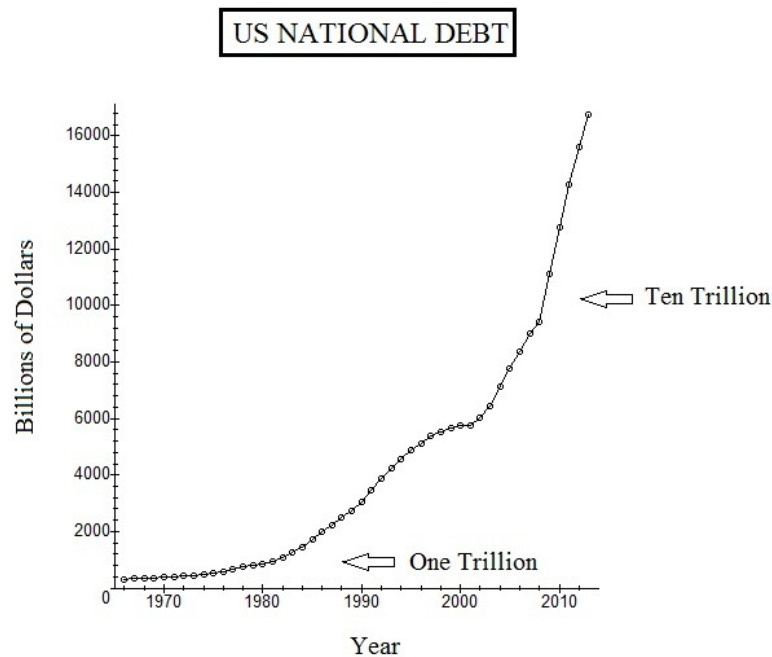


FUTURE OF THE US NATIONAL DEBT

The US National Debt has grown steadily over the last 50 years from 320 billion dollars in January of 1963 to 16.77 trillion in January of this year. Recalling that 1 trillion= 10^{12} and one billion is 10^9 , one sees that the US has increased its national debt by a factor of $16.77 \times 10^{12} / 3.20 \times 10^{11} = 52.4$ in half a century. I have constructed the following graph showing the Federal Debt based on data supplied by the Treasury Department.



The graph clearly shows a steady rise in the debt which has been accelerating in recent years especially since the crash of 2008 after which the government(in collusion with the Federal Reserve under Ben Bernanke) started printing trillions of dollars through their failed quantitative easing programs. Clearly the trend shown cannot continue for much longer since it is requiring an ever larger fraction of the national budget just to pay interest on this growing debt. The yearly payments typically amount to a fraction of the debt equal to the yield on the 10 year government bond. Although at the present time these interest rates have been forced down to around 2.6% for the 10 year bonds due to the financial manipulations by the Federal Reserve, it still will take some 300 billion dollar out of this years national budget to pay for the interest on the debt. Once quantitative easing is removed, the 10 year treasuries will quickly move to a more realistic yield of 5% and the interest payments will become even more onerous and in a few more years will amount to about a trillion dollars annually. To put these numbers into perspective, we point out that the 2013 budgets for NASA , NIH and NSF are a small fraction of this interest payment at ‘only’ 17, 31, and 7 billion per year, respectively .

Clearly the country will reach a point in the very near future when lenders such as Japan , China, and others will wake up to the fact that they are losing money by holding dollars which are being devalued on a daily basis through the Fed's money printing policy and our underlying inflation. When bond holders wake up to this fact, interest rates will skyrocket, inflation will become rampant, and the US will lose its reserve currency status. The result will be financial chaos in which many of assets presently held by Americans in bank accounts, bonds and stocks will be greatly reduced in value if not wiped out. This includes those holding gold and other precious metals or homes with large mortgages.

We want here to give an estimate the year when such a financial crisis can be expected to occur. It will occur when the US government is no longer able to meet its debt obligations through the printing of money. This is already the case in Greece and several other European countries. A good measure of the point where a nation becomes a dead-beat borrower is when its national debt exceeds its Gross national product. For Greece the Debt to GDP ratio presently sits at 1.55 or 155%. The US is not far behind with its latest GDP being 15.8 trillion compared to a debt of 16.77 trillion. We are not yet as bad off as Japan whose current Debt/GDP ratio sits at 134% and can be expected to rise further due to its recent excessive money printing policy and the problems engendered by the Fukushima nuclear accident. I estimate that the US will hit its debt limit , lose its reserve currency status, and be forced to devalue the dollar abruptly downwards when the US debt reaches about 1.3 of GDP. A linear extrapolation of the above debt graph, using the input data Debt=6.0 trillion in 2003 and Debt=16.77 in 2013, gives one the near term estimate of-

$$\text{National Debt(in trillions)} \approx -2151.23 + 1.077 (\text{ year})$$

Thus in seven years from now we can expect a National Debt to be 24.3 Trillion dollars. My guess is that it will actually be higher than this since the debt growth has more of an exponential character than a linear one. Be that as it may, the GDP in this country is expected to follow its historical pattern present over the last 15 years and thus have an average growth rate of 2.5% per annum (the actual Debt/GDP change for 2012 was 2.2 %). We thus have-

$$\text{GDP for year } Y = (\text{GDP for year 2012}) \cdot (1+0.025)^{\Delta x} = 15.68 (1+0.025)^{\Delta x}$$

, where Δx represents the number of years into the future and 15.68 represents the US GDP for 2012. Now taking the ratio of National Debt to GDP to be 1.3, we get the equality-

$$-2151.23 + 1.077Y = 1.3[15.68(1+0.025)^{(Y-2012)}]$$

, where Y is the year. On solving we find $Y=2019.8$. In other words the US will be bankrupt at the latest by 2020. At that time we will require some 1.2 trillion dollars per year from the US budget just to pay interest on the debt. My estimate is that something will happen to the dollar and world bond and stock markets before that time which will probably introduce a period of unwanted austerity. The cause for such a run-away

national debt has to do with all of this country's military obligations throughout the world and the presence of ever more expensive entitlement programs to which we as citizens have become addicted. I know in my own case, now that I am retired, I feel entitled to my Social Security, Medicare, and State and Business Retirement Pensions for which I contributed all my working life just as many younger and older people in this country now rely heavily on food stamps, other social support programs, and on the hotly disputed Obamacare. It is essentially impossible to do away even partially with these social aids in an aged democracy such as ours and in the poisonous political atmosphere now existing in Washington D C. Only by reducing expenditures and simultaneously raising taxes could the present run-away debt crises be slowed. It is doubtful that it could be reversed. I think that the late science fiction writer Robert A. Heinlein very clearly summarized the major shortcoming of our democratic system. He states-

'Bread and Circuses' is the cancer of democracy, the fatal disease for which there is no cure. Democracy often works beautifully at first. But once a state extends the franchise to every warm body, be he producer or parasite, that day marks the beginning of the end of the state. For when the plebs discover that they can vote themselves bread and circuses without limit and that the productive members of the body politic cannot stop them, they will do so, until the state bleeds to death, or in its weakened condition the state succumbs to an invader—the barbarians enter Rome.'

To me it seems our conservative and liberal politicians are equally to blame for the present situation of an uncontrollable national debt and the grid lock we are presently experiencing in Washington DC. The republicans typically want to reduce spending for social programs but are willing to spend heavily on the military, plus always call for lower taxes. The democrats typically want to reduce military spending, increase expenditures on social programs, and raise taxes on its wealthier productive citizens. Both sides are wrong if the intention is to maintain a viable democracy with a thriving middle class protected by social safety nets.

If you would like to view a running clock of our National Debt, GDP, and other US Treasury inputs and outlays go to-

<http://www.usdebtlock.org/>