We would like to introduce you to Sam and his finances. Currently, Sam does well for himself, earning $\$ 100,000$ a year. Sam loves the good life, and to maintain it he consistently spends more than he earns. To fund this continual budget shortfall, he borrows money. The graph below shows his rising income (green) and accumulating debts (red) since 1966.
Sam's Financial Situation
\$200,000
\$0

Unfortunately, Sam is not a hypothetical person. Sam, as represented in the graph above, is really Uncle Sam. The graph proportionately scales U.S. tax revenue and government debt outstanding data to Sam?s current income of $\$ 100,000$. Currently, annual tax revenue stands at $\$ 1.908$ trillion while the total amount of government debt outstanding is $\$ 21.090$ trillion. To further emphasize the growing divergence between tax revenue and debt outstanding, consider that debt grew by $6.26 \%$ and revenue shrank by $6.03 \%$ over the last year. While the recent decline in revenue is largely a function of the new tax legislation and may not last, the long-term trends are not encouraging. Over the last five and ten years, tax revenue increased annually by $2.22 \%$ and $2.09 \%$ respectively, while debt outstanding increased by $4.69 \%$ and $8.37 \%$ annually. If the graph above were truly the financial situation of a guy named Sam, we would confidently tell you he went bankrupt 20 years ago. Fortunately for us, Uncle Sam or the U.S. government is not just any guy named Sam. The U.S. has had very little trouble borrowing well beyond its means. The U.S. dollar, acting as the world?s reserve currency, has enabled fiscal imprudence and is more of a curse than a blessing. Consider the graph below, showing the ratio of tax revenue to the debt outstanding. Currently, for every dollar of debt there are only nine cents of revenue to cover it.


## Interest Expense

Interest rates have been in a multi-decade declining trend. In 1981 the ten-year Treasury yield was approaching $15 \%$, and today, even after rising $1 \%$, it stands at a paltry $2.90 \%$. This trend lower in rates greatly benefited the government?s finances as the interest expense on debt remained relatively low. In the third quarter of 1997, the interest expense on $\$ 5.413$ trillion of debt was $\$ 367$ billion. In the third quarter of 2009, the interest expense was an identical $\$ 367$ billion despite outstanding debt more than doubling to $\$ 11.909$ trillion over the prior twelve years. Over that
period, the yield on the ten-year U.S. Treasury Note declined from $6.57 \%$ to $2.74 \%$. Over the last ten years, interest expense has been less contained, in large part because interest rates cannot decline nearly as much as they did in prior years to offset the increase in debt.• In the second quarter of 2009 , the ten-year yield was $3.32 \%$, or about $0.40 \%$ higher than the current rate. Despite the slight drop in yield, interest expense has grown by over $50 \%$ in this time frame as the amount of debt outstanding has risen substantially. The Congressional Budget Office (CBO) expects government debt outstanding to rise by over $\$ 1$ trillion per year for each of the next four years. At the same time, neither we nor the CBO expect to see interest rates decline meaningfully. However, and of grave concern, the possibility of higher rates is real. Given the outlook for rising debt and flat to rising interest rates, interest expense will continue to make Uncle Sam?s financial problems even more daunting.

## Summary

Judging by historically low-interest rates, investors, ourselves included, are not concerned that the U.S. government will default. Given the government has a printing press, we see little reason for such a concern. That said, we are greatly worried that the growing imbalance between debt outstanding and the means to pay it off will encourage further reckless monetary policy. The Federal Reserve has been complicit in this scheme by keeping rates artificially low. Further, they have used QE to manipulate interest rates lower when investors were not willing to help. As such, the financial imbalance, which will likely only worsen appreciably, leaves little doubt in our mind that policy tools such as QE and negative interest rates will be used when the fiscal imbalances become more obvious to investors.

