Hyperinflation: A Fiscal Fiasco

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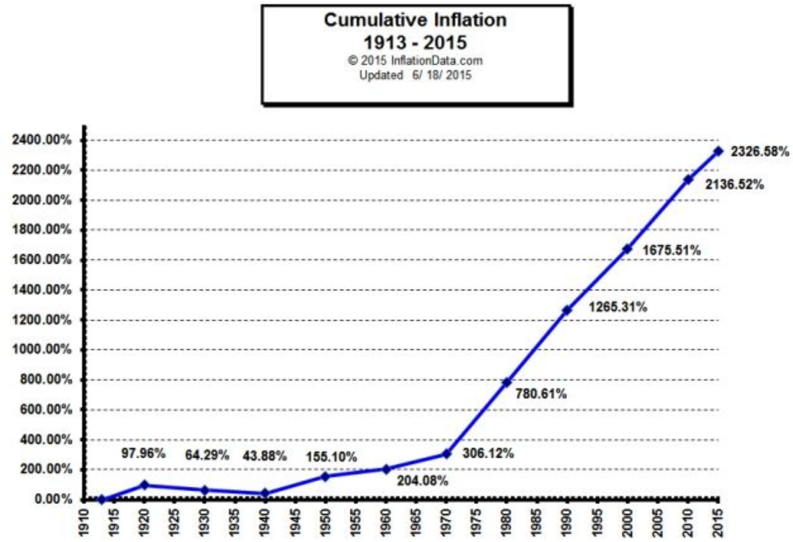
Introduction

Money, in its simplest form, is meant to facilitate an exchange of goods and services. Instead of bartering for goods and services with a storekeeper, people use money as a medium of trade. This money has a value that is usually established by a national banking system, such as the Federal Reserve Bank here in the United States. The value of the money that a consumer possesses enables he or she to purchase goods from merchants who have established a monetary value for their goods. However, there have been times in history when the value of a currency has dropped so low that the money itself has become worthless. This is often referred to as inflation (or in extreme cases hyperinflation) and reduces the purchasing power of the currency that a consumer holds. Over the course of history there have been times when inflation was so bad that a consumer would literally need a wheelbarrow of cash to purchase a loaf of bread. Thus, for a consumer who may live on a fixed income, their ability to purchase goods becomes very limited. While the causes for these dramatic drops in value include devastating natural disasters, insurmountable debt, or blatant governmental ineptitude, all of these cases of so called hyperinflation share one thing in common: they obliterate a country's morale and wreck havoc in every way possible.

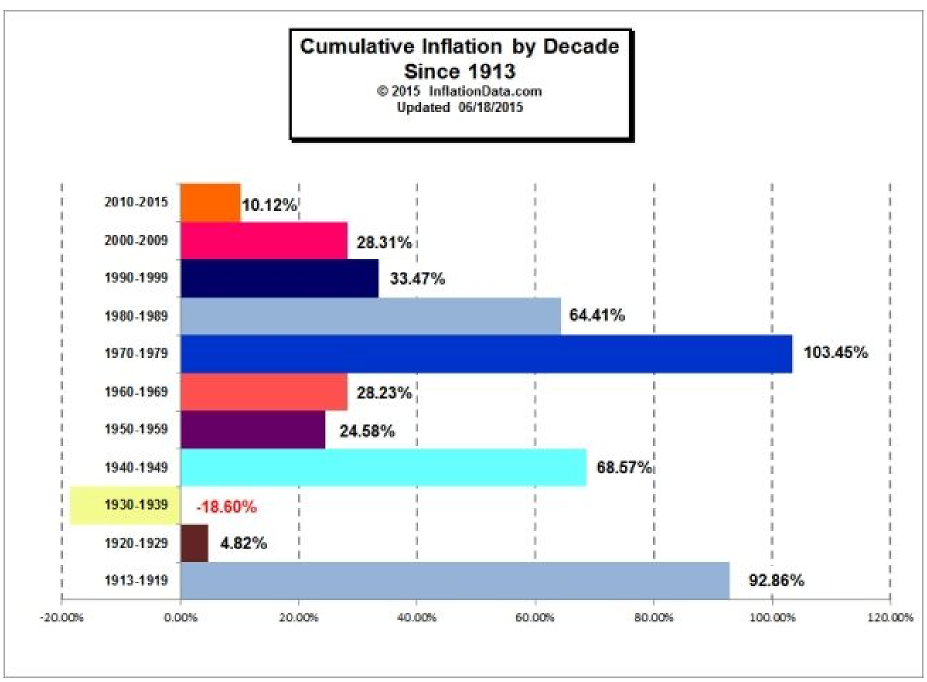
What is inflation?

Before examining hyperinflation, one must have a firm understanding of its precursor: inflation. Put simply, inflation is an economic process whereby the value of currency dramatically decreases due to an increase in money supply. Developed countries tend to have fairly low, constant rates of inflation, meaning that the value of their respective currencies gradually decrease over a long period of time. In fact, changes in purchasing power are only noticeable when examining long-term economic trends and past market prices.



[1]

The graph above shows the US' cumulative inflation since 1913. As one can see, while most of the inflation has occurred since 1940, the rate of inflation did not start to take off until the 1970's.



[1] https://inflationdata.com/Inflation/Inflation/Cumulative_Inflation_by_Decade.asp

Rates of inflation are calculated using the Consumer Price Index (CPI) that is reported monthly by the Bureau of Labor Statistics (BLS). The CPI should be thought of as a number used to measure change in prices. To determine the CPI, the BLS collects the average prices of hundreds of items each month; these averages are then compared to an arbitrary base period determined by the government, which is the period spanning from 1982 to 1984. Furthermore, the BLS then divides the current prices by the earlier prices and divides that by 100 to get a CPI. The percent change in CPI between the two periods is then used to calculate inflation rates. For example, in June of 2017, the CPI was 244.955, while 17 years ago, in June of 2000, the CPI was 172.4. By using the basic percent change formula of ((final - initial) / (initial)) x 100, one would find that prices rose 42.09% between June 2000 and June 2017, which is about .19% per month. So, an item that cost $50 in 2000 would now cost about $71.

What is hyperinflation?

Hyperinflation requires excessive rates of inflation; specifically, hyperinflation occurs when prices rise more than 50% each month.[2] This severity in the rise of prices is what distinguishes hyperinflation from other types of inflation such as creeping inflation, galloping inflation, etc. In most cases, hyperinflation is sparked when the government prints more money, causing the money supply to increase. Ironically, the stock market initially skyrockets due to the rise in prices, and wages also increase to match the prices. Nonetheless, as the government continues to print more money, citizens realize that inflation is pending, so they start to buy everything before prices skyrocket which then causes shortages in basic goods due to such high

[2] https://www.thebalance.com/what-is-hyperinflation-definition-causes-and-examples-3306097

demand from consumers. As noted by writer Seaborn Hall, "Consuming is no longer entertainment – *it is war.*"[3]

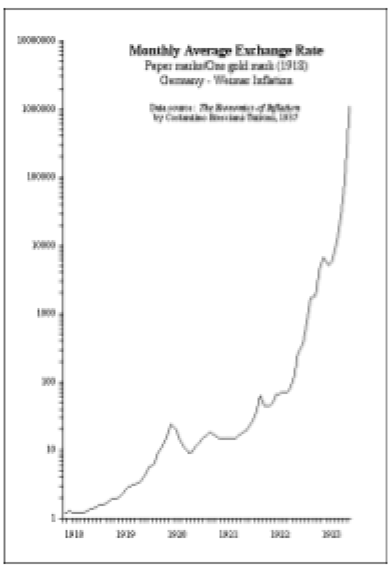
The shortages brought about by the high consumer demand is what actually triggers hyperinflation, meaning that hyperinflation begins when citizens lose confidence in the currency. Once hyperinflation commences, multiple problems ensue. Perishable goods become scarc and banks become insolvent because consumers cannot pay their loans become and do not make deposits. The cost of foreign goods increases, occasionally creating a black market based on a stable foreign currency. Finally, unemployment rises to unprecedented levels as companies and banks shut down before the economy collapses entirely. All the while, governments often print even more money during these periods which only serves to exacerbate the problems.

Overall, history suggests that there are two main types of hyperinflation. The first is the classical hyperinflation that occurs after catastrophic events such as war or very sudden disruptions in supplies, with some of the most obvious examples including post-WWI Germany as well as recent developments in Zimbabwe. The causes of this type of inflation are more often than not a catastrophic event such as a natural disaster or war, both of which bring about high foreign debt, droughts, scarcities in food, etc. The second type of hyperinflation, exemplified by South American nations such as Brazil and Argentina, involves countries that already have high rates of inflation and unstable economies morphing into a period of hyperinflation due to a devastating blow to an already unstable economy. Argentina experienced hyperinflation for much of the 1980's, reaching an annual inflation rate of 12000% in 1989. Argentina had been experiencing high inflation rates for many years due to its heavy reliance upon borrowing money from other countries, but when that money was cut off, the government had to resort to printing

[3] https://www.advisorperspectives.com/articles/2015/06/23/how-likely-is-hyperinflation-in-the-u-s-part-one

money to maintain its trade surplus. Luckily, as inflation increased, pressure from the Argentine citizens as well as noticeable economic decline forced the government to institute a monetary reform outlawing the expansion of the money supply in 1991.[4]

Arguably the most severe and well known example of hyperinflation was in post-WWI Weimar Germany.[5] As an overview, Germany, along with fellow Central Powers Austria-Hungary, the Ottoman Empire, and Bulgaria, was on the losing side of WWI after being defeated by the Allied Powers, which included Britain, France, Italy, and the US. Shortly thereafter, Article 231–the "War Guilt Clause"–of the 1919 Treaty of Versailles held Germany formally responsible for all the damages inflicted upon the Allied Powers in WWI.[6] Moreover,



Inflation occurred steadily starting 1914 but really started to pick up the pace after 1918, as noted by this graph.

the 1921 London Schedule of Payments required Germany to pay about 132 billion gold marks (at that time the equivalent of $33 billion) as well. For Germans, the Treaty and the forced payments were a national humiliation, as most German politicians were openly opposed to the requirements of the Allies and sought to undermine Article 231. As a result, the German government, knowing that it could not possibly meet the reparations, started printing money for almost everything, as it did with its first reparation payment of $500 million in 1921.

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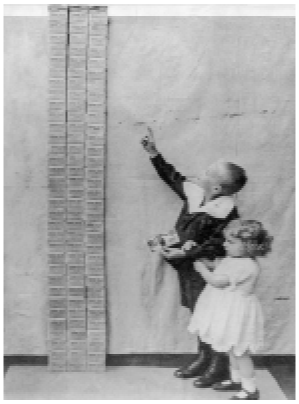
[4] http://www.reed.edu/economics/parker/f10/201/cases/argentina.html
[5] http://www.investopedia.com/ask/answers/061515/what-are-some-historic-examples-hyperinflation.asp
[6] https://www.boundless.com/u-s-history/textbooks/boundless-u-s-history-textbook/from-isolation-to-world-war-ii-1930-1945-26/non-interventionism-200/war-debts-and-reparations-1099-9740/

To give a sense of how incredible the hyperinflation was, in 1914, the exchange rate



Two children standing next to a stack of 10,000 German marks, all of which combined equalling just one US dollar.

between a German mark and US dollar was 4.2 to 1, while in 1923, it was 4.2 trillion to one! Stories have also been told of waiters standing on top of tables to announce new prices every hour and workers bringing suitcases to work to hold their wages. Some Germans even avoided currency altogether and resorted to bartering with products such as flour, sugar, wine, metals, jewelry. When it seemed as if things could not get any worse, Germany defaulted on their reparation payments of coal, timber, and steel in 1923 resulting in French and Belgians soldiers being sent to occupy the Ruhr region of Germany.[7]

Just when it seemed as if Germany had hit rock bottom, in came the Dawes Plan.[8] By 1924, Germany was no longer the enemy, it was Russia; the rise of the communist Bolsheviks intimidated the countries of Western Europe. Due to fear that "the plague" (Communism) would spread west, the countries of Western Europe and the US decided to aid the Weimar Republic's economy so that a German communist revolution would not take place. This plan, named after American banker and politician Charles G. Dawes, intended to help Germany bolster its economy to the point where it would later be able to pay back its debts. There were five main points to the Dawes Plan,[9] and they include the following: (1) evacuating the Ruhr area of foreign troops; (2) restructuring the reparations payments so that only one billion marks would have to be paid each year (and after five years it would increase to 2.5 billion marks per year); (3) reorganizing the Reichsbank (the central bank of Germany); (4) ordering that reparation

[7] http://content.time.com/time/world/article/0,8599,2023140,00.html
[8] http://www.historylearningsite.co.uk/modern-world-history-1918-to-1980/weimar-germany/the-dawes-plan-of-1924/
[9] https://en.wikipedia.org/wiki/Dawes_Plan#Main_points_of_the_Dawes_Plan

money would come from taxes and transportation costs (this was important because it forced Germany to stop printing money); and (5) loaning Germany 800 million marks to kickstart its economy, with the money coming solely from the US.

Independent of the Dawes Plan, the German cycle of hyperinflation had already started to wind down by replacing the German mark with the rentenmark on November 15, 1923 at a conversion rate of 1 trillion to one.[10] Unlike the mark, the rentenmark actually had value because it could be redeemed for bonds in lands and industrial plants. Furthermore, to ensure stability, tight fiscal policies were implemented that limited the issuing of the rentenmark. By the late 1920's, the Dawes Plan and the introduction of the rentenmark had done an adequate job of returning the German economy to remnants of normalcy, but the hyperinflation permanently scarred the German public and prompted the rise of radicalism–the Nazi Party–in the years to come.

A recent case of hyperinflation similar to that of Weimar Germany occurred in Zimbabwe, a landlocked country in sub-Saharan Africa. After gaining independence from Britain on April 18, 1980, the Zimbabwean government switched from the Rhodesian dollar to the Zimbabwe dollar at par value and for a while, experienced significant economic progress with a thriving tobacco industry, but trouble was soon to come. There were three main causes for the hyperinflation crisis in Zimbabwe.[11] The first and most notable cause was Zimbabwe's land reform program. For most of 80's and early 90's Zimbabwe experienced a great deal of agricultural success, but because most of the productive land was held by white farmers who stayed in the country after independence was achieved, President Robert Mugabe wanted to

[10] http://navonanumis.blogspot.com/2014/05/the-weimar-republic-introduces.html

[11] https://www.opednews.com/populum/page.php?f=The-event-that-caused-the-by-Grant-McIntire-090505-911.html

redistribute the land to other locals. Because much of the arable land was taken over by people with little agricultural experience, production plummeted, as wheat production dropped from 300,000 tonnes in 1990 to 50,000 tonnes in 2007, while the tobacco industry experienced similar drops as well, as the $600 million in revenue from tobacco in 2000 dropped to less than $125 million in 2007. The lack of production caused Zimbabwe to go from being a net exporter of food to a net importer and further led to a collapse in banking as farmers were unable to obtain loans. Another factor that played a role in Zimbabwe's economic troubles was the money lost in the Second Congo War. President Mugabe mustered 11,000 troops that he sent to Democratic Republic of Congo (DRC) to fight in the Second Congo War. Mugabe also printed money every month to help the DRC finance the war and lied about his givings to the DRC to the International Monetary Fund by about $22 million a month. Terrible fiscal mismanagement also played a major role, as rapidly increasing government expenditures reached about 53% of the GDP in 2006.

The effects of these economic governmental blunders were truly devastating.[12] By 2008, the annual inflation rate was 11.2 million percent, and with an unemployment rate of 70%, a decreased life expectancy, and widespread cases of HIV and malaria, it was clear that Zimbabwe was in a tailspin. Meanwhile, the government stood by and provided little aid to its citizens, as Mugabe chose to print more than $21 trillion to the country's debts and to keep the government functioning by cushioning the salaries of his key supporters. The luckiest Zimbabwean citizens were those people who moved out of the country to the US, UK, and South Africa where they were able to send as much as $50 million home to their struggling families in Zimbabwe.

[12] http://www.nytimes.com/2006/05/02/world/africa/02zimbabwe.html

How was the hyperinflation dealt with? The government eventually decided to put forth three re-denominations.[13] For context, a redenomination is a process of changing the face value of, or calibrating, a currency. The government attempted the following re-denominations: in 2006 with the Second Zimbabwean Dollar (ZWN) equalling 1,000 first dollars (ZWD); in 2008 with the Third Zimbabwean Dollar (ZWR) equalling 10 million ZWD; and in 2009 with the Fourth Zimbabwean Dollar (ZWL) equalling 1 billion ZWD. Unfortunately, all three re-denominations failed, stripping the government of its authority to issue money. Therefore, on April 12, 2009, the Zimbabwean dollar was abandoned, forcing the the Reserve Bank of Zimbabwe to legalize the use of foreign currencies, a policy that is still in place today.

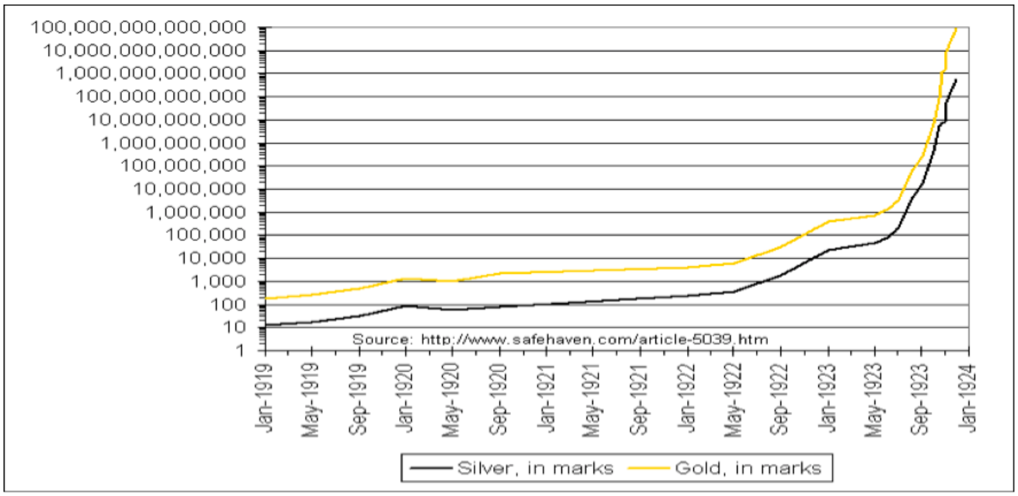
How to protect oneself during times of inflation

An obvious beneficiary of hyperinflation would be those who borrowed money at a fixed rate while interest rates were low because in most cases lenders and mortgages do not have inflation clauses that raise the amount of money owed. So, if one still owes $100 thousand dollars on his or her mortgage just as a period of inflation is about to hit, that person would be better off waiting for the value of the currency to plummet so that the money would be easier to pay off. At the same time, one should also make sure to eliminate any debt that is susceptible to adjustable rates, as interest rates will likely skyrocket during periods of inflation.

There are a few other strategies people can follow to protect themselves from the nationwide suffering that often comes with hyperinflation. Keeping a very diverse financial portfolio and holding a form of real estate can ensure stability in one's financial life. One must also make sure to acquire tradable items such as gold, silver, water, wine, and some stable foreign currency, all of which are likely to skyrocket in value and potentially become scarce.

[13] https://www.armstrongeconomics.com/uncategorized/how-did-zimbabwe-end-its-hyperinflation-the-same-as-japan/

Similarly one could collect funds based on natural resources, agriculture, and other essential commodities (especially because the cost for mining products in the US is currently at such a low price).



The table above demonstrates the rise in the value of silver and gold in Weimar Germany due to the rapid devaluation of the mark.

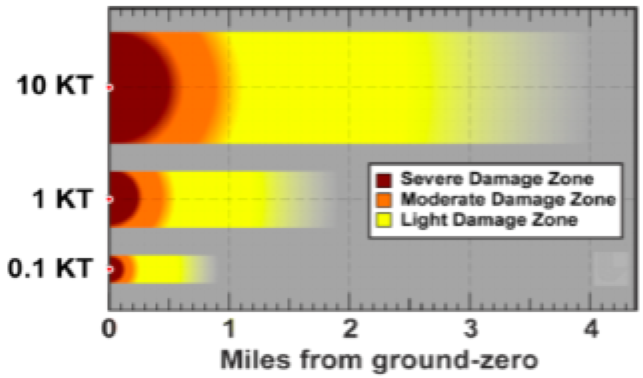
In terms of investing, one should consider taking a global macro strategy, and more specifically, investing in hedge funds to place one's money overseas. Hedge funds are particularly attractive because they diversify one's financial portfolio and are less susceptible to general market trends and fluctuations.

Could the US ever experience hyperinflation?

While it is extremely unlikely, there have been some discussions amongst bankers and economists of the possibility that hyperinflation may occur since the Great Financial Crisis (GFC) of 2008. Looking at the statistics, the US debt is currently $19.96 trillion, while its gross domestic product (GDP) is $18.57 trillion, which is about 108% of the debt. Nonetheless, one must recognize that this is the total debt. Most economic analysts believe that the net debt, which does not take intragovernmental debt into account, is more important. Intragovernmental debt, in its simplest sense, is money that a government owes to itself.[14][15] The intragovernmental debt of the US currently totals about $5.55 trillion, which is about 28% of the total debt. Most of this intragovernmental debt can be associated with the Social Security Trust Fund (2.8 trillion) while the rest belongs to over 200 other government agencies such as the Office of Personnel Management Retirement and Medicare. An example of intragovernmental debt would be if the government were to deduct $100B in total from workers' paychecks for a given month, but only $80B were actually used to make Social Security payments while the other $20B is transferred to the general fund and used to buy treasurys. This $20B, which was supposed to go Social Security, would be considered intragovernmental debt. While it may be difficult to understand the concept of owing money to oneself, the main point to understand is that it is better to ignore intragovernmental debt when examining the possibility of hyperinflation. Going back to the calculations, the US' net debt is about $14.4 trillion, which is about 72% GDP, but a study from Heritage Foundation–as well as those from other organizations–predicts that the US net debt will concerningly reach 100% of the GDP in 2028.[16]

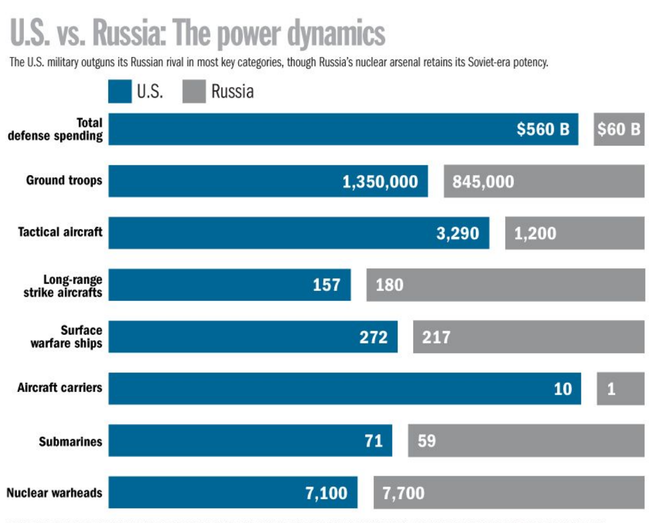
That being said, multiple catastrophic events would need to be set off simultaneously to precipitate hyperinflation. As seen in Zimbabwe, there would have to be an agricultural strain, with a potential source being the extreme droughts in California. Furthermore, a nuclear terrorist attack in New York (the financial capital) or Washington DC (the official capital), either of which would kill thousands and would likely lead to a stock market crash.

[14] https://seekingalpha.com/article/1066631-are-intragovernmental-holdings-real-debt
[15] https://www.thebalance.com/who-owns-the-u-s-national-debt-3306124
[16] https://www.advisorperspectives.com/articles/2015/07/14/how-likely-is-hyperinflation-in-the-u-s-part-two



Nukemap, a Google Map based nuclear weapon simulator, predicts that a one kiloton nuclear weapon set off in lower Manhattan would kill more than 30,000 people, which is the kind of event that would be needed to send the US financial sector into utter chaos.

Major complications would have to happen with the US' foreign policy as well, as there would have to be diplomatic tensions leading to war with Russia and the Middle East, both of which would cause us to increase spend military spending. In fact one report from The Military Times suggests that the US would use about $560 billion in defense spending in the case of war with Russia as noted by the figure below.



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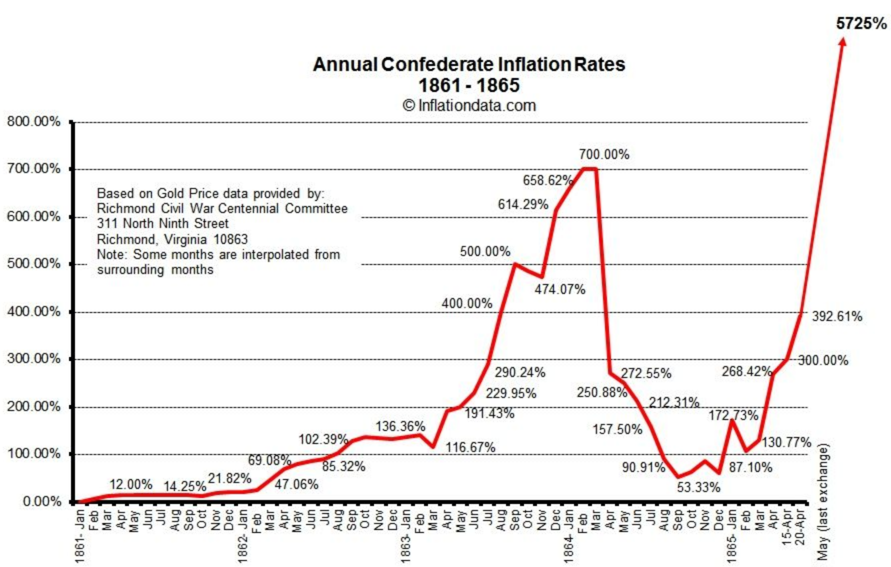
[17] http://www.militarytimes.com/articles/us-vs-russia-what-a-war-would-look-like-between-the-worlds-most-fearsome-militaries

The closest the US has ever come to hyperinflation was during the Civil War (1861-1865). Due to the fact that the Confederacy had a weak federal government, it was unable to tax its own citizens to finance the war. More importantly, there was no gold or silver (metal) that the Confederacy could rely on to back up its currency, so the only way the Confederacy could raise enough supplies and troops necessary to compete with the Union was to print money excessively, and that it did. With inflation levels reaching as high as 9000%, the Confederacy's economy was extremely weakened and so was the Confederate's citizens' confidence in their government. The economic problems also cost the Confederacy leverage when seeking foreign support and cost them several key border states (Delaware, Kentucky, Maryland, and Virginia). While hyperinflation was never reached, the high inflation levels certainly devastated the Confederacy and was one of the main reasons why it lost the war.[18]



[19]

At the end of the day however, the majority of economists do not believe hyperinflation will occur in the US in the nearby future, as there are many factors working against it. To start,

[18] http://www.ushistory.org/us/34d.asp
[19] https://inflationdata.com/articles/confederate-inflation/

the US has numerous geographic advantages, with many rivers, ports, intercostal connections, and an extensive road system with interstate routes. The US is also not dependent upon a specific export, most notably oil, due to its plentiful amount of oil reserves.

In his book, *The Dollar Trap*, Eswar S. Prasad argues that the complex nature of global relations as well as the US' financial power will always kept the dollar afloat, and further writes that the GFC has contradictorily strengthened the US dollar. Prasad's reasoning is that there is too much foreign capital in US dollar assets, meaning that many countries (along with the US) have plenty of incentive to prevent the US dollar from crashing. At the other side of the spectrum are economists like James Rickards. In his book, *The Death of Money*, Rickards asserts that another financial collapse is rapidly approaching the US, and unlike the previous ones in 1914, 1939, and 1971, this time, money itself is at major risk. Rickards believes that financial warfare is on the horizon, with competitors like China and Russia seeking to end the US dollar's dominance. Rickards further notes the growing gap between money and wealth, as money, which is transient and impermanent, no longer implies tangible wealth.

Who will be right? Only time will tell...

Conclusion

Hyperinflation is an incredibly perplexing topic, mainly because it is so difficult to imagine how something that seems so valuable and powerful–money–can become so useless so quickly. With a rich history of destroying countries morally, economically, and socially, hyperinflation is also incredibly frightening given the US' current net debt. Most importantly, hyperinflation makes one reconsider the true importance of money towards achieving a happy and fulfilling life.

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