



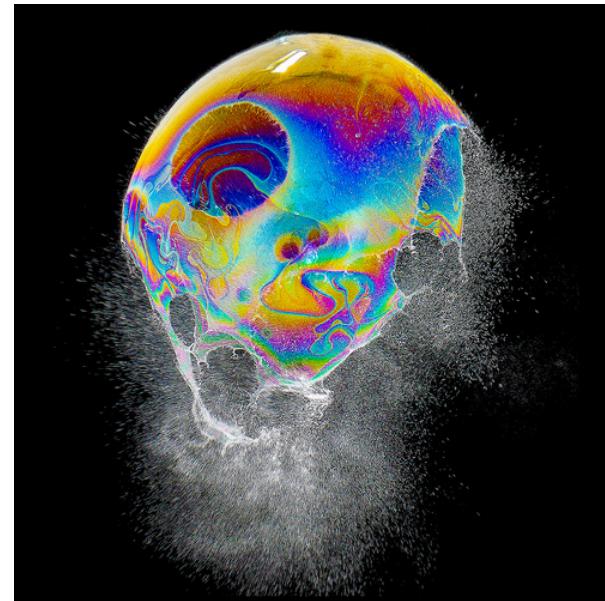
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The Allure of Negative Rates
and Bursting Asset Bubbles

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The Allure of Negative Interest Rates
and Bursting Asset Bubbles

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ICAP Technical Analysis



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Background

In the Euro Zone more than one-third of all government bonds are now yielding sub-zero interest rates. By sub-zero we mean negative interest rates. The total dollar number of bonds involved now exceeds \$2 trillion and is rising fast.

Negative interest rates on a bond means that, at maturity, you are guaranteed to get back less than your original investment. This tear in the financial space-time continuum that is negative rates began in mid 2012 when Denmark initiated the strategy to protect the Krone's peg to the Euro-fx. One result is that home prices in Denmark are up 60% since 2012. This is no big surprise in a country with negative mortgage rates. Nordia Credit and others are effectively paying Danes to buy a house.

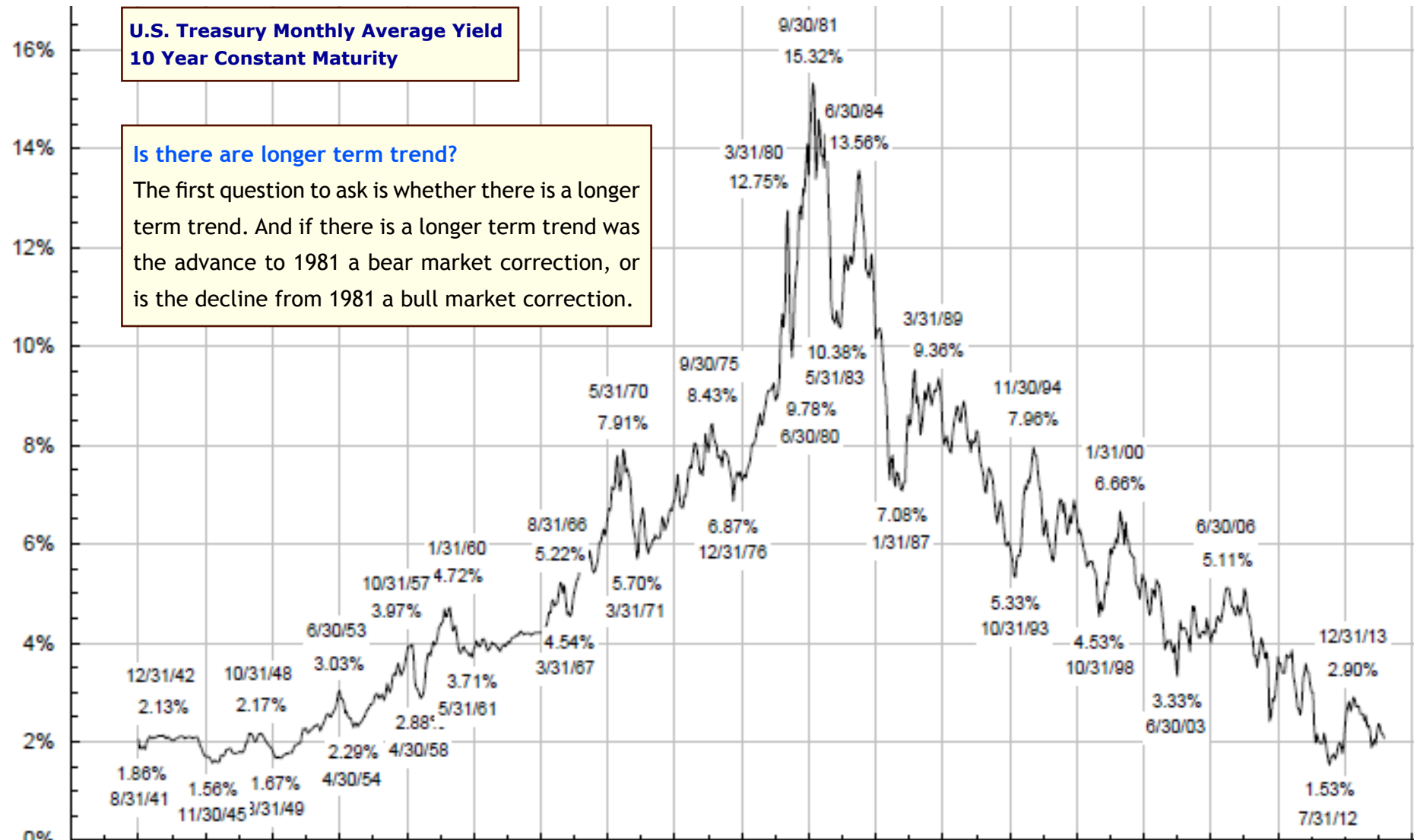
This is not an episode of the 'Twilight Zone'. Europeans are not tripping on LSD. The force of gravity in Europe is not flinging objects into deep space. The sun still travels east to west.

So where did this alternate reality of negative rates come from? We begin with a historical review of interest rates.

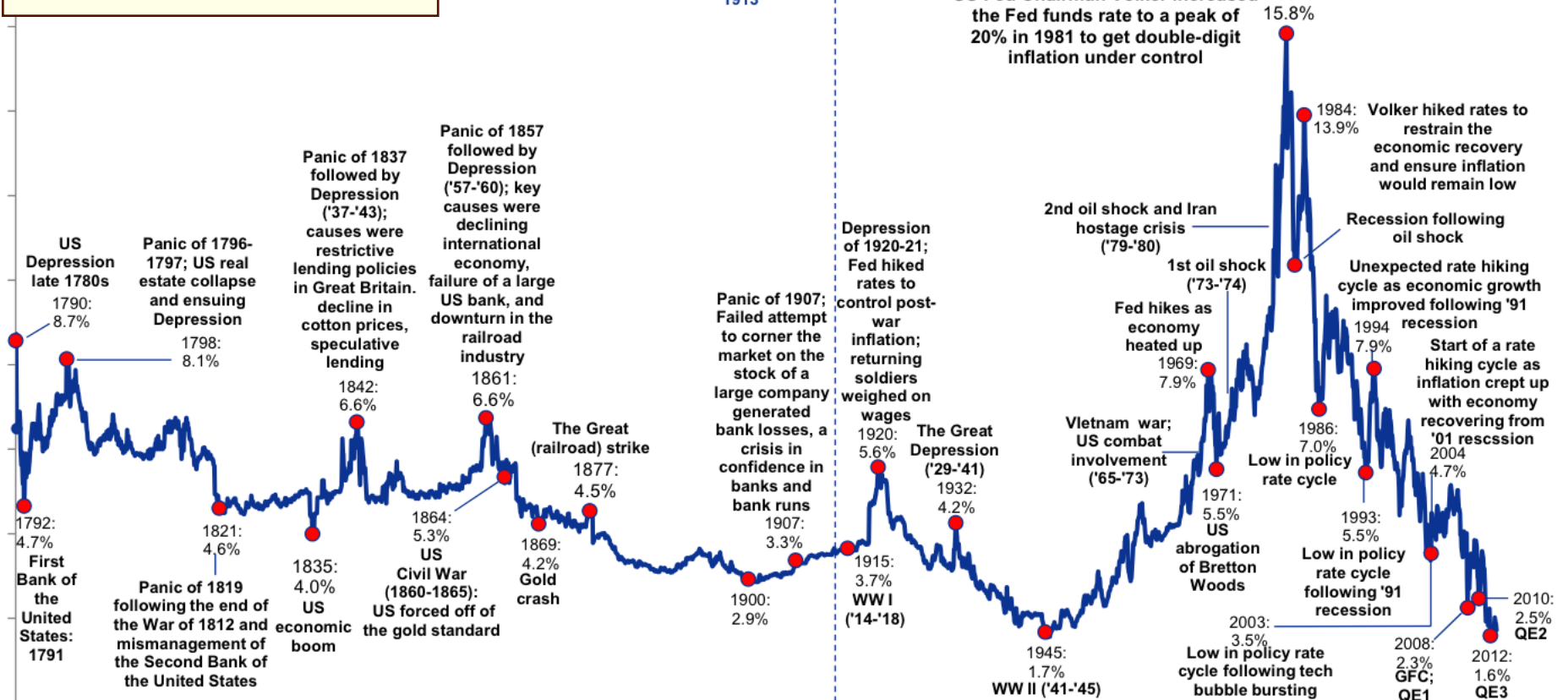
Top Ten Main Points

1. Since the dawn of civilization interest rates have been correlated with geopolitical risk, economic turmoil, and inflation.
2. The history is very clear. A rise in geo-political risk, or economic turmoil, or inflation will raise interest rates.
3. The history is equally clear for falling rates. A drop in any of the big three concerns will lower rates.
4. Negative rates on government bonds suggests that investors see no default risk, no economic risk, and no inflation risk.
5. However it is not quite that simple. Another risk factor has been running amuck in the markets for over 15 years now.
6. As I have emphasized many times over the past 15 years, we are living through the golden age of the speculative bubble.
7. And these speculative bubbles, (i.e. asset bubbles) have all been inflated by central bank monetary policies.
8. The series of burst asset bubble since the Dot-Com fiasco have not gone unnoticed by investors.
9. The resulting perception is that investing in the markets involves a very high degree of risk, if not guaranteed losses.
10. In sharp contrast, negative interest rates on government bonds involves a fixed and comparatively tiny degree of loss.





10 Year US Treasury Yield Goldman Sachs Global ECS Research



Is there are longer term trend?

We clearly need to go back further than this to find if there is any longer term trend in interest rates.

Golden Age of Irony

The Fed began operating from 16 Nov 1914 to ensure a safer and more stable monetary and financial system.

Western World Interest Rates 1150 until now

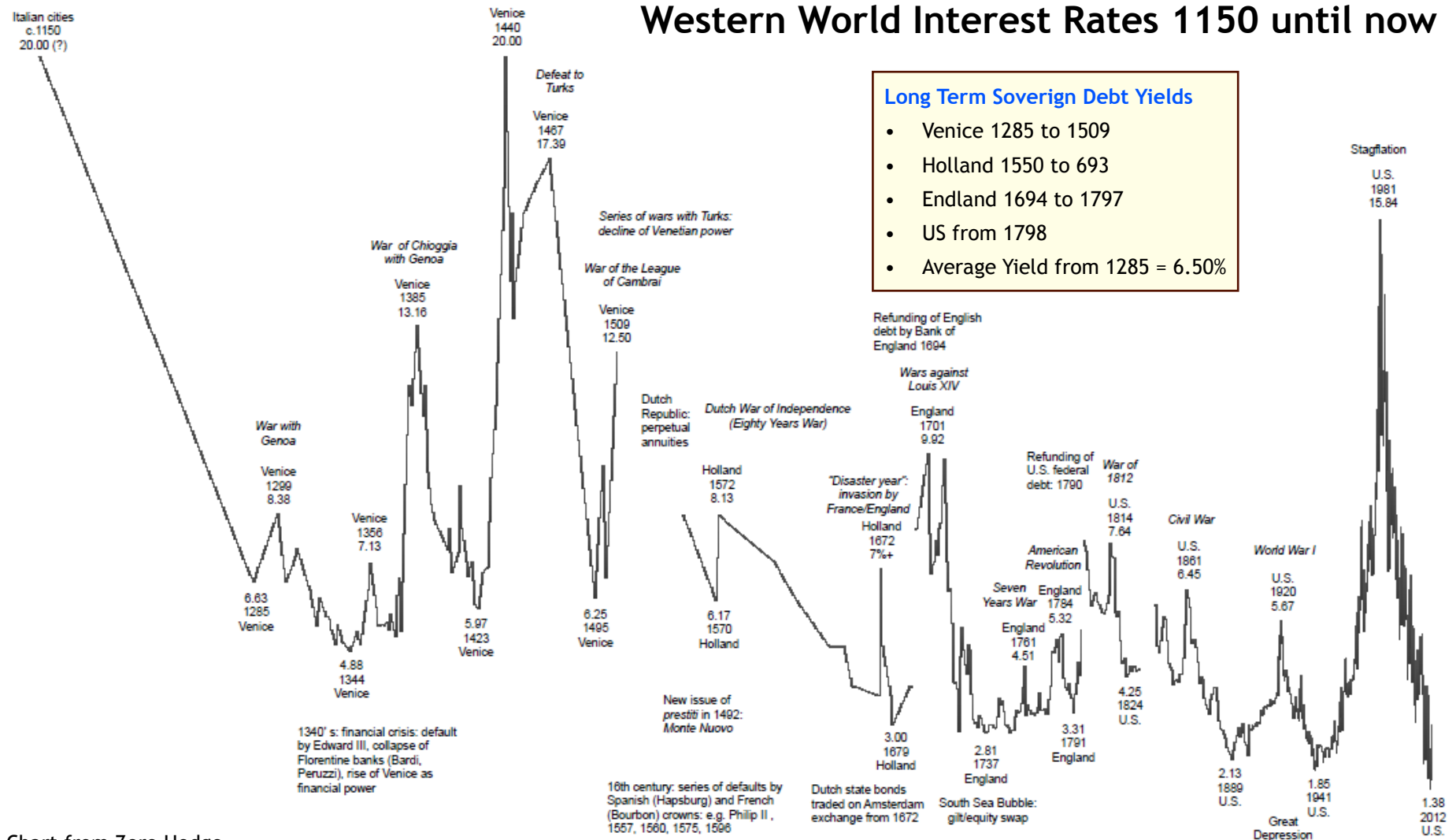
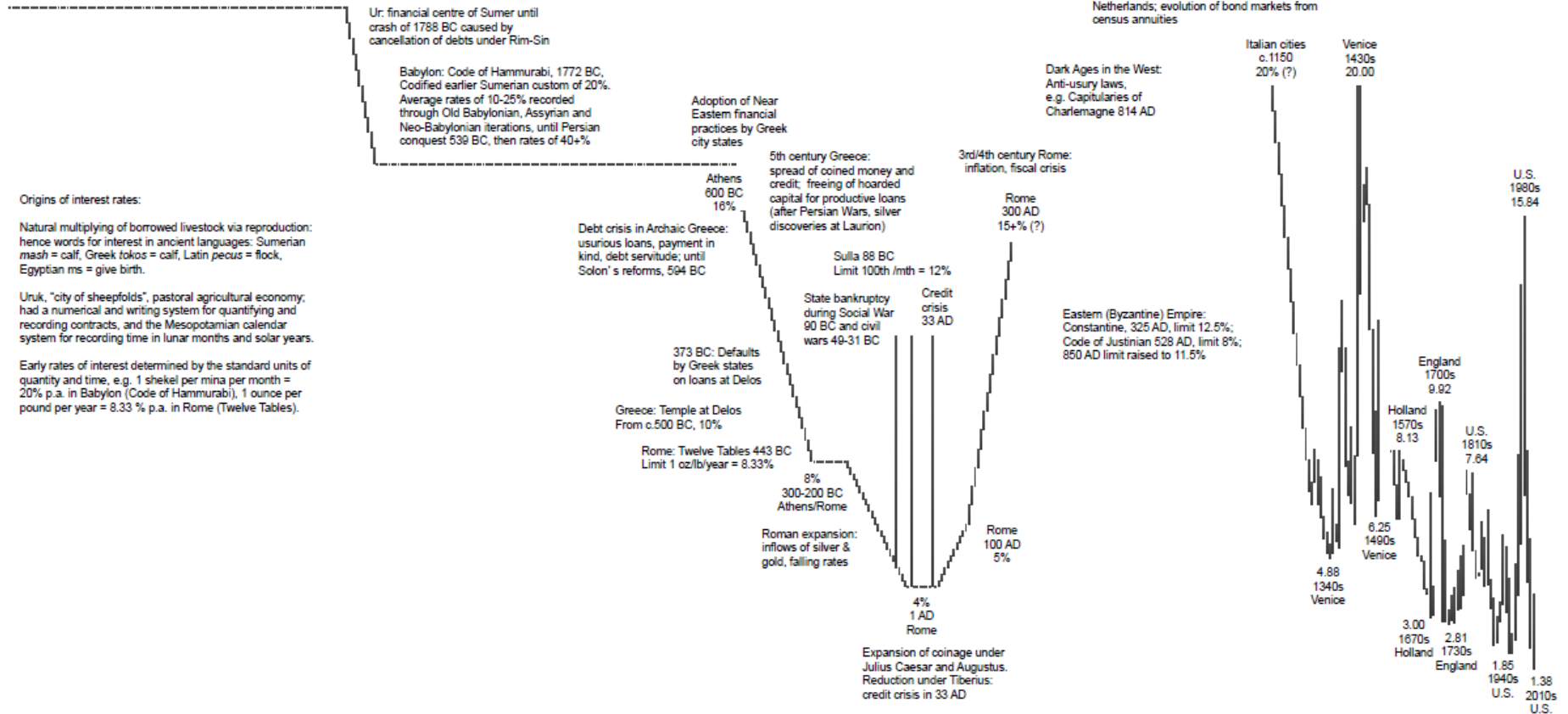


Chart from Zero Hedge

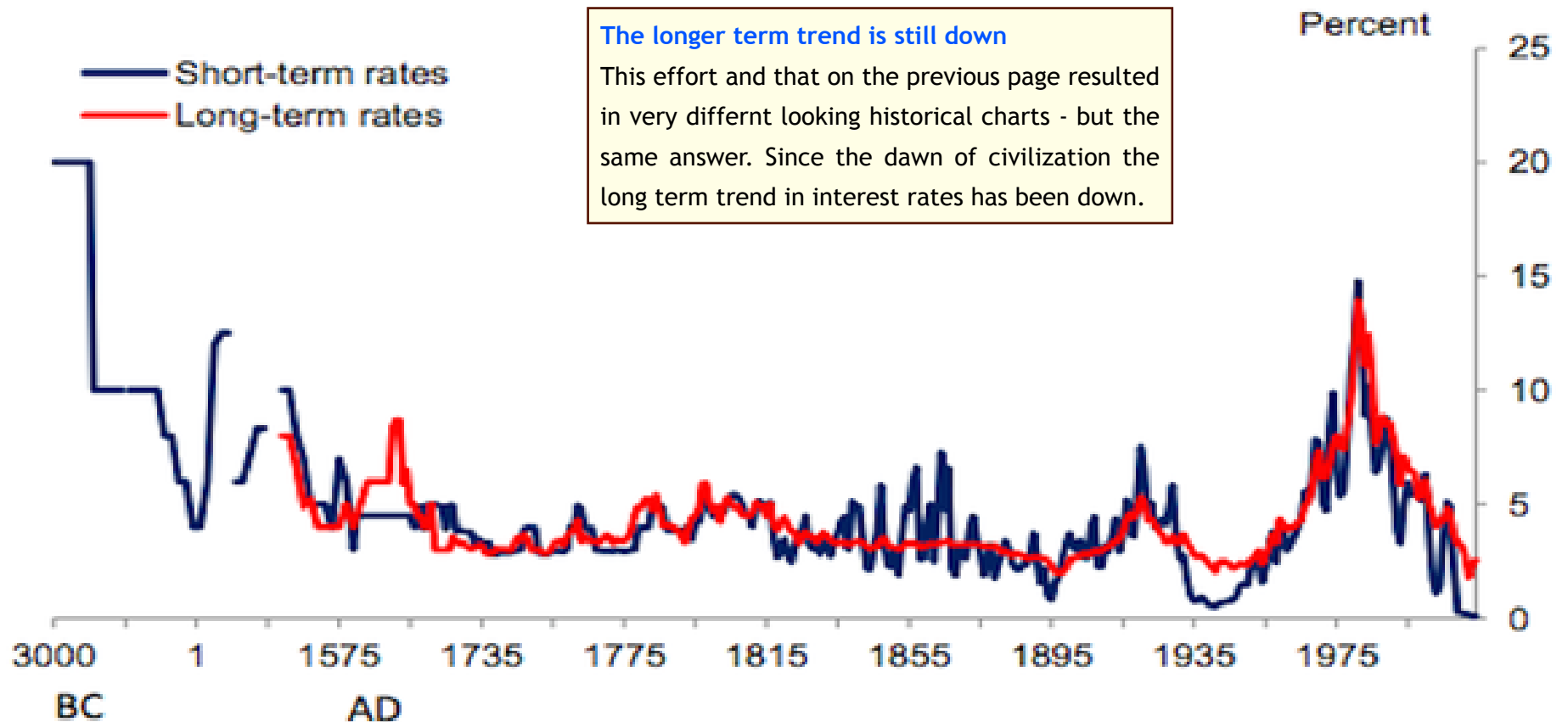
From c. 3000 BC: use of metals as money by weight in Mesopotamia. Temples as proto-banks: repositories of wealth and lending at interest

Ancient Sumer:
Custom of 1 shekel per mina per month = 20%
Rates of 25% also documented
(see also India c.2400 BC: Laws of Manu, 24% rate)



World Interest Rates 3000 BC to 2000 AD

source: Andy Haldane, Bank of England (see next page)





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From Andy Haldane at the Bank of England

His Sources:

- Homer and Sylla (1991)
- Heim and Mirowski (1987),
- Weiller and Mirowski (1990),
- Hills, Thomas and Dimsdale (2015 forthcoming),
- Bank of England, Historical Statistics of the United States Millennial Edition, Volume 3 and
- Federal Reserve Economic Database. Notes: the intervals on the x-axis change through time up to 1715.

From 1715 onwards the intervals are every twenty years.

Prior to the C18th the rates reflect the country with the lowest rate reported for each type of credit:

- 3000 BC to 6th century BC - Babylonian empire
- 6th century BC to 2nd century BC - Greece
- 2nd century BC to 5th century AD - Roman Empire
- 6th century BC to 10th century AD - Byzantium (legal limit)
- 12th century AD to 13th century AD - Netherlands
- 13th century AD to 16th century AD - Italian states.

From the C18th the interest rates are of an annual frequency and reflect those of the most dominant money market:

- For 1694 to 1918 this is assumed to be the UK
- From 1919-2015 this is assumed to be the US.

Short Rates used are as follows:

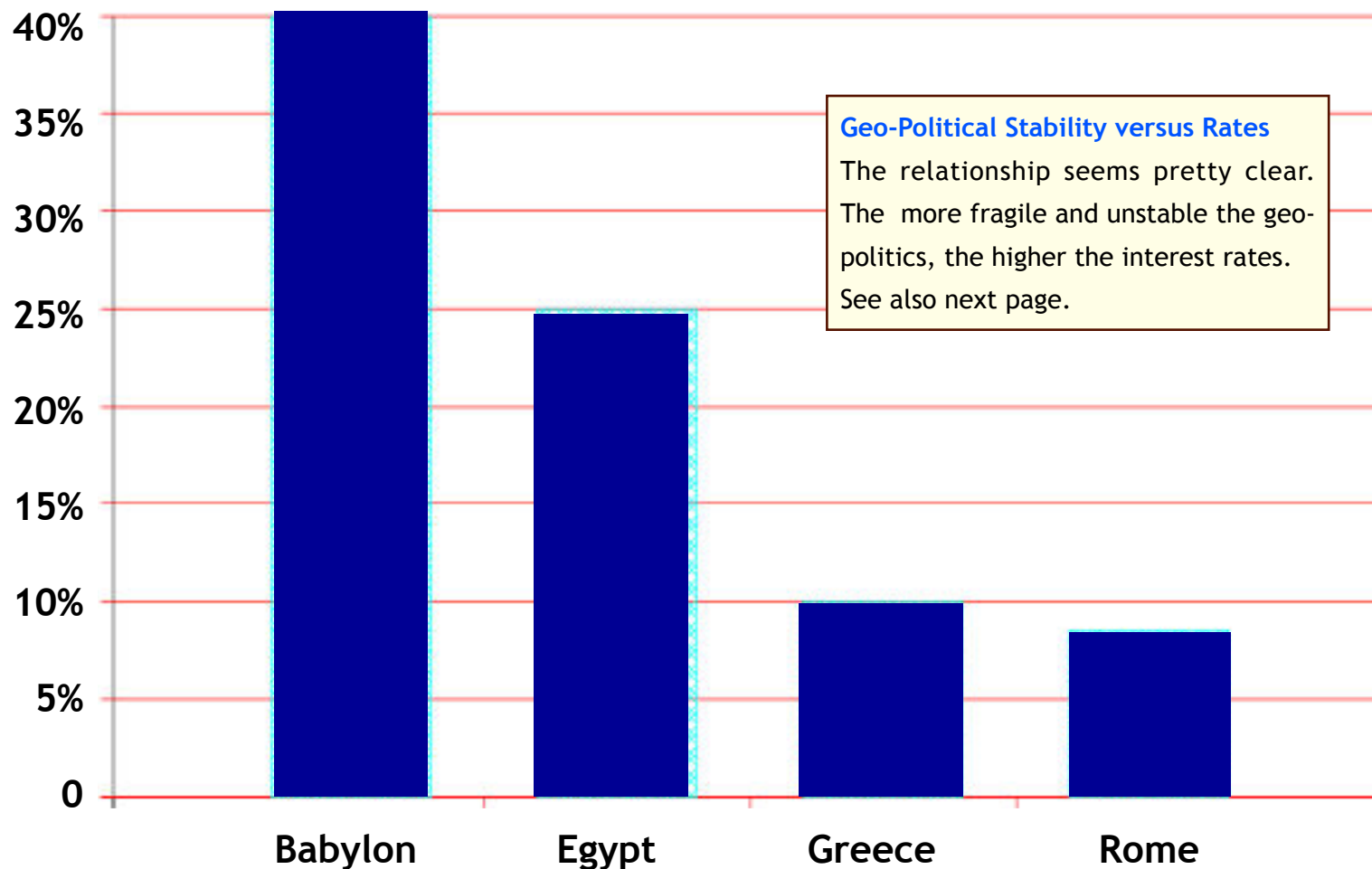
- 1694-1717- Bank of England Discount rate
- 1717-1823 rate on 6 month East India bonds
- 1824-1919 rate on 3 month prime or first class bills
- 1919-1996 rate on 4-6 month prime US commercial paper
- 1997-2014 rate on 3month AA US commercial paper to non-financials

Long rates:

- 1702-1919 - rate on long-term government UK annuities and consols
- 1919-1953, yield on long term US government bond yields
- 1954-2014 yield on 10 year US treasuries.

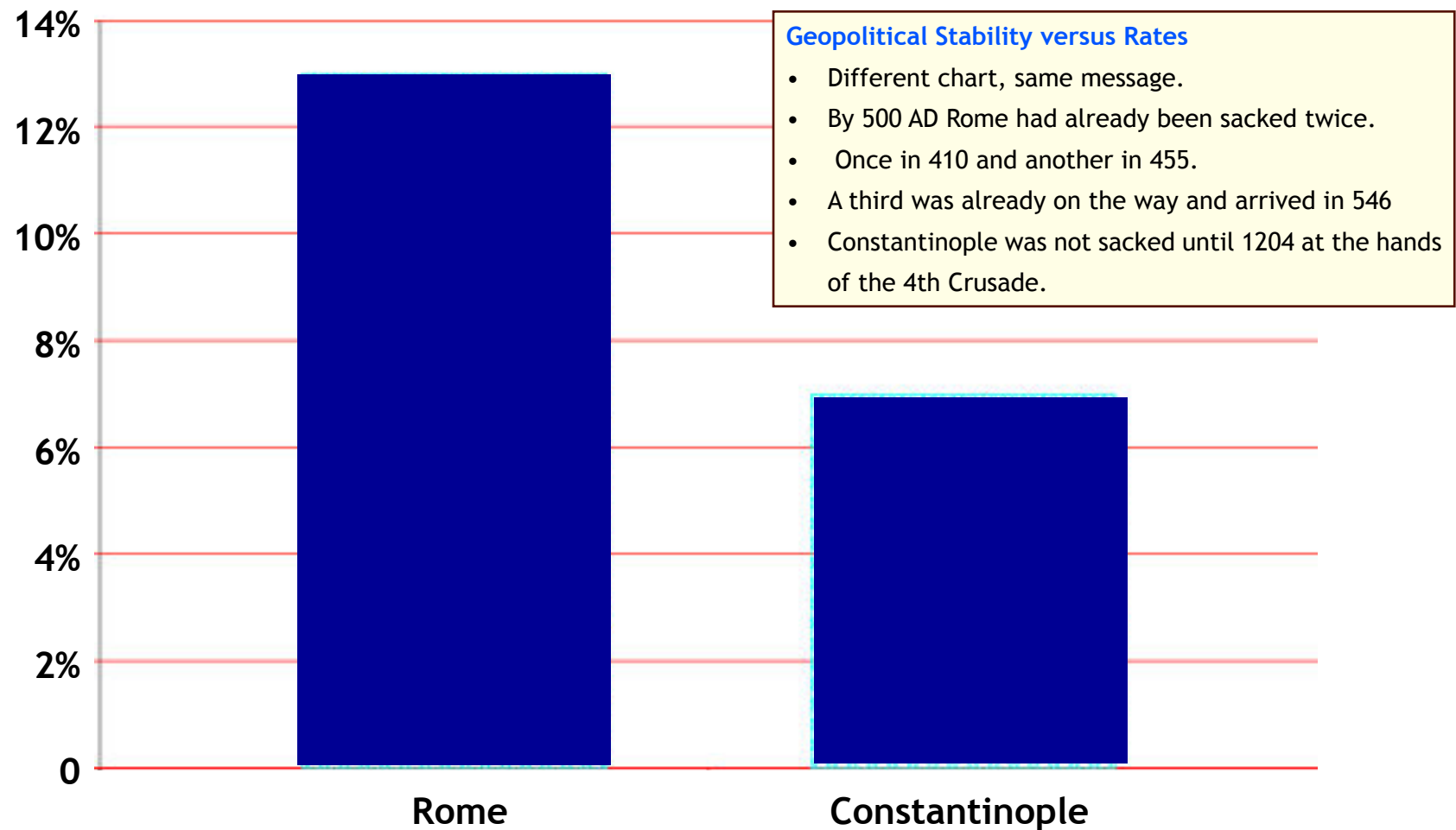
World Interest Rates 400 BC, minimum annual rate

source: Princeton Economics



World Interest Rates 500 AD, minimum annual rate

source: Princeton Economics



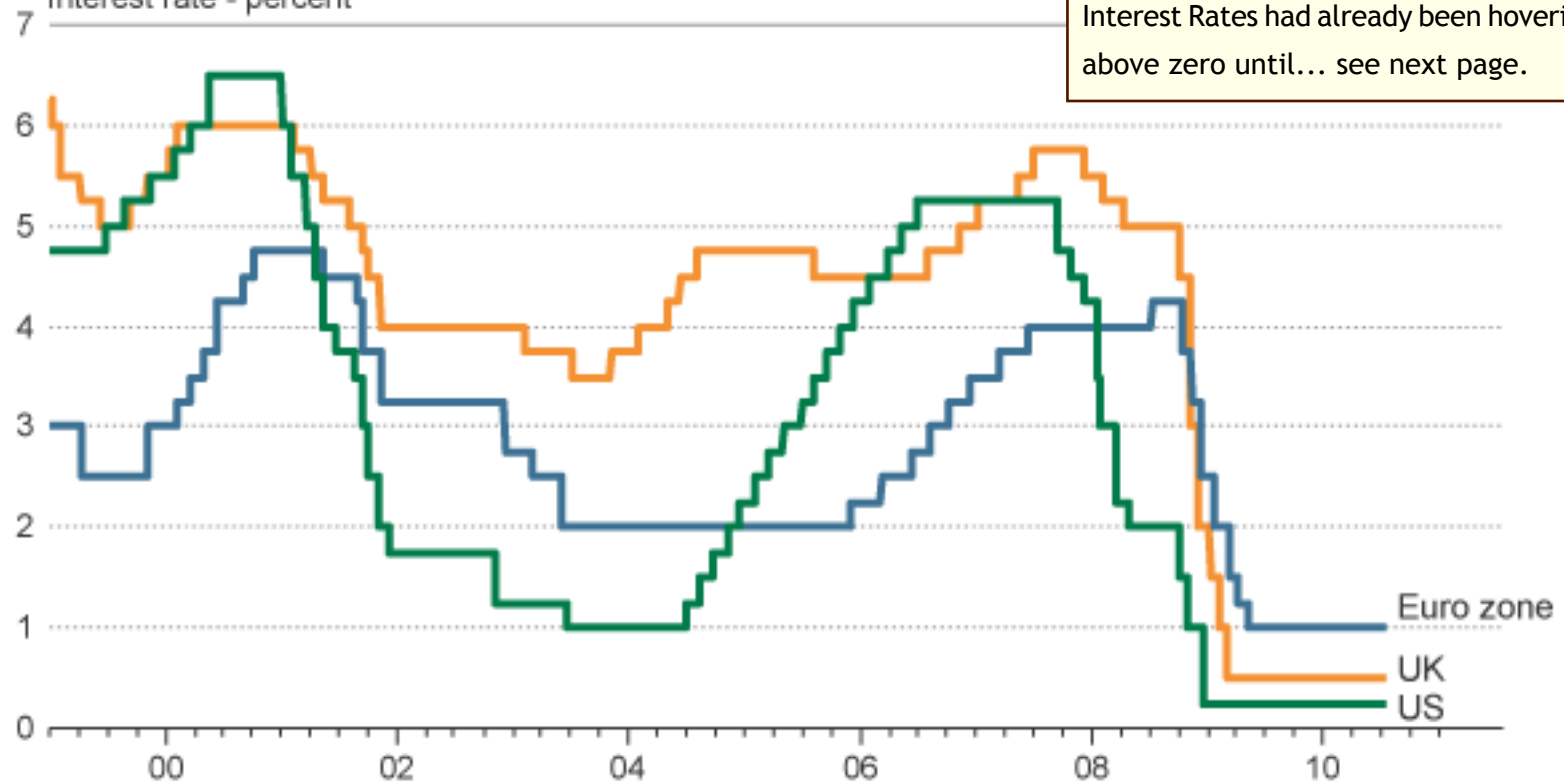
Top Ten Historical Highlights

1. The 1800 BC Code of Hammurabi was the first recorded government attempt to regulate interest rates. The maximum rate for loans of grain repayable in grain was **33.3%** while a range of 25 to 20% was the maximum rate set for loans of Silver.
2. Records of 33.3% grains rate loans date back to Ur III of Sumeria circa 2112 BC.
3. The penalty under the Hammurabi Code for charging more than the maximum interest rate was severe. The debt was cancelled. So evidently interest rates above 33.3% must have been a big problem pre-Hammurabi Code.
4. As Babylon declined (4th to 5th centuries BC) interest rates rose, with the minimum rate on Silver loans reaching as high as 40%.
5. From India the 'Laws of Manu' (circa 500 BC) set the maximum interest rate at **24%**.
6. The Laws of Solon (Greece 594 BC) set interest rates to the **16% to 20%** range. By 493 BC rates had fallen to the **10 to 12%** range for fully secured loans.
7. The 'Twelve Tables' of early Rome (circa 450 BC) set **8.3%** as the maximum interest rate. Under Emperor Augustus (25 BC) rates had fallen to only **4%**. However, far from Rome rates in distant provinces could range from 12% to 48%.
8. The Code of Justinian Code (529 AD, Eastern Roman Empire) reduced the maximum interest rate from the 12.5% of Constantine the Great to the **4% to 8%** range.
9. During the instability of Medieval Europe interest rates typically exceeded **30%**. One of the many reforms of the Reformation was to cap rates near **10%**
10. Interest rates in the UK fluctuated from **2.5% to 6%** between 1695 and 1855

Central Bank Interest Rates as of 22 Jul 2010

source: Thomson Reuters

Interest rate - percent



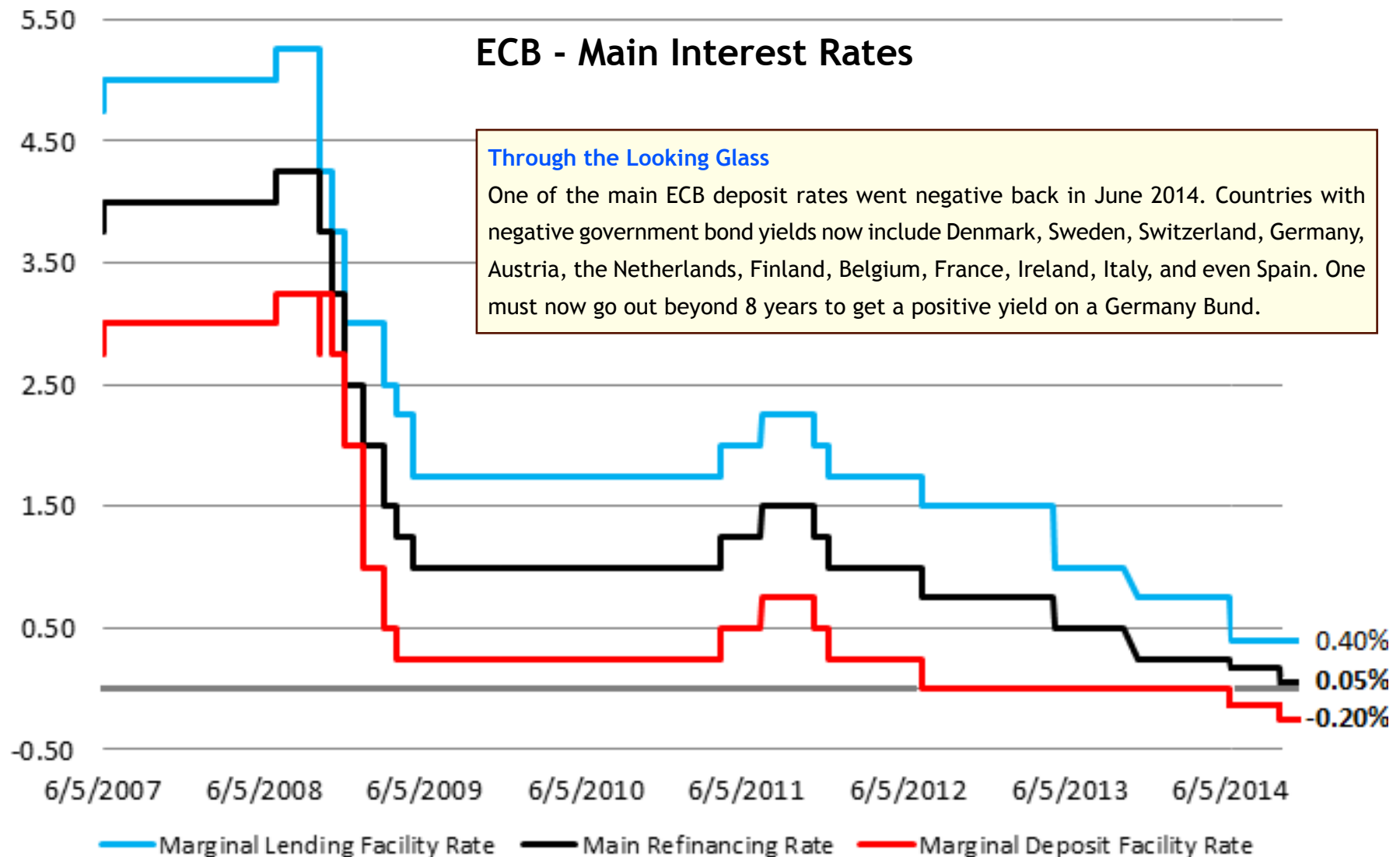
Hovering Above Zero

Interest Rates had already been hovering just above zero until... see next page.

ECB - Main Interest Rates

Through the Looking Glass

One of the main ECB deposit rates went negative back in June 2014. Countries with negative government bond yields now include Denmark, Sweden, Switzerland, Germany, Austria, the Netherlands, Finland, Belgium, France, Ireland, Italy, and even Spain. One must now go out beyond 8 years to get a positive yield on a Germany Bund.





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Background

- The Central Banks are paranoid about the risk of deflation.
- So they are desperate to spur a rise in economic activity
- Governments are resolved to maintain their export volumes in a world of shrinking international trade.
- So governments are desperate to keep their currencies weaker than the currency of their export market competitors.
- In this environment ultra-low interest rates appeal to the desperation of both central banks and governments.

So it would be easy to claim that...

Both central bankers and government officials are using ZIRP and NIRP to try and convince us that:

- Cash is no longer a store of value.
- New Rules: cash is a liability, not an asset.
- So it makes no sense to save. One must spend, spend, spend.

However...

The long term interest rate trend has been down since Sumeria from a 25% official peak for Silver loans. And interest rates had already fallen as low as 4% as early as 25 BC. So should we really be all that shocked by zero or even negative rates. And just perhaps there is more going on here than central bank wars.

Background

- An interest rate is the cost of borrowing money.
- This cost arises from the risk of lending money.
- The lender will not lend unless the interest rate is seen as high enough to cover the risk of the borrower defaulting.
- A lender must also be convinced that the interest rate is high enough to protect them from the risk of inflation.
- So the two big risks that lenders face are defaults and inflation.

Are there still lending risks?

- Buying a government bond is lending to that government.
- If the perception is that there is no risk of government default then there is no need for an interest rate to cover that risk.
- If the perception is that there is no risk of inflation then there is no need for an interest rate to cover that risk.
- And if financial investments are seen as too risky in this golden age of the speculative bubble, then investors would be eager to trade an unknown extent of losses for a fixed degree of losses in the form of a negative interest rate government bond.

Conclusion

We should at least consider the possibility that, as far as government bonds are concerned, positive rates are a historical artifact.

Adrian Brody in 'Wrecked' (2010)



A Too Perfect Parable

Hollywood turns a profit by sending out films that resonate with the collective mood. In the case of 'Wrecked' the timing was perhaps too perfect.

The Nasdaq had just lost 56% of its value from a 2007 peak after losing 78% of its value from 2000 into 2002. The real estate bubble has burst in 2006 and by 2010 had utterly collapsed. In less than four years the average US homeowner had gone from sitting on a plum retirement account in the form of their home value, to being trapped upside down and deeply underwater in negative home equity.

This movie likely resonated far too sharply to be entertaining. And that makes this film an excellent parable for our purposes.



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The Wrecked - from the film

One minute Adrian Brody is a soft and pampered yuppy shopping for his soft and pampered yuppy girl friend. The next moment he is violently abducted at gun point by bank robbers. And the next moment he wakes up at the bottom of a cliff, deep in a forest, trapped in the wreckage of the get-way car, and surrounded by dead bank robbers. The icing on the cake is a badly broken leg and total amnesia. Brody has no idea who he is and how he got trapped in a crushed car. Brody then spends the remainder of the movie dragging a badly broken leg back up the cliff he just flew down from. This agonizing effort is spiced up with hallucinations, cougar attacks, and near drowning in a swollen river.

The Wrecked - from the financial markets

One minute the typical investor is sitting on big profits in their stock market portfolio and huge profits in their home value. While at this point the average investor has enormous paper profits in equities and real estate, they are also carrying a large debt load. The next minute the typical investor is facing deep losses on their stock market portfolio, catastrophic losses on their home values, and a household debt to equity ratio that has exploded higher. And now they face the additional risk of lay-offs.

Adrian Brody - Investor

Imagine the movie 'Wrecked' as a parable of the March 2000 to Oct 2002 Dot-com collapse. Then Adrian Brody slowly and painfully crawls back up his cliff of financial collapse, dragging a badly broken net worth behind him. Then the housing market bubble bursts and Brody is thrown down an even steeper cliff. Now he tries to flee with his rapidly vanishing net worth into the stock market, only to get caught in a bursting stock market bubble. Brody then tries to flee to the commodity markets. The major investment banks had been hawking a basket of commodities as a hedge against the next stock market collapse. Then the commodity market bubble bursts. So Brody tries to flee with his tiny remaining nest egg to a mix of treasury, corporate, and junk bonds. But now the junk bond bubble is bursting. And investors are back to being fully invested in the stock market again - at new all time highs.

So the typical investor has metaphorically lived through the financial-life equivalent of four back to back 'Wrecked' movies, with the near certainty that more asset bubbles await bursting. But what does all this have to do with negative interest rates? See next page.

Tallying the Losses

The Dot Com Wreck of March 2000 to October 2002

- Average **78% loss in value**
(Nasdaq)

The Housing Market Wreck of August 2005 to 2011

- Location dependent average **losses in value of 50% to 65%**
(Case Schiller Index and Las Vegas)

The Stock Market Wreck of October 2007 to March 2009

- Average **60% loss in value**
(NYSE Composite Index)

The Commodity Market Wreck of July 2007 to date

- Average **67% loss in value** (so far)
(Bloomberg Commodity Index)

Now Compare the Above Steep Losses to

- A five year German Bund yielding **-0.07%**
- A ten year Swiss bond yielding **-0.27%**
- An ECB deposit rate paying **-0.30%**

The Long Term Trend

The aim of this report was to gain some understanding of the attraction of negative interest rates. We began this report by viewing negative rates as the next logical step in the long term down trend in interest rates from circa 3000 BC. However this history does not explain investor demand for negative rates.

Asset Class Death Traps versus Tiny Guaranteed Losses

Since 1999 every major asset class except government bonds have proved to be a financial death trap. The average losses are outlined at left. Yes, losses to maturity with negative bond and deposit rates are guaranteed. However barring the highly unlikely default of the nation involved, these guaranteed losses are tiny compared to the several financial disasters that investors have found themselves strapped into over the past fifteen years. By contrast a tiny guaranteed loss on a government bond starts to look like a financial bonanza.

Conclusion

The culpability of the central banks is that their policies have inflated the several asset bubbles that investors have found themselves trapped within. This history that makes investors avid savers at negative rates.