The 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)

By Nick Ray Ball 15th January 2019

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ŔÉŚ v4 (4.24) – History 2d - Manual Simulation 2nd attempt – Malawi 2024 to 2080 (31:09 Minutes) (15th Jan 2019)
Video 28: https://youtu.be/9DY6Vph2eF8 (4/10)

ŔÉŚ v4c (4.24) – History 2c – Reserve Rate Technique and ŔÉŚ Software Design Summary (12:57 Minutes) (13th Jan 2019)
Video 27: https://youtu.be/t0ne-h9fmlM (7/10)

ŔÉŚ v4.24 – History 2b - Manual Display – Scripted 1st attempt - Malawi 2024 to 2080 (29:29 Minutes) (10th Jan 2028)
Video 26: https://youtu.be/EFKXl4uFhV8 (6/10)

ŔÉŚ v4.14 – History 2a - Manual Display - Ad-Libbed - Malawi 2024 to 2080 (27.20 Minutes) (27th Dec 2028)
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Introduction

Welcome to the ŔÉŚ Equation, I have spent a year looking at this simple formula trying to work out where I had made a mistake while running a yearlong thought experiment into increasing the money supply. So, while I have not found anyone with time to discuss this, which is incredibly frustrating, recently I concluded that there was no mistake.

The first version of this presentation made apologies in case ŔÉŚ was not correct, which we can still see on www.angeltheory.org/the-res-equation. However, in this presentation, I need to work with confidence and shall assume its correctness and point out why.

Consider the basics of expanding the money supply via the Reserve Rate (RRT Reserve Rate Technique). In general, the reserve requirement is the number of funds a bank must have on hand each night. It is a per cent of the bank's deposits, set by the nation's central bank. In the US on January 18, 2018, the FED updated its reserve requirement table. It required that all banks with more than $122.3 million on deposit maintain a reserve of 10 per cent of deposits. Banks with $16 million to $122.3 million must reserve 3 per cent of all deposits. Banks with deposits of $16 million or less do not have a reserve requirement. Because of this, at the very least the US increases its money supply by 900%, for instance, if a bank has $1billion on hand an additional $9billion is created, as the bank need only keep 10 per cent of the $10billion in its vault.

It is essential to understand this process, as it is currently the ultimate economics free lunch. If one reads enough economics one will hear many times that there are no free lunches, and yet in the example above big US banks can increase the money supply by 900%, and small banks can increase the money supply by 3,333% as $100 million turns into $3,33billion, and the smallest banks could theoretically increase the money supply further still.

With the above illustrated, it becomes a lot easier to present ŔÉŚ high octane financial engineering, as ŔÉŚ does the same thing, they are both ways to increases the money supply, and I would humbly suggest that ŔÉŚ is superior, but carry on watching and make your minds up, please.

ŔÉŚ High Octane Financial Engineering

So, here is how it works, first imagine a typical large-scale urban development, such as Dubai, Shenzhen or the plan by 2018 Nobel Winner Paul Romer and the Marron Institutes for a Charter City in Honduras. In all cases, I expect the developer would at the begging of the year allocate a figure, say $5billion to the development, mostly spent on infrastructure and real estate, in the hope that they would be able to sell what was made for more than $5billion. This is how most property developments work.

The RÉŚ Equation

However, in the example below, by taking that $5billion and spreading it across a network of companies dedicated to creating the development (A Grand Network) and insisting that they spend all their money before the 25th February. Where (and importantly) 90% of recipients of the cash, or the goods, services or experiences created with the cash end up at one or another company in the Network. Then repeating, so this time $4.5billion is spent between Feb 26th and April 19th, again with 90% of money, goods, services and experiences transferred to the same companies in the Network. Where after we repeat six more times. Because of these rules, we turn that $5billion cash flow into $28,476,639,500 plus, and this is the real beauty of it, at the end of the year via The Law of Conservation of Revenue; $ 2.39 billion carries to the next year.

Ŕevenue	É	Cash Flow	Śpin	Days	Receive By
$ 5,000,000,000	100%	$ 5,000,000,000	1	56	Jan 1st
$ 5,000,000,000	90%	$ 4,500,000,000	2	53	Feb 25th
$ 4,500,000,000	90%	$ 4,050,000,000	3	50	Apr 19th
$ 4,050,000,000	90%	$ 3,645,000,000	4	47	Jun 8th
$ 3,645,000,000	90%	$ 3,280,500,000	5	44	Jul 25th
$ 3,280,500,000	90%	$ 2,952,450,000	6	41	Sep 7th
$ 2,952,450,000	90%	$ 2,657,205,000	7	38	Oct 18th
$ 2,657,205,000	90%	$ 2,391,484,500	8	35	Nov 25th

Years Cashflow		$ 28,476,639,500			
	CFV:	50%			
Years GDP		$ 14,238,319,750			
	GS:	18.75%			
Gov Spending		$ 5,339,369,906			
	LR:	25%			
Labour Receives		$ 7,119,159,875			

LCR		$ 2,391,484,500	9	1	Jan 1st
The Law on Conservation of Revenue					

Then as the years progress, so long as we can pay the government, labour and initial investors in output, and we can create some additional Revenue then we are on track for an unparalleled economic boom. That by 2050 sees everyone in Malawi well housed, fed, given healthcare, welfare, cars, the very best education and financially Malawi would match an economy such as Australia in GDP.

See Spreadsheet: ŔÉŚ and The Sienna Equilibrium 4.05 (14th December 2018)
Tabs: ŔÉŚ Ŕ$5b É90>100 Ś8>20 and ŔÉŚ High Octane É90 Ś8 V2

Of course, the creation of additional revenue is a significant variable, but in many ways, it is a self-fulfilling prophecy, if we can use ŔÉŚ as presented, or adapt it to work as seen above, then making additional revenue comes naturally given the additional cash flow it can buy.

To understand the algebra, Ŕ is Revenue (investment, trade surplus, aid, cities sold), É is Efficiency (How much money transfers to other network companies), and Ś is for Spin (the number of transfers of the money in a year). In the spreadsheet we see the Malawi Networks progress start in 2024 with its cash flow increased from the $5billion to the $28.5 we saw in the spreadsheet, and after it slowly increase its Revenue, Efficiency and adds more Spins. I then perform an S-World UCS™ Simulation, as best I can, given the software at my disposal.

The ŔÉŚ Equation v4c
High-Octane Financial Engineering

Part 1. The Revere Rate Technique, and the **ŔÉŚ** Software Design.

https://youtu.be/t0ne-h9fmlM

I am working from two screens, reading from one and videoing the other, which leads to pauses from time to time as I invariably lose my place.

We start with Increasing the Money Supply and The RRT (Reserve Rate Technique)

In general, the reserve requirement is the number of funds a bank must have on hand each night, a percentage of the bank's deposits, set by the nation's central bank.

In the USA, on January 18, 2018, the FED updated its reserve requirement table.
It required that all banks with more than $122.3 million on deposit maintain a reserve of 10 per cent of deposits. Where after banks with $16 million to $122.3 million must reserve 3 per cent of all deposits. Also, finally, banks with deposits of $16 million or less do not have a reserve requirement.
    Because of this, at the very least the US increases its money supply by 900% as if a bank has $1billion on hand an additional $9billion is created.

    It is crucial to understand this process, as it is currently the ultimate economics free lunch. If one reads enough economics one will hear many times that there are no

free lunches, and yet in the example above big US banks can increase the money supply by 900%, small US banks can increase the money supply by 3,333%, and the smallest banks could theoretically increase the money supply higher still.

OK - With the above illustrated, it becomes a lot easier to present ŔÉŚ High-Octane Financial Engineering, as ŔÉŚ does the same thing but differently, they are both ways to increases the money supply.

ŔÉŚ High-Octane Financial Engineering

Before looking at the first manual 2024 to 2080 ŔÉŚ-v4c simulation, I will present a demonstration of the software design, described in Chapter 6. (of S-World Angelwing – A More Creative Capitalism) S-World ŔÉŚ-v4 (Software Engineer Instructions)

Initial Inputs Page

If you have it, please open the spreadsheet ŔÉŚv4c Financial Engineering Software - Malawi Network 2024 to 2080 (currently the version is 4.24, but later versions will have the tabs mentioned below).
Find the tab: ŔÉŚ-v4c Soft - Initial Inputs, this tab is one of three CMS (Content Management Suite) pages from which the user can make their simulations. This tab presents the starting conditions and if left blank the user starts with the default values.

Display page

Now we move to Tab: 'ŔÉŚ-v4c Soft 24>80 Display,'
Starting at N:10 and ending at S:17 we come to the ŔÉŚ Calculator, within which we apply the ŔÉŚ equation.
Starting with $6.59 billion in Initial Ŕevenue (Ŕ) and a value for Quantum Efficiency (É) of 90% (which tells us that 90% of the Initial Ŕevenue Ŕ is spent with one or other S-World company), we see $5.93 billion in cash flow remains in the Network, all of which needs to be spent before the S:10 date – The 5th March 2024.

This money is recorded at P:10 and this value is copied to the second row of the ŔÉŚ calculator N:11. Where after this process repeats before the 2nd May, then again before 23rd June, and continues until the 8th Śpin, where after the balance is transferred to the following year, (in a process called the LCŔ - The Law of Conservation of Ŕevenue)
In brief, we see P:17 is copied to P:53, and then copied to the following year L:97, which becomes a part of the Ŕevenue Grand Total at D:80, which is then copied to the 1st cell of the 2025 ŔÉŚ calculator N:61 completing the circle.

Now we add up the cash flow spent in 2024 by adding all figures in column P, which at P:43 tells us the Network spent $33.7 billion in 2024.

Next, we move to 2025, and for demonstration purposes only from 2025 to 2027 I significantly increase É and Ś. Whereas I expect ten, twenty maybe thirty years of refinement of the technique may be necessary to master such high values.

To go to the next year, we scroll down.

So in 2025, I increase É (Quantum Éfficiency) to 95% and Śpin to 16, and the net result is cash flow of $76.8 billion.

Then in 2026 É (Quantum Éfficiency) increases to 97.5% and Śpin to 24, and the net result is $167 billion in cash flow.

Lastly in 2027 É (Quantum Éfficiency) increases to 99% and Śpin to 32, and the net result is $326 billion in cash flow

The Controller CMS

Now we move to the Controller tab (ŔÉŚ-v4c Soft 24>80 Controller)
When using the software after adjusting the initial inputs, this is how we create different versions/simulations.

Where you see a cell in purple, it indicates a value that is created by the initial inputs page.
Where after each row below, copies the value from above, unless either a manual change is created, or a recession hits.
Cells in green indicate a manual change that will increase cash flow, and cells in the red clay colour indicate a manual change that will decrease cash flow. Where after the cell in the row below now copies this new input value.

From left to right we start with Quantum Éfficiency and Śpin, then Global Growth. So far, I have not included inflation.
After Growth, we see (Ŕ1) Exports Trade.
In general, we do not touch the 'Ŕevenue 1 Exports' value in column 'F' instead we adjust 'Additional Network Growth,' in column G. Lastly the 'Macro-Financial Events' cells are adjusted automatically when a downturn occurs –
See H:30 to H:33 – A decrees, another decrease, recovery and a fuller recovery and after the value is taken from the year before the downturn.

(Ŕ2) Real Estate Sales and (Ŕ3) Aid follows suit, and after (Ŕ4) Cities Phase 1 does the same but in column P we count the amount of City Developments.

Colum X adds Ŕevenue 1, 2, 3 and 4, column Y presents the LCŔ (Law of Conservation Of Ŕevenue), and column Z shows the 'All Ŕevenue Total.'

Next, in Gold, column AC shows Cash Flow, Colum AD shows network growth, Column AE shows the 'Cash Flow To GDP Variable,' and after column, AF shows Network GDP.

Starting in 2017 column AG shows Global GDP, and after column AH shows Network Share of Global GDP, starting in 2024 as 0.016%, which on the manual display tab reached over 1% by 2050.

Column AI shows Imports and Land Acquisitions (the spillage from É) and next column AJ presented Exports, and in column AK we see one way of working out the Trade Deficit or Surplus.

From column AM onwards, we change to show what the cash flow is spent on, starting with Spartan (Social) Quality Homes.
Because labours share of cash flow is 25% and a quarter of what labour receives must be spent on housing, we know that labour will receive 6.25% of cash flow. This is then divided by the build cost of each home, which was initially $100,000, but has now been increased to $200,000 as the Cash Flow To GDP Variable is 50%, which may mean the value of each home relative to build cost (other factors not included) is $100,000, not $200,000. This question will be worked out one way or another when we create S-World ToEB (Theory of Every Business), S-World DCA™ (Dynamic Comparative Advantage) and the Sienna Equilibrium software.

So we see just over 10,000 homes in 2024, which on the manual simulation increases to just under a million homes built a year by 2050. By which point the population is mostly or entirely housed, and from 2050 to 2080 upgraded, so all Malawians and visitors to Malawi are living in luxury villas, estates, mansions etc.

To the right of housing, we see Virtual Education, then healthcare, then Solar Arrays, and Electronic cars. And one will have the option to add other items via the initial inputs tab.

END

The Feynman Sum Over Histories

Before I start the 2024 to 2080 manual simulation, I will jump to a later part of this presentation, that tells of the Feynman Sum Over Histories.
In 2080 we create a future simulation called Angel City 5, which is how we would like

the world to be, for our children's children's, including all of the environmental, philanthropic, social and space projects presented in chapter 64 Reasons Why.

I have loosely estimated that via a combination of the Angelwing software, several supercomputers and a diminishing expectation from Moore's law we would have created over four gazillion-quadrillion (4^{30}) alternate histories for Angel City 5 before we get there.

In other words, my vision of the world of 2080 will have been assisted by four gazillion-quadrillion variations of the RES v4 Simulation.

Welcome to the first manual (History 2)
S-World UCS™ ŔÉŚ-v4 Simulation

By Nick Ray Ball 10th to 15th January 2019

10th https://youtu.be/EFKXl4uFhV8
15th https://youtu.be/9DY6Vph2eF8

I am working from two screens, reading from one and videoing the other, which leads to pauses from time to time as I invariably lose my place.

This simulation may be slightly optimistic about trade and the amount of real estate and cities sold but could equally be a way short. We are not focused on these variables, rather the general overview of what ŔÉŚ-v4 can do.

1. The Simulation Starts in 2024 with $5 billion in Ŕevenue, É at 90% and Śpin 8, which generates $25.6 billion in Cash Flow, $12.8 billion in GDP, $4.8 billion in Government Spending, and Labour Receives $6.4billion.

2. How we arrive at these figures goes straight to the core of the ŔÉŚ equation Ŕevenue x Efficient x Śpin, as is told in significant detail in the chapter The RES Equation www.angeltheory.org/the-res-equation.

    To summarise, let us move to 2025 and start with the grand total of all Ŕevenue seen at C:51 (Aid, Exports, Real Estate Sales, City Developments, and the LCŔ) is added at the begging of the ŔÉŚ Calculator at K:32

    It is then multiplied by É (for Efficiency) of 90%, which is in effect the percentage of this Ŕevenue spent at other companies in the same Network.   This cash flow is then spent before Feb 25th, 2025 and the cash flow that remains in the Network is free to be spent again, by the 26th of February. And is allocated back to the first column of the ŔÉŚ Calculator one row below, ready to repeat the process. (x É spent by April 19th, down a row, x É spent by June 8th and so on.)
     This process repeats eight times, and each process is called a Śpin, Resulting in a 513% increase in cash flow seen at 'O:41', created by the spending and re-spending of the same money (minus É Spillage) 8 times within a single year.

    Essential to this process, is that whatever cashflow remains after the last spin, is carried forward as Ŕevenue in the following year, is an action called the LCŔ (Law of Conservation of Ŕevenue)

Note that in principle this is a different way of increasing the money supply and comes in place of the (RRT Reserve Rate Technique) which increases the money supply by more than 1000% in most Western economies.

3. By 2027 Ŕevenue has increased to $8.49 billion, by which point both É and Śpin have increased.
   Cash Flow increases to $52.4 billion.

4. Ŕevenue increases over the following years and because of this by 2031 Aid is no longer a contributing factor.

5. By 2032, Ŕevenue is $13.6 billion É is 95%, and Śpin is 12, and Cash Flow is $118.7 billion.

6. 2033 sees a warning about a recession- <mark style="background-color:red; color:white">WARNING RECESSION</mark> -and all income from Trade and Real Estate is halved. However, as É has increased to 97% and Śpin is increased to 14, Cash Flow continues to grow to $127 billion.

7. 2034 sees the recession worsen and income from Trade and Real Estate is halved again. But as É is increased to 99% and Śpin is increased to 16, Cash Flow continues to grow to $138 billion.
   So in general until 2050 I have always sought to increase cash flow year on year.

   GDP, Government Spending, and Labour's Income are all factors of Cash Flow. GDP is 50%, so $69 billion. Government Spending is 18.75%, so $26 billion. Labour Receives 25%, so $34.7 billion.

8. In 2035, the recession eases, Exports double, Śpin is increased to 20, and as a result, Cash Flow increases significantly to $217 billion.

9. In 2036, the recession ends, and Exports and Real Estate/City Sales/Development increase to pre-recession figures. Śpin stays at 20, É decreases to 98%, and the objective is to steadily decrease Śpin and É so that it can be ramped up again when the next recession hits, without decreasing Cash Flow.

10. In 2040, Śpin is down to 12, É is set at 95%, and Cash Flow is $296 billion. Exports are a modest enough $3.4 billion. Real Estate sales are just below $1 billion, and City Developments bring in $10.75 billion.
    The primary source of Ŕevenue is the LCŔ (The Law on Conservation of Ŕevenue), in effect the 13th Śpin passing over the unspent $18.8 billion from 2039 to 2040. Where after, this plus the other Ŕevenue following É 95% and Śpin 12 creates the $296 billion in Cash Flow and a kitty of $18.3 in LCŔ funding for

2041.

11. Steady progress is made until another more extreme recession (a depression) is predicted in 2043 - SLOWDOWN PREDICTED -

In reaction to the predicted slowdown (estimated by the now highly advanced Angelwing software), I move É to 97% and Śpin to 14, increasing Cash Flow to $444 billion for an estimated $222 billion in GDP.
The system for GDP was inspired by David A. Moss's book 'A Concise Guide to Macroeconomics', and the Sienna Equilibrium spreadsheet tabs 006 and 007, which loosely predict that cash flow creates a touch over 50% of Output/GDP. For simplicity, I have factored in 50% (better too low than too high).

Note that as a further extension to this principle, Labour's cash flow dedicated to housing is halved, so that a $200,000 cash flow creates a $100,000 home. It is very counterintuitive, and I may be wrong. However, better to predict too few houses than too many.
However, this thinking also has other connotations, such as should trade goods sold be halved as well?
Leaving this point for now...

12. In 2044, the recession hits; and in reaction, non-LCŔ Ŕevenue is halved, É increases to 100%, and Śpin increases to 18. So, in the first year of the recession, Cash Flow, GDP, Gov and Labour Spending increase by 42%.

13. In 2045, the recession worsens, and now I start to maximize cash flow and show off the Śpin. As income from Exports, Real Estate, and City Developments stop entirely in 2046 the Malawi Network at Śpin 20 grows and grows.

However, this time, when the depression ends in 2047, I keep É at 100% and Śpin at 20 and start to focus on reaching 1% of global output by 2050, and an increase in Cash Flow from $1.2 trillion in 2047 to $2.87 trillion in 2050.

A whole new type of economics!

14. At this point, (19.30 on video 28) I started work on the Controller so that I could see snapshots and factors such as social house production, healthcare, Angelwing development funding, and other items.

Social house funding is the easiest to work out. Labour Receives 25% of cash flow, and 25% of that, being 6.25% is designated to social housing, but with the personnel/staff owning the houses they pay for.

Therefore, in 2050 social housing cash flow is $2.87 trillion divided by 6.25% which equals $179 billion. Which I divided by $200,000 build cost per property = 897,062 houses, paid for in 2050.

So, by now, almost the whole population is housed.

> !!! ERROR!!!
> I have not allowed for population growth, Malawi is currently 18.6 million, and I loosely account for six million homes x 4 persons each.
> But in History 3, I work towards a population of 40 million in 2080 and aim for 10 million homes.
> At some later points, I incorrectly recall that History 2 showed 10 million homes in 2050 (or 2028), whereas, in fact, it takes until 2058. Or 2055 if the build cost is $150,000.
>
> These new calculations have been made on the tab: 'ŔÉŚ-v4 Man. 2024>80 Display' on the spreadsheet: ŔÉŚv4c Financial Engineering Software - Malawi Network 2024 to 2080 - 10 mil homes corrected - 4.25 (15th Jan & 8th May 2019)

Another exciting and simple statistic is the Super Project income of $93 billion in 2050 and $367 billion so far, found down column AV on the controller tab. Precisely AV:54 (and 55).
Of which currently half is dedicated to the Angelwing software, QuESC and S-World Films. Quite the war chest, especially if repeated again and again in over 50 countries, plus income from Virtual Networks.

15. Getting back to the Display, 2051 to 2080 were in part created as an afterthought, testing different theories. After a deliberate fall in 2051, from 2052 to 2060, I focused on maintaining a balanced cash flow relative to global output, with results shown for convenience back on the Controller from (BE:80 to BE:87). As it would turn out, slight adjustments to É are all that was required.

16. Then, from 2060 to 2070, I experimented with acquisition, adjusting É to 93%, dumping most of the highly prized LCŔ in 2060, creating $222 billion in asset purchasing or developing cities in foreign locations, which may well create higher export revenue in the long turn.

Where after in 2061 É increases to 99.5%, and by 2065, LCŔ is replenished, and I do the same again, lower É to 93%, and release $212 billion this time with a mind on buying just about everything else that was for sale in Malawi.

Where after, as before, 2066 increases É to 99.5%. So, by 2070, LCŔ is

replenished again.

17. I called the last ten years' The Peet Tent versus A Hyper Depression,' in which I increase É and Śpin until a slowdown is predicted in 2073. Where after, I increase them some more to É 99.9% and Śpin 32 in 2075, until we see two different versions of 2076.

18. In 2076 version 1 and 2, I adjust non-LC Ŕ Ŕevenue down to 40% (not 100% as in 2045, as now more trade is with other ŔÉŚ economies that are not affected by the slowdown).

    In 2076 version 1 É increases to 100% and Śpin stays at 32.

    In 2076 version 2, I adjust É to 97.5% which releases $276 billion into the global economy, and at the same time, all other S-World Networks follow suit.

    This plan was this book's finale a few months past, an automatic action that sees the new influential S-World countries' economies flood the world with cash flow if say the USA network companies were in trouble.

    This is a macro version of the Peet Tent law (see the backstory and Chapter 2 [Super String Economics / String Theory Systems])

    The results of this action, if the USA and other previously wealthy countries did not have ŔÉŚ economies or at least ŔÉŚ economic zones was, in fact, pitiful, a 3.8% boost to the global economy, not worth the risk, not nearly. See the spreadsheet tab 'Controller' BK:110.
    However, if the USA and other economies could apply ŔÉŚ so that this 3.8% could be spun, so the cash flow and not the Ŕevenue was exported, then we could achieve a 70% Boosts to the global economy, more than enough to solve any problems.

    The last few years just continue with a high É and Ś until, in 2080, on Controller BE:111 Malawi has a 2.2% share of global GDP, a cash flow of $16.6 trillion, having had the capacity to house all citizens (mostly in mansions) and every other creature comfort that right now seems so far out of reach.

Yes, it's a lot to take in, and one's first instinct would be that there must be an error, (god knows I did) but, in fact, É100% and Śpin20 is doing little different to the FED lowering its reserve rate to 5%, increasing the money supply by a factor of 2000%. As that is what governments do, and the Network is designed around being an economy just like a country.

Moreover, ŔÉŚ is inherently safe, relative to decreasing the reserve rate, because at 5% if 5% of lenders wanted their money in cash, and a bank had no one to borrow from, it fails. However, in the case of ŔÉŚ, the money is always there. Hence its motto: ***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)