

## **Par Value During the Black Plague: Treasuries are Financial Teflon. Silver Makes Pretty Spoons.**

**By JM**

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Silver has its place. It's an industrial metal, has a nice correlation to equities, and has been used as money for thousands of years, which gives it a kinky personality. But don't think that silver currency (or gold standard) is an effective way to handcuff government theft. As long as there have been silver coins circulating, there was a crooked Mint debasing them to its advantage. The "Tungsten Effect" is the rule, not the exception. Historically, the most common metal in coinage was lead. This is simply the nature of things. Cash of any kind exhibits exponential decay, a half-life. Real safety is found in paying your taxes.

The strongest discipline imposed on a state is not connected to its currency. Iron discipline stems from credit. The government bond market is the crown jewel of any state. A state will torch its constitution before it lets its bond market get crushed. It's like choosing to repair a ruptured jugular instead of getting a facelift. So Treasury paper credit risk shouldn't be a worry to anyone right now. As long as the United States is around, there will be Treasuries paper earning income, however meager. Let me say this in another way: if the Treasury market goes, so does the U.S., and pretty much everything else with it. Wait... did I just feed the beast?

Whence flows my confidence? Because government bond markets have seen much worse than anything you or I have known in our lifetimes. Government bond markets have seen things a thousand times worse than the Great Depression. Ditto the Great Panic of 1873. In fact, they show incredible resilience in a hell's-coming-with-me scenario that most probably can't even imagine. More than resilience: they follow a predictable dynamic even 700 years ago. You see, there was a penultimate black swan at the very top of the capital structure in a period when just about everything from the human forge was destroyed.

Since the commercial revolution began, the interbank market has always been the quiet and demure core of the world economy, but it is government bond markets that dominate everything economic and they are the ones full of interesting memory. Let's rock it out on these memories.

### **The Real Worst Case Scenario**

Start with super-banks that produced financial innovation in loans, bonds, insurance, and equity markets. A legal system equipped them with capital structure and freedom of contract. There was a carry trade optionalized by forward contracts and arbitrated in Antwerp and London<sup>1</sup>: the Venedetto ducat/Genovesi pound. Derivatives were written by the Bardi and Peruzzi investment houses, two mega-companies had the combined business lines of Goldman Sachs, Exxon Mobil, and Newmont Mining, only 10x the relative net worth<sup>4</sup>. These banks were embedded in an integrated world economy with persistent trade imbalances between Europe and Asia. These imbalances doggedly threatened to destroy everything. Welcome to the medieval Venetian Republic circa 1285-1400.

The complexity of Medieval Mediterranean economy was comparable to our own time. And then the system went into pure meltdown. For starters, one third of Europe's humans died from the black plague. World trade collapsed for generations. Supply chains that provided raw materials were completely destroyed by Mongols. Although the ducat was a great reserve currency, the hoarded silver coins still lost 20% of their silver content within one's lifetime<sup>2</sup>. Foreign nations threatened the

existence of the republic multiple times. For a century Venetian military power wasted itself in a never-ending series of small-scale conflicts to gain commercial concessions. Radical political change made a council of 10 tyrants the rulers of the republic, who in turn used a doge to enforce martial law. Civil war culminated in the execution of the doge on the palace lawn. Nations which imported Venetian manufactured goods became protectionist, and forbid foreigners from retailing goods. All of these factors led to utter financial collapse. Given only a handful of mind-bogglingly powerful international banks, the two largest went bankrupt because of leveraged loans to the emerging markets of England and France, who used the loans to kill each other. Although Venice remained an unquestioned world-class military, financial, and commercial power, there were only two large-scale social institutions that avoided systemic meltdown and complete reconfiguration: property rights and the bond market.

## **Par Value Laws of Motion**

Guess what? In spite of it all, you just couldn't kill Venetian govvnies. Sure, there were bear markets that make ours look like kid stuff, but there were also times when the debt traded for higher than par value. I charted the worst century in recorded economic history for you below. Records are incomplete, but there is enough data for a human eyeball to see trends. Cubic spline interpolation using mathematica didn't add anything. Due to the missing data, I didn't attempt to extract any information about the process's sequence distribution.

There are no known records of the yield on these securities<sup>3</sup>. Rates may have been uniform across time, making the yield a function of par discounting; determined by the amount of paper creditors' assumed; or set by one's political status. Term maturity was one year, which explains some of the volatility. Longer term debt was securitized (*compera*), or an annuity structure (*renta*). As such, there was no yield curve, but I bet there was a roll that traders kept their eyes on.

It was a completely domestic market, foreigners not allowed in theory to be creditors to the state. While this did not optimize liquidity, it did create strong mechanisms to ensure creditor rights, and (it is believed) made default rare.

Venetian sovereign debt had bear markets, hitting generational lows in times of *extreme sovereign risk*, from 1285 to 1310 and in the late 1350s. Debt traded at a low 60% of par when Venice was decisively defeated by its rival Genoa at Curzola, and also when the Council of Ten took over. It dropped close to this when near civil war got their equivalent of their president executed on the palace lawn.

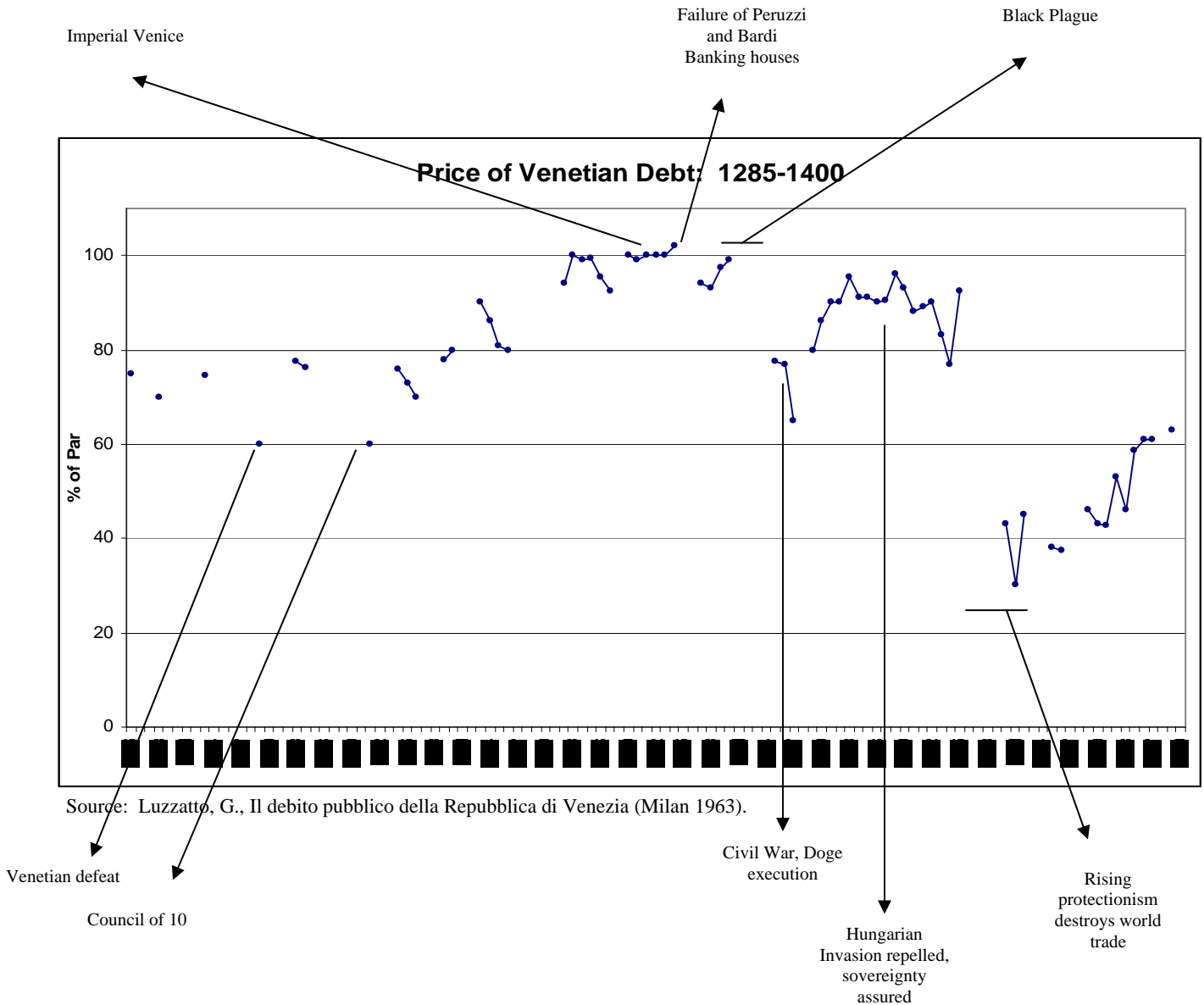
*Secular bull markets occurred during times of political stability.* Following imposition of oligarchy, the bond market began a 35 year secular bull market, peaking at the height of Venetian commercial/colonial power.

*Extreme financial stress (more than you've ever seen) can even smash the top tier of capital structure (1345-1360).* Starting sometime around 1345, total systemic collapse of the financial system, the realization of human depopulation, and political strife culminating in civil war, didn't drop bond prices to historic lows! The four horsemen of the apocalypse hate bonds but less so than most other human contrivances. Maybe it's coincidence, but bonds never recovered, even 60 years after the financial system died.

*Deflation makes risk-free risky.* Even though there is no knowledge of yields on these securities, it seems reasonable that in periods of ultra-deflation, cash ( $\alpha(\text{lead}) + (1 - \alpha)(\text{silver})$ ),  $0 \leq \alpha \leq 1$ ) outperformed bonds, and bondholders had their asses handed to them medieval-style. Even controlled devaluation of currency value

by the issuers can't keep up with strong deflation effects. I theorize that this due to default risk or outright defaults, but there is no recorded evidence of default.

*It took politically engineered destruction of world trade to take bond prices to their all-time lows (1375-1400). In 1392, it became officially forbidden for foreigners to retail goods in England, but was unofficially common across Western Europe. This pretty much ensured the destruction of trade-based maritime economies, as well as worker bee living standards.*



### **Extreme Deflation's Nasty Surprise: U.S. Treasuries the Best Asset Class, but They're Not Vintage Valpolicella Either**

Then, as now, derivative contracts existed to control swings in prices of the underlying. However, most contracts were settled by physical delivery, not cash.

They existed because of high costs in transporting goods, e.g. from Constantinople to Venice via Florentine letter of credit to transact in Antwerp to London. Today this is not so. Cash settlement in derivatives exceeds the underlying physical market, and the divergence is of such a magnitude that derivatives are increasingly more important to prices than actual supply and demand. This is the profoundly deflationary driver of modern finance, because it diverts money from hoarding oil, gold, and real stuff into paper.

Then, as now, having a reserve currency (and Venice had a good one too) means that your sovereign debt is capital structure king—the safest place to park cash. U.S. Treasury auctions are different from any other government bond market ever in existence: they are the most rigged in history. They have to be... treasuries are the liquidity sump-pump for the whole galaxy. Pricing is artificial in that treasuries are instruments to target export-oriented exchange rates relative to the dollar. Par value is completely unconnected to yield or risk considerations. And this is just the non-particle side of the trade.

Further, modern particle finance has one-upped anything that has come before it. It is not just commodities that are manipulated by speculative flows. Because minimal risk trades are positions of minute advantage, incredible leverage is used to maximize return. This is one reason why OTC interest rate derivatives are around \$420 trillion notional. The sheer size of the collapse makes the whole thing too big to fail, and at the same time, a scary failure if it happened.

Rigged markets can last more than a human lifespan. *Since the whole world has skin in the game, it is an extremely low probability event with high damage potential.*

Even if it suddenly became unrugged, the treasury market won't die, although a lot of institutions surrounding it might. No apocalypse here, ladies and gentlemen. It will just align to fundamentals, and bondholders will get the divine hammer.

Instead, government stupidity renders Treasury paper fundamentals like Swiss cheese: full of holes. The ball and chain of fundamentals implies bond prices are going down, because there's not enough capital to absorb a CBO-projected \$19 trillion in treasury issuance by 2019. US Treasuries may outperform anything else, but % of par will still go down. Soon after, issuance will drop and tax rates rise. QEasing sufficient to make a difference will only drive bond prices lower because of inflation expectations and currency risk. The Treasury market will survive just fine, and do better than just about anything else. It is government-provided services that will be on the receiving end of a transformation.

***The worst historical stress-test I could find shows that in extreme deflation, cash (read: \$) can beat even the best credit. It doesn't matter if cash is silver or goldfish or pancakes. Nanosecond maturity on the yield curve is king when the system is in complete meltdown.***

One can throw out North Korea or Pol Pot or Juenger's Der Arbeiter as a thought-experiment in how bad things can get, but there is negligible cave-man risk in our collective future. Accept difficult complicated realities with painful unsatisfying solutions. Silver coins won't fix the problem, because 1) governments monopolize currency, 2) governments always screw the honeybees and drones for their gain, and last but not least 3) power always finds a way. So shake hands with it and hope it doesn't mug you.

1. Meir, Kohn, "The Origins of Western Economic Success: Commerce, Finance, and Government in Preindustrial Europe" at <http://www.dartmouth.edu/~mkohn/Papers/99-04.pdf>, chapter 4, p 31 "The Determination of Exchange Rates".
2. Desimoni, C., in L.T. Belgrano, *Della vita privata dei Genovesi*, 2nd ed. (Genoa, 1875). The author indicates that the silver ducat experienced consistent secular debasement trend. Compared to the dollar, it was nothing. The ducat was amazingly sound currency, losing only 20% of its value in 100 years. On the other hand, the Genoese pound commonly had only 40% silver content in its coinage.
3. Mueller, Reinhold C., *The Venetian Money Market: Banks, Panics, and the PublicDebt 1200-1500*, Baltimore: Johns Hopkins University Press, 1997.—The author notes that 13<sup>th</sup> century bank certificates of deposit had typical returns of 8% per annum, simple (non-compounded) interest.
4. Hunt, Edwin S., *The Medieval Super-Companies: A Study of the Peruzzi Company of Florence*, Cambridge: Cambridge University Press, 1994.