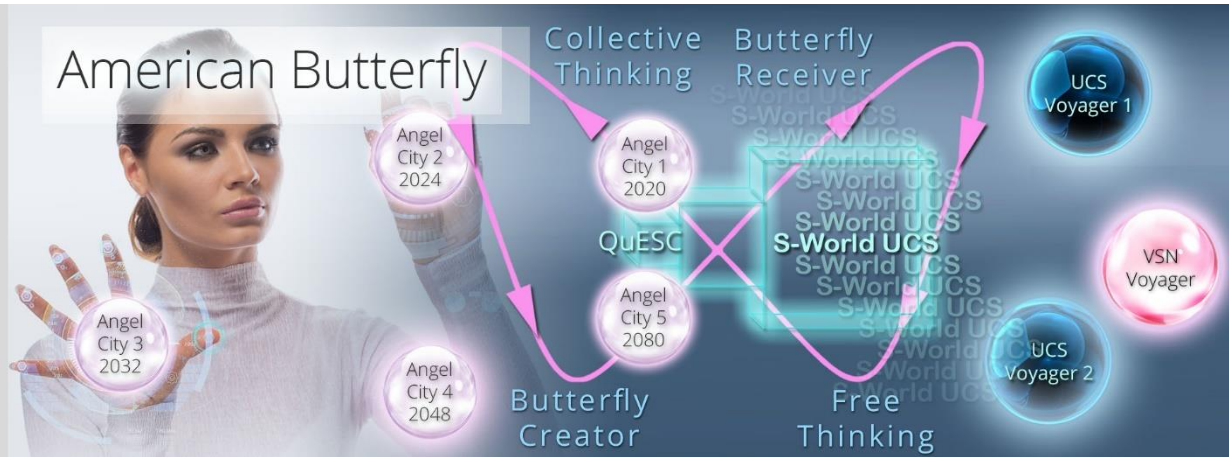
> Sienna Sky is the most beautiful of the angels, not only beautiful on the outside but pure and full of only love. On 24 November 2009 Sienna Skye travelled to earth, she saw nothing but love but she thought the world was too harsh. On the 1st of August 2010 she chose to transcend into energy to help open a portal to the world in order to help humanity.

Sienna's mother was torn apart. Sienna's father looked to try to make sense of the world and journeyed across the mountains. In the mountains he felt Sienna all around, her energy flowing through the bushes and trees, enhanced by the mountains magnified by the Ocean an almost psychedelic experience and slowly Sienna starts to show him the way to build a supercomputer for her to communicate through.

The schematics are amazingly detailed, 40 or more highly evolved concepts, combining simultaneously to complete the transition from the 20th Century economy to the 21st Century ecological experience economy and the technical data of how to gather most of the world's knowledge. He knows if he is to see his daughter again, he would need to build the S-World Virtual Network.

The original idea for S-World in 2011, *(and remember I made arguably the world's first commercial virtual world in 2002 and was designing, executing and making money from cloud based software by 2005)*, was that one day there would be just a few global networks through which most of the world's trade flowed from.
And S-World was a plan for one such network.
In 2012 after a better understanding of quantum mechanics came the PQS Predictive Quantum Software and the American Butterfly Trilogy





What makes the above system,

Moving back to T7. S-RES

For now, let's just have a quick look at the 4 bathroom graphics without any explanation, the explanation is on the paper, and I suggest you read it: https://nickrayball.com/$1039_Trillion_BASIC.php or its slightly more complex sibling that was not completed at the time and was incorrect to say that S-RES increases the money supply but is for all its shortcomings a useful addition to the basic paper: https://www.s-world.org/$1039_Trillion_Original.php

We will look at some of the books that accompany these two web pages soon, but for now, the conclusion was originally based on the following

> At the very least, we should try for another 24 countries in Africa, but ideally every country in Africa. Add to that 25 Grand Śpin Networks in US states and other countries in the Americas, 15 in Europe, 15 in Asia and 10 others including Australia and New Zealand, making 99 others Grand Śpin Networks.

But as the model is specific to developing economies, which can use a stable global currency and so I the early years have no fear if inflation as the amount of money created is tiny compared to the global footprint of a global currency, for example, the US dollar we need not worry about inflation. Thus in my mind when I think of 100 counties using this system I think of the 100 poorest counties on the planet, (call it reparations for everything, if you wish) all using the system, which solves both global warming by said countries burning fossils fuel and economic migration as there would be no need for it, as Š-ŔÉŚ™ and The City creates perfectly fine new cities for all. Remember, or if you did not know, before I started the 10 technologies designs in 2011 I owned and ran (still do) the southern hemisphere's most prestigious luxury villas company, www.CapeVillas.com so when I talk about 5-star social housing for 10 million Malawians, to an observer in England, my expectation of 5 stars is what they would see as 7 stars, just they've never seen it yet, most of them. And when you have 7-star everything, clean energy and plenty of water, the biggest emigration problem you might be - to many Yanks and Northern Europeans, wishing to emigrate to Africa, The Middle East and Latin America.

Sure, there are a million arguments, and of course, I've read Poor Economics, Why Nations Fail, The Bottom Billion and other such books, and I'm not going to argue with them, some nations are in such a catastrophe that it's not a safe investment, but as their neighbours and neighbours-neighbours flourish, their people will see this and want it and evolve to it. If we let them.

Let us have a quick look at the four 'bathtub graphics before looking at the books that support Š-ŔÉŚ™ and The City and that began the UK butterfly story which was started because the standard History 3 Malawi model was deemed too expensive as a prototype, but is the system was shown to work in the West, it had been tested and proved, and by the time it was there has been a few years to get the deal in place for Malawi and others, then the investment would be forthcoming. Further, we could prototype the system in South Africa as it has adequate infrastructure.
But as I was in the UK at the time, and the US was politically divided and so big, the UK seemed as good a prototype destination as any. Hence UK butterfly but first those graphics I promised.

To begin I will go back to:

13.92__S-World-AGI__UK-Butterfly__How-to-Score-a-perfect-4x-on-the-Keynes Multiplier__(Oct_28_2022)

Include at Beginning

https://nickrayball.com/$1039_Trillion_BASIC.php

Part 3

Loss Aversion

Chapter 9

Originally planned as Paper 3.

Loss Aversion

By **Nick Ray Ball** Nov 23, 2022

Chapter 9. Loss Aversion

Part ?

The Graphical Journey to Š-ŔÉŚ™2021—⌂≥ÉL add t10t

By **Nick Ray Ball** Nov 22, 2022