The First Law of Money: Inflation thrives when a currency dives

By R. David Ranson, Ph.D.

During a bout of hyperinflation in an emerging economy, a baker may have to reset the price of the bread he sells on the street several times a day. To know what price to set he needs merely to look to the street corner where the money dealer is resetting the exchange rate of newly issued banknotes in terms of some external hard currency. The connection between the value of the currency unit and the general level of consumer prices is total, immediate, and obvious to everyone.

Under normal conditions prevailing in most developed economies, however, hardly anyone is aware of the connection between the monetary value of the currency and the cost-of-living index. Even the majority of economic forecasters are virtually oblivious of it.

Retailers pay no attention to the depreciation of money in terms of hard currency because of their confidence that their own currency is stable and the standard by which all others are measured. They fail even to notice if it is depreciating because the rate at which this occurs is orders of magnitude slower than during hyperinflation and many other price factors intervene to distract their attention. But behind the scenes the connection is still there. Over long periods of time indexes of consumer prices rise in proportion to the depreciation of the currency relative to a stable external standard such as gold (H. C. Wainwright & Co. Economics Inc. 2000).

The United States has not experienced hyperinflation since the Revolutionary War, and it is one of those nations in which producers and consumers alike believe that move-
ments in the dollar’s value in the currency markets have no obvious significance for inflation. Despite the general oblivion, the ratio between the U.S. consumer price index and the dollar-price of gold reverts slowly over time to a constant historical mean (H. C. Wainwright & Co. Economics Inc. 2007a). Using historical data back to 1820, figure 1 illustrates that although consumer prices take years to catch up to the price of gold, they always eventually have done so.

Figure 2 repeats this exercise for the contrasting case of Argentina, a country with currency that has been very unstable and that has suffered more than one period of post-World War II hyperinflation. As figure 2 shows, in this case only a relatively short time frame is sufficient to demonstrate the close proportionality between inflation and depreciation in an unstable currency zone. H. C. Wainwright & Co. Economics Inc. (2007b, table 1) shows evidence of the relationship between consumer-price inflation and currency depreciation in 13 emerging countries over the period 1988–2007.

The Law of One Price

According to an old proverb, it is the exceptional case that proves the rule. This could be restated to say that under exceptional circumstances the validity of an important relationship is revealed most clearly. In the context of consumer-price inflation around the world, one such relationship is the proportionality between the depreciation of a currency and cumulative inflation, a rule that has been called the “Law of One Price.” Emerging economies, especially those with unstable currencies, adhere to this rule with great precision.

In this article, data for a wide range of emerging countries were used to demonstrate that proportionality between currency depreciation relative to gold and the rise in consumer prices indeed is a universal law. The data also were used to measure the time lag as it varies from time to time and country to country. Broadly speaking, the more stable the currency, the longer the lag.

Figure 3 compares the annualized rise in consumer prices with the annualized depreciation of the currency relative to gold for 13 emerging countries with data for the 25-year period 1982–2006. (Eventually the sample is expected to grow to perhaps 30 emerging countries over a 50-year period.) Because the range of variation between the most unstable and the most stable currencies is so wide, the data are plotted on a ratio scale. As shown, the relationship is very close to a straight line with a slope of 45 degrees.

These data provide an estimate of the average time lag between currency depreciation and consumer-price inflation. The results are presented in table 1.

As table 1 indicates, the average time lag can be as short as four months...
or as long as three years. Generally we observe the longest lags in countries where currencies have been most stable and the consumer price index is most strongly oriented to services relative to goods.

Conclusion

Inflation is widely attributed to factors such as liquidity, capacity utilization, and labor costs. Sometimes investors mistakenly assume that countries with low labor costs must enjoy low inflation rates and that countries that import their goods likewise will enjoy low inflation rates. In practice, however, overwhelming evidence shows that inflation is a direct function of currency depreciation. Even China, regardless of its extremely low labor costs, is susceptible, because the gold value of its currency has declined along with that of the dollar. The inflationary consequences have only just begun.

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References

