THE FIXED INCOME CONTRARIAN COMPENDIUM
July 2016

Murray's Musings

THE QUESTION OF INTEREST RATES AND CRYPTOCURRENCY

On June 17, 2016, history recorded that the yields on 10-year Italian and Spanish government bonds were actually lower than the yield on 10-year U.S. Treasury bonds. Spanish government bonds yielded 1.55% and Italian government bonds yielded 1.51%. The U.S. Treasury 10-year bonds yielded 1.62%.[1]

Since most observers would agree that Spain and Italy are not better credits than the United States of America, one can immediately dismiss any notion of the efficient market at work. These yields merely represent the result of massive purchases by the European Central Bank. One of the many consequences of such policies is that the Swiss 10-year government bond yield is now negative 54 basis points.[1] In fact, in some countries apart from Switzerland, the so-called risk-free rate is negative.

The idea of a negative risk-free rate is a contradiction in terms, since it guarantees that the risk-free outcome results in a loss. However, in the highly abstruse world of modern financial theory, a guaranteed loss does not qualify as a risk. A risk is only an uncertain outcome that expresses itself as volatility.

Despite the rigorous mathematical treatment by financial orthodoxy, a small but nevertheless growing contingent rejects the notion that governments, central banks, and PhD economists should have the right to assure a person who saves not only of a loss in purchasing power but also of an actual loss in nominal value.

It is forgotten by the economists, central bankers, as well as financial journalists, that money existed long before there were financial journalists, central bankers, and economists. In other words, people used money long before there were mathematical models that purported to explain it. Archeologists will verify that cattle and grain were used as money or units of account at least 17,000 years ago and possibly as long as 19,000 years ago. It might be recalled by those conversant with the Bible that in Genesis 23, Abraham purchased the Cave of the Patriarchs, otherwise known as the Cave of Machpelah, for 400 shekels of silver. Note that the silver weight equivalent to 400 shekels was established before silver futures, organized exchanges, algorithmic trading, modern portfolio theory, and central banks, among other modern innovations.

Interestingly, archeologists reliably inform us that long before the Roman Republic, throughout the ancient world, a shekel was precisely defined in terms of a specific weight of barley. This should not surprise anyone. The British pound sterling was originally just a pound of silver; it was

[1] On July 6, 2016 U.S. Treasury 10-year bonds yielded 1.38%, Spain's 10-year government bonds yielded 1.18%, Italy's 1.24%, and Switzerland's -0.68%.

called the pound sterling and not the silver pound because sterling is an alloy of silver and copper containing 92.5% silver and 7.25% copper. It contains a few other ingredients, as well. In other words, sterling has a fineness of 0.925. The pre-modern British did not choose to use fine silver, which is 99.9% pure silver, because they were practically oriented. Pure silver is too soft to use as a coin, which may be roughly handled. The coin needed to be sufficiently hard to retain its weight as it circulated in the economy.

This very abbreviated history should be sufficient to demonstrate that anything that human beings agree upon as a unit of account or money can actually be money. Since the central banks and governments of the world appear determined to lessen the purchasing power of money, it should not be surprising to learn that new forms of money are constantly evolving. A recently popular form of money is cryptocurrency. There are perhaps 660 cryptocurrencies in the world today; however, the dominant one is Bitcoin. According to CoinMarketCap.com, Bitcoin now has an 84% market share.

Bitcoin operates as an open ledger called a blockchain. The entire history of Bitcoin on a cumulative basis is contained on the blockchain. For example, as of this writing, according to blockchain.info, there are 15,671,550 bitcoins in existence. Every day, 3,600 Bitcoins are created; ergo, one year ago from the date of this writing, there were 14,357,550 Bitcoins (i.e., 365 x 3,600 or 1,314,000 fewer bitcoins were in existence). According to blockchain.info there were 3,595,936 Bitcoin wallets.

Bitcoin wallets store the private keys needed to execute transactions on the bitcoin network. At the time of this writing, there were a total of 7,657,584 Bitcoin wallets. In other words, 4,061,648 Bitcoin wallets were created at the same time as 1,314,000 Bitcoins were created. The system, on average, creates 0.3235 Bitcoins for every wallet created. Another way of expressing this phenomenon is to state that over the course of the past year, 11,127 Bitcoin wallets have been created on a daily basis in relation to 3,600 Bitcoins created each day. More recently, about 12,000 Bitcoin wallets are created on a daily basis.

On or about July 9, 2016, the daily creation amount of Bitcoins will decline to precisely 1,800 units.

Virtually all financial practitioners, including financial planners, and especially academic economists, are united in the belief that Bitcoin is a momentary fad that will soon pass. The portfolios of pension funds, insurance companies, and banks are replete with low-yielding—or, in many cases, negatively-yielding—government paper. These are considered the low risk assets.

In other words, a Swiss government bond with a negative yield and a 10-year maturity is considered a low-risk asset, even though a simple convexity calculation would easily demonstrate that if the Swiss government bond were to yield 3%, the holder of that instrument would experience a calamitous loss in terms of Swiss francs. Moreover, if Swiss yields were to increase less than the euro or dollar yields for some reason, there would be another loss in the value of the Swiss franc relative to these other currencies.

Is Bitcoin really more dangerous than these other accepted instrumentalities for use as a store of value? Is Bitcoin really so dangerous that a portfolio could not survive a 10 or 20 basis point exposure? None of these questions are ever posed, since the debate is framed in the context of government or central bank action.

On one hand, the deflationists argue quite convincingly that democratic societies cannot possibly inflate and destroy the value of the purchasing power of many millions of retirees and soon-to-be retirees. These people are politically active, so to inflate and destroy the purchasing power of pensions is simply political suicide. Even if a given politician or group of politicians were willing to commit political suicide in the national interest, the gesture would be quite futile because the pensioners have the political power to remove any inflation-minded government. Hence, this group argues that a German government 10-year bond that might yield 3 to 4 basis points on a good day is a good investment, since debt-induced deflation will lower prices, and the real value of such a bond will increase even if its nominal value will not.

The inflationists take the opposing view. They argue that it would be political suicide to allow deflation to run its course and thereby compel debtors of all sorts to repay loans in nominal dollars when prices and incomes are falling. In fact, it can be argued that government tax revenue would undoubtedly decline and, at least on the national level, governments would be compelled to monetize the debt by central bank purchases of that debt. Any effort at deflation is merely a prelude to inflation. In any case, the debtors have the power to remove from office any officials that are inclined to tolerate deflation. Ultimately, the power of the electorate is paramount in a democracy.

In the last 100 years of history, one can find plentiful examples to support each of these views. However, the more significant point is that the average person has neither the skill nor the inclination to judge which of these views is correct. The power to decide the value of money in terms of purchasing power is a weighty responsibility. It is almost always abused. It is difficult to think of a single instance in which such a power was used wisely, although there probably are such instances.

Perhaps as a consequence, the great financial innovations in terms of store of value were invented by people instead of governments. Trade bills of exchange evolved from commercial activities at medieval fairs. Fractional reserve banking was developed by goldsmiths, not by central bankers. In fact, fractional reserve banking predates the origin of central banks. Paper money was introduced in the Song Dynasty in China during the 11th century. Its origin was in the receipts of merchants who wished to avoid carrying metal coins. In fact, the Western world only learned of paper money through Marco Polo and the account of paper money is the subject of an entire chapter in the book *The Travels of Marco Polo*.

History records that anything that can attain a universal trust as to value can become money. Ultimately, anything that serves as money that is not trusted will not serve as a store of value, whatever the government or central bank might determine. By structure and common consent, Bitcoin has a fixed issuance of 21 million units, to be realized in the year 2140. Starting on July 10, 2016, daily issuance will be 1,800 units, or 657,000 per annum. More than 12,000 Bitcoin wallets are opened every 24 hours.

If there were 76 million Bitcoin wallets instead of the current 7.6 million, this would be a tenfold increase, still representing only 1.1% of the individuals on the planet. Note that on the day this data was retrieved, the number of wallets was 7.6 million; tomorrow it will probably be 7.7 million. Moreover, the number of people on the planet is not a proper denominator, because there are countless businesses as well as other organizations that must deal in money, so the penetration rate is still less than one-tenth of 1%.

Consequently, if the inflation theory is alluring, one might consider the purchase of gold. If the deflation theory is alluring, one might consider the purchase of a 10-year Swiss government bond with a yield to maturity of -54 basis points per annum. However, these scenarios are too complex to be predicted accurately. If one knows no more about economics than an understanding of the laws of supply and demand, perhaps one should buy some Bitcoin.