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What is Money?

December 1, 2011

You would think this would be an easy question to answer – and it is, actually – but very few people seem to be able to, including most economists. This leads to all sorts of confusion, and the sort of disasters of incompetence that are now happening in Europe and elsewhere.

Ideally, today's troubles will lead to a new monetary system, preferably a gold standard system. However, that would be difficult if nobody knows what money actually is.

As I argue in my book [*Gold: the Once and Future Money.pdf*](#), money and credit are very different. Yes, I know there are many, many people who claim that “money is credit” and “credit is money.”

These people are confused. That is why, when you read what they write, you become confused also. Don't you feel confused after you read this stuff?

The primary characteristic of **money is that it is the item mutually acceptable as a means of payment.**

Credit (a loan or a bond) is not generally acceptable as a means of payment. In effect, it would be a sort of barter.

Credit is a contract denominated in money. It is a legal agreement to deliver certain payments at certain times. For example, a 13-week U.S. Treasury Bill is not money. If I buy a bicycle, or some groceries, I can't pay with a 13-week U.S. Treasury Bill. I can either wait for the bill to mature, or sell it, and receive money in return, which I can then use to make payments.

The same goes for a money market fund. A money market fund is an equity shareholding in a fund that owns things like 13-week Treasury Bills. I can redeem my holdings with the money market fund manager, and receive money in return. But, I can't pay for groceries by saying: “Here is my holding of 174.334 shares in the RMT Bank Universal MMF.” The payee does not become the owner of a 174.334 share holding in the RMT Bank Universal MMF. I have to request RMT Bank to redeem

my holdings in money, which I can then use for payments.

The same also applies to a basic bank deposit account, like a checking account. You can't pay for groceries by saying: "Here is a deposit of \$121.74 in RMT Bank." The payee does not become the owner of a bank deposit in RMT Bank. They receive money.

There are two ways the payee can receive the money. One is that they can take the check to a branch of RMT Bank, and receive banknotes in return. More commonly, however, they receive the payment at their bank.

Let's say the payee is a customer of ABC Bank, and the payer is a customer of XYZ Bank. The payer uses their debit card to transfer \$121.74 to the payee's bank account at ABC Bank. What actually happens here? XYZ Bank has to make a payment to ABC Bank. XYZ Bank makes this payment in money — either banknotes, as was the case in the past, or deposits held at the Reserve Bank (a central bank such as the Federal Reserve).

This is why bank reserves held at the central bank, although they are electronic book entries, are considered money — because they are acceptable as a means of payment. In the past, before there were centralized bank clearing houses in the form of central banks, commercial banks would actually make these transactions with paper money. ABC Bank receives the payment and credits the account of the payee accordingly. (In effect, ABC Bank automatically borrows the money from the payee, increasing their deposit account, which is a loan to ABC Bank callable on demand.)

Thus we see that even a debit card, wire transfer or check is actually a payment made by one bank to another, using base money, the acceptable means of payment.

Following from the above, money has certain characteristics. One is that there is no counterparty. There is no legal agreement. This is easy to see in the case of a commodity money like silver coins. However, the same is largely the case for U.S. dollar banknotes, managed by the Federal Reserve. It is more in the nature of a manufactured good, just as gold coins must be manufactured.

A banknote redeemable in bullion is a sort of legal agreement. However, since it serves as an acceptable means of payment, **a redeemable banknote is, I would say, a form of money**, not credit. Money generally does not pay interest (although Fed reserve deposits do for the time being), and credit generally does pay interest (although many forms of credit do not for the time being).

Gold bullion today generally does not serve as a means of payment. However, gold has the desirable characteristics that we all want the means of payment to have. Primarily, it is stable in monetary value. It has other desirable characteristics as well, such as being easy to store, infinitely divisible, a chemical element, compact and of high value, and so forth. This is why we say that “gold is money,” and it is why gold has so often been the foundation for successful monetary systems for the last five hundred years.

Perhaps this sort of theoretical discussion seems disconnected from today’s daily events. **However, one of the reasons for the monetary chaos we endure today is that few people even know what they are talking about.** How can you have a discussion about the best kind of money ... if you don’t even know what money is? It turns out that money is actually very simple. When you can see how simple it is, then the process of making rational monetary systems also seems simple and achievable.

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The Supply and Demand for Gold

November 3, 2011

One thing you often hear about gold, as a monetary asset, is that the supply of gold – the amount of gold in the world – increases by about 2% each year due to mining. **We don’t really consume gold.** Most of the gold that has ever been mined (the U.S. Geological Survey estimates 85%) still exists today as bars, coins and jewelry. Even the small bit that is used in industry is often recycled.

The next thing you typically hear is that a gold standard system works because the “money supply” increases at a stable rate, in line with mining production. In other words, the rate of growth of quantity is stable.

This is totally incorrect. If you look at any historical gold standard system, such as the Bank of England in the 1880s, you find that the “money supply” (base money) is in fact quite variable, and doesn’t follow this “2% per year” rule at all.

For example, in 1900, the U.S. monetary base increased to an estimated \$1,344 million, from \$1,126 million in 1899. That’s an increase of 19.4%.

In 1896, however, the U.S. monetary base fell to \$944m from \$1,022m in 1895, a decrease of 7.6%.

There’s nothing stable at all about the “money supply” with a gold standard system. It adjusts, automatically via the value parity, to the economic conditions of the time.

The “stable” part is stable value. The British pound maintained a defined value compared to gold. Gold, likewise, maintained a stable value in part because the supply was very large and stable.

Here is one of our favorite 19th century references, John Stuart Mill, on the subject:

“[O]n the whole, no commodities are so little exposed [as gold and silver] to causes of variation. They fluctuate less than almost any other things in their cost of production. And from their durability, the total quantity in existence is at all times so great in proportion to the annual supply, that the effect on value even of a change in the cost of production is not sudden; a very long time being required to diminish materially the quantity in existence, and even to increase it greatly not being a rapid process. Gold and silver, therefore, are more fit than any other commodity to be the subject of engagements for receiving or paying a given quantity at some distant period.”

Let’s look at some of the recent specifics. How is gold different than copper?

Almost all the gold ever mined is stored in the form of bullion and jewelry. Copper is completely different. Almost all the copper mined today is used immediately, for some practical purpose. Very little is stored for the long term.

In 2010, world production of copper was estimated at 16.2 million tons. However, known world inventories of copper, on major exchanges, were about 645,000 tons. So, the physical inventory was only 4% of world production. Likewise, industrial demand for copper was also around 16.2 million tons per year.

What if, for some reason, copper mining ceased completely? Obviously, there would only be that small inventory of 645,000 tons available. This would be a big problem.

Now let’s look at gold. In 2010, world production of gold was estimated at 72 million troy oz. The amount of gold in the world was about 5.0 billion ounces. So, the production was only about 1.4% of the inventory.

What if world gold production stopped completely? It would mean that we would have 5.0 billion ounces of gold, instead of 5.072 billion ounces. Big deal. **That’s one reason why gold’s value is stable, making it usable as a monetary benchmark.**

The World Gold Council produces some statistics on uses of gold. In 2010, the WGC says that there was 2,586 tons of gold produced. The amount used for industrial

purposes was 466 tons. The remainder went into coins and jewelry.

Let's look at that: 466 tons into industry, 2,586 tons produced, and roughly 155,000 tons in existence. Industrial demand is only 0.3% of available supply.

Even that industrial demand is largely satisfied from recycling. The WGC says that 1,645 tons were available from recycling in 2010. This includes both industrial recycling and scrap jewelry, but it shows that recycled gold is also a major source of bullion.

We are accustomed, in the U.S., to seeing gold jewelry that costs much more than the value of the bullion contained. Maybe that's why we own hardly any gold jewelry. It's different in the rest of the world. Most of the gold jewelry in the world is in Asia, notably India. In Asia, the cost of the jewelry is just a bit higher than the value of the bullion contained – about 2% higher on average. In other words, there's about a 2% “fabrication premium” to turn the bullion into something wearable.

Actually, that's about the same “fabrication premium” as we have today for bullion coins like Krugerrands and American Eagles. Most of this jewelry serves the same function as Krugerrands and Eagles serve for us. It is, in essence, a store of monetary value. Plus, you can wear it. Maybe those Asians are on to something.

Gold has been money for thousands of years because its value is stable. The sorts of “supply and demand” issues that affect other commodities are not relevant for gold.

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Valuing Gold

January 13, 2008

Unlike most anything else out there that one could invest or speculate in, **gold does not have a valuation. It is never expensive or cheap.** It might be overbought or oversold, or some such thing, which is really a way of saying that a floating currency compared to gold is oversold or overbought. Gold is money. It is money because its value is stable.

Thus, there can never be a "bubble" in gold. A "bubble", at the very least, must be a period when people pay far more for an asset than it is worth. What's gold worth? One ounce of gold is worth....one ounce of gold. It's money. It's also true that there are times when it is extremely beneficial to speculate in gold (1971-1980) and times when it is extremely unrewarding (1980-2002). But you could say the same thing about

dollar bills in a coffee can (a wonderful investment in 1929-1932, a terrible one in 1970-1980). That's really just the paper equivalent of stuffing gold in a vault in Zurich. In 1923, during the German hyperinflation, it is said that a hotel was purchased for one ounce of gold. The price of one ounce of gold, in Germany, reached about 84 trillion marks. Yet, in 1923 one ounce of gold was \$20 in the US, as had been the case for the past 134 years. Was there a bubble in Germany but not in the US, for the same easily transported, easily traded item?

Most all investible assets can be valued on some cashflow basis. This is true of stocks and bonds, of course, and real estate, which constitute among them the vast majority of assets worldwide. Gold has no cashflow. Other commodities can be valued ultimately on their usefulness. This translates into a demand, which is balanced by a supply, which is closely related to production cost. Gold's value is ultimately related to production cost as well, but because annual production is a tiny fraction of available holdings (less than 2% these days), changes in production have little effect on gold. If all gold production ceased for the next ten years, nothing in particular would happen. **There would never be a shortage of gold, because it is never "consumed."** On the demand side, nobody needs to buy gold either, for industrial purposes. (A tiny amount is used in electronics.) Gold is useful, of course. It is useful as money. **One of the requirements of money is that it is not useful (at least at its present value) for anything but money.** You can see this is true of dollar bills as well. Nobody uses them as anything but money.

Thus, all the attempts to value gold in terms of oil, or the CPI ("inflation adjusted gold price"), or some such thing, are essentially meaningless. This is reflected in the futures curve for gold. It trades like a currency -- on an implied interest rate differential -- rather than an industrial commodity.

This makes some people nervous, because investment ideas are typically based on the proposal that something is "cheap," or, at the very least, that there is a "supply/demand imbalance," which is to say, a shortage or glut. Neither is ever the case for gold. To the typical stock investor, looking for value or growth (gold has neither), or even the passive index investor content to add a little to their ownership of US industry every month at the going rate, this is counterintuitive behavior. To the bond investor looking for a balance between yield and risk, gold is equally puzzling, as there is no yield (or slightly negative) and the "risk" is hazy at best. And when you have an investment that is "rising in price," but there isn't a decent argument that it is "cheap" or there's a "shortage," then it sort of looks like a bubble, no?

You have to use some different techniques to invest/speculate in gold effectively. As I argued some time ago, [gold is not an investment](#). It's money. There's no return on capital. But, if you're interested in return OF capital, it is the King of Kings. Gold is

an interesting speculation at only one time: when currencies are losing value. And not only that: if one currency, like the Indonesian rupiah in 1998, is losing value, then you can go to a currency that is not losing value, like the US dollar in 1998. That would be more profitable than gold, as it pays some interest. **So, the only period in which gold is an attractive speculation is when all currencies are losing value, which typically takes place when the major international currencies lose value. Thus, we need to look toward the currency managers, central banks, to manage our gold speculation effectively.** Today, especially in the US, it appears that central banks are not only complacent regarding the worsening inflation, they are outright negligent. Ben Bernanke built his career on the notion that the Great Depression could have been averted by a brisk inflation in the early years of the 1930s. It's false, and Ben Bernanke is going to prove it today.

Even I am rather surprised at the degree of Fed negligence. I thought there would be a tightening bias, and that Wall Street's Big Surprise would be Fed rates climbing above 6%. That will happen eventually, but not right away. (Good thing I don't try to trade this stuff.) Even Arthur Burns, the inflationist of the early 1970s, was tightening aggressively at this point, taking the Fed funds rate to 8% and higher. The kind of total abandonment suggested by today's Fed raises the possibility not only of a relatively gentle currency slide, like the 1970s, but a collapse.

People don't have much appreciation for how destructive inflation can be. We are stuck in the Great Depression image of economic hardship -- bankruptcy and unemployment, and falling prices. Neither tends to happen in inflation (although it is happening now, something of an exception). What happens instead, is that everyone gets poorer together. Some time ago, I showed what the US stock market, per capita GDP and weekly wages looked like if you adjusted for the dollar's decline in value against gold since 1970. It's not a pretty picture.

[Click Here for Graphs of the Disaster of 1970s Inflation](#)

It took about thirty years for the US stock market to return to its highs of 1965, measured in gold terms. Per capita income never really reached the highs of the late 1960s (this series is inflated by the temporary rise in the dollar vs. gold in the late 1990s). And weekly wages, measured in gold oz., have been a total disaster. Let me say that again: *for the great majority of Americans, even after thirty years their situation did not recover to the level of the 1960s.* And it is going to deteriorate again. Maybe thirty years from now, we will say that "even after seventy years, their situation did not recover to the level of the 1960s." You can see from the graphs that the recovery from the Great Depression was much briefer. Even with World War II intervening, by 1949, or 20 years after the peak of 1929, people managed to recover what they had lost. Life for most in the US will probably take the funny character of a

Country That Used To Be Rich, like Argentina (doing better today actually) or the UK in the 1950s, or Italy in the 1980s.

In 1929, the DJIA hit a high of 381, or about 19 ounces of gold when the dollar was worth 1/20th of an ounce of gold. The DJIA had a trailing P/E of 20 at that time, so it was not really a "bubble." (Perhaps there was a "bubble" in corporate earnings, sort of like today.) Today, the DJIA is at 12,606, with the dollar at \$895/oz. You can buy the DJIA for 14 ounces of gold. *The DJIA is below its 1929 peak!* I'm serious. It's just the same as the German hotel. Was it worth one ounce of gold (hyper cheap) or was it worth 84 trillion marks ("hyper expensive")? Maybe the DJIA will rise from today's 12,606 to 84,000,000,000,000 in the future, and be worth one ounce of gold.

There is sometimes confusion here, because people mistake technological development for prosperity. "But...but...in 1965 people used vacuum tube electronics, and now you can buy a DVD player for \$30!" That's true. But, you can also buy a DVD player for \$30 in Burkina Faso, or Zimbabwe. Africans are still poor, poorer than they were forty years ago. Dying of starvation! With \$30 DVD players!

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Why gold as a hedge makes sense in our world of monetary madness.

<http://www.zerohedge.com/news/2015-03-24/belief-european-qe-will-work-far-fetched-bill-white-warns-will-end-very-badly>

"Helicopter Money and Debt Cancellation" Are the Endgame

January 22, 2015

The European Central Bank today revealed its **long-awaited asset-purchase program, also known as "Quantitative Easing."** The ECB will purchase 60 billion euros of debt assets per month beginning in March, and continuing to at least September 2016, for a total of 1.14 trillion of asset purchases. These purchases will be paid for "with the printing press," or more technically, an expansion of the monetary base.

This comes on top of the Bank of Japan's own stepped-up money-printing scheme, which is now at a rate of 80 trillion yen per year – about 17% of GDP,

and well in excess of the government's deficit of 7.6% of GDP in 2013. The ECB's money-printing plans come to roughly 7.6% of eurozone GDP per year. To put it another way, all the eurozone governments together could run a deficit of 7.6% of GDP, and the ECB could fund it all with the printing press. As it is, eurozone governments' aggregate deficits are running around 2.3% of GDP.

In November, Deutschebank strategist Jim Reid said that his large institutional clients "[were talking about helicopter money and debt cancellation being the end game](#). ... Perhaps there's an increasing weariness that more QE globally whilst inevitable, is a blunt growth tool and that stopping it will be extremely difficult."

It has not been very well appreciated that the Fed's own QE program, 2012-2014, was largely offset by a [similar size contraction in the ECB's base money supply during the same time period](#). This was caused primarily by the runoff of the ECB's "long-term refinancing operation" direct bank lending. In other words, the total dollar+euro base money supply grew by a relatively modest amount in that time period. Also, banks themselves have had a high demand for central bank deposits as a form of "cash." "Cash" has historically formed about [10% of total assets at large commercial banks](#), but this "cash" was largely in the form of overnight lending to other financial institutions. Today, banks would much rather hold deposits at central banks than make loans to other banks.

The result of this was that foreign banks (mostly European I think) came to hold a large amount of total Fed deposits, also known as "bank reserves" and a form of base money. In the past, foreign banks held only negligible portion of total Fed deposits, but today they hold about 50%. The result of the ECB's expansion will be that ECB deposits or "bank reserves" of eurozone banks will expand in aggregate, whether they like it or not. This might offset some demand from eurozone banks for Fed deposits.

This is a somewhat complicated way of saying that **world central banks' balance sheets have become somewhat fungible; particularly between the Fed and ECB.** The ECB prints money not only for Europe, but for us all. Japan is somewhat more independent. But, even there, I note that the new bout of money-printing in Japan has been accompanied by a rotation by the Government Pension Investment Fund (the equivalent of the "Social Security Trust Fund" in the U.S., in both cases a sort of internal accounting convention of the central government) out of Japanese government bonds and into U.S. Treasury bonds. What this means, in effect, is that the **Japanese government broadly conceived (the central bank, central government and GPIF) has been printing money and buying U.S. Treasury bonds.** Which is convenient, considering that the U.S. Fed itself stopped buying these bonds through its own QE program just as Japan's GPIF said it would step up its U.S.

Treasury buying, and the BOJ said it would step up its money-printing. It's almost as if someone planned it that way.

And so we see the “helicopter money and debt cancellation endgame” coming into view, despite the fact that expectations of increasing inflationary pressures have been wrong over the past couple years.

I mention all of this because one of my goals is to lay the framework for what happens afterwards. I've always known that no major changes are going to take place as long as what's being done seems to be working. It is only when the old ways fail that change is possible. I don't know what the euro price of gold, the yen/dollar rate, or the state of Europe's bank depositors and sovereign governments will be in six months (“debt cancellation” and “bail-in”), **but I am pretty sure that all of this will end in disaster**, and that we are already in the process of it ending in disaster, without any significant intervening period.

The reason it tends to end in disaster, historically, is because nobody changes anything while it seems to be working. Thus, people continue along a course which, naturally, when pursued for an extended time, ends in disaster. It is easy to forget that Germany's government, like the governments of the U.S. and Britain, printed money to fund World War I for five years, 1914-1919, and suffered no particular adversity as a result. It worked great!

If things get disastrous enough, we may finally see people begin to abandon what I call “Mercantilist” monetary ambitions – the idea that we can, and should, manage the economy with manipulation of the currency, interest rates, trade relationships (foreign exchange rates), and all of these other things that we have become so familiar with today. We might return to the “Classical” ideals that the United States embraced for most of its history, in which [money is a neutral agent of commerce, ideally as stable, reliable and free of human intervention](#) as other weights and measures like the meter and kilogram.

At that point – and not before! – people begin to look for ways to achieve this ideal in the real world, and before too long conclude that there is no better solution than the same solution that prior generations used: a gold standard system.

A “gold standard” is really a type of fixed-value system, [no different than variants of the euro-based fixed-value systems used by at least fifty-five countries today](#). The only major difference between a “gold standard” system and a [“euro standard” system as used today by Germany, Slovakia, Bulgaria or Niger](#), is the choice of the “standard of value.”

There have been a lot of good reasons to use a “euro standard,” particularly the fact

that you can borrow large amounts of money at low interest rates via euro-denominated loans, and also that stability of exchange rates facilitates trade.

However, there are also good reasons why today's floating-fiat euro might not be a good "standard of value" going forward – about 720 billion good reasons per year, beginning in March – which is why Switzerland's central bank just gave up its de facto euro link. They're getting off that train. An independent Swiss franc won't provide any meaningful refuge either, just as it failed to do so in the 1970s.

I don't really care if you find [my affinity for gold as a "standard of value" in monetary systems](#) appealing or not.

Because, I know you will change your mind – not because of my persuasions, but because your world is burning to the ground. It's already burning. Can't you see?

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A Brief History of "Inflation," 1949-2013

October 26, 2014

We're following up our brief history of world currencies in the postwar period:

[October 19, 2014: A Brief History of World Currencies, 1949-2014](#)

This week, we look at similar data from the IMF, namely, the IMF's official CPI info for the same time period. Here it is:

[Click here for global CPI "inflation" data, 1949-2013](#)

Here we see the change in the official CPI for each country, compared to a year earlier. Increases in the CPI of less than 10% are rendered in white. The range of 10%-30% is on a graded scale, from light orange to dark orange. Over 30% is in red. We saw earlier that the IASB definition of "hyperinflation" includes a rise in the CPI of 100% or more over a three-year period, which works out to about 26% per year, or 2% per month. It probably doesn't seem very "hyper" to most people, but in actual practice, a lot of things start to break around this level.

[October 13, 2013: What Is "Hyperinflation"?](#)

Not surprisingly, things are pretty calm during the Bretton Woods gold standard era,

until 1971, and become rather problematic afterwards.

Here's another look at the same data. This uses the cumulative rise of the CPI over the previous three years. The range of 30% (over three years) to 100% is in a sliding orange scale. Over 100% ("hyperinflation") is in red.

[Three year CPI data, 1949-2013](#)

As before, it is a story of chaos and struggle. It is so much better to run a capitalist economy without this kind of madness.

A Brief History of World Currencies, 1949-2014

October 19, 2014

Here's something you don't see everyday: a look at all the currencies in the world, from 1949 to 2014.

We looked at currencies during the 1914-1941 period earlier this year:

[July 18, 2014: Foreign Exchange Rates 1913-1941 #8: A Brief Summary](#)

[June 22, 2014: Foreign Exchange Rates 1913-1941 #7: Switzerland's Independence; Turkey Avoids Devaluation](#)

[June 1, 2014: Foreign Exchange Rates 1913-1941 #6: Hyperinflation in Poland; Russia's WWI Decline](#)

[May 25, 2014: Foreign Exchange Rates 1913-1941 #5: Devaluations By Japan and France](#)

[April 27, 2014: Foreign Exchange Rates 1913-1941 #4: Britain Leads the World Into Currency Chaos](#)

[April 20, 2014: Foreign Exchange Rates 1913-1941 #3: The Brief Rebuilding of the World Gold Standard System](#)

[April 6, 2014: Foreign Exchange Rates 1913-1941 #2: The Currency Upheavals of the Interwar Period](#)

[March 30, 2014: Foreign Exchange Rates 1913-1941: Just Looking At the Data](#)

We also looked at major central banks in detail:

[August 3, 2014: The Reichsbank, 1924-1941](#)

[July 27, 2014: The Bank of France, 1914-1941](#)

[July 20, 2014: The Bank of England, 1914-1941](#)

This followed a look at the Fed in the pre-WWI era:

[December 23, 2012: The Federal Reserve in the 1920s 4: The Historical Record](#)

[December 16, 2012: The Federal Reserve in the 1920s 3: Balance Sheet and Base Money](#)

[November 25, 2012: The Federal Reserve in the 1920s 2: Interest Rates](#)

[November 18, 2012: The Federal Reserve in the 1920s](#)

Click here for today's contribution:

[All the currencies in the world, 1949-2014](#)

The source of this data is the IMF International Financial Statistics database. The IMF has a lot of free data online at their website, but this currency info is a subscription service. I got it from a local university, which has a subscription with the IMF. Because the IMF itself was founded in 1944, we only get postwar data here. I would really like to get pre-1914 currency data at some point.

I mostly did this as a way of thinking about the topic of hyperinflation. I often say that "almost every country in the world, except for the Anglo countries (U.S., Britain, Canada, Australia, New Zealand) has experienced hyperinflation at some point since 1914." But is this true? First: what do we mean by "hyperinflation"? Most English-speaking people don't really have any sense of what this word means. Spanish-speaking people know exactly what it means!

[October 13, 2013: What Is "Hyperinflation"?](#)

So, what do we see in the time period since 1949?

This chart shows the exchange rates between various countries and the U.S. dollar, as of the end of the year, compared to the end of the previous year. The cells show "green" if the change in exchange rates is less than 3%, either a rise or a decline. The idea is to identify countries that have a policy of pegging to the dollar, although if there are only one or two green cells that probably indicates a floating currency that just didn't happen to vary much over the year. A rise vs. the dollar of any amount, of more than 3%, is shown in a light blue. (If there is a "rise" of hundreds of percent, that probably indicates a redenomination.) A decline of between 3% and 10% is shown in purple. The blues and purples show currencies that float vs. the dollar but don't get too far out of line in any one year. Declines vs. the dollar of 10% to 50%+ are shown in a sliding scale from light orange to dark red. If a currency declines by 50% vs. the dollar, for example from 5 Mexican pesos per dollar to 10 pesos per dollar (each Mexican peso being worth \$0.20 to \$0.10, a decline of 50%), this implies an eventual rise in domestic prices of 100% to compensate. We saw earlier that "hyperinflation" tends to begin with about a 100% rise in domestic prices over a period of three years. So, a series of orange-to-red years in a row suggests hyperinflation for that country. A series of light purple boxes suggests consistent devaluation, but not of the "hyper" variety. Still, you can do a lot of damage with a trend of 5%-10% average declines in currency value per year.

There was a lot of turmoil before 1950. There was hyperinflation in Germany, Japan, China, and probably a few other places. Also, both Britain and France devalued their currencies before 1950. Since this was still a time of European empire, a lot of countries that were part of the British Empire (southern Africa, India) or the French Empire (northern and western Africa, Indochina), also devalued.

After 1950, things settle down a lot. This was the Bretton Woods period, when most countries had a currency peg with the dollar (which was in turn pegged to gold at \$35/oz.). Nevertheless, there were a few devaluations, as you can see. These tended to be one-time "step" devaluations, not a continuous decline of a floating currency.

In 1971, we see a lot of currencies rise vs. the dollar. The dollar left its gold peg in 1971 and was devalued.

In the 1980s, there are a lot of currency difficulties worldwide, particularly in Latin America.

In the 1990s, there is a lot of currency decline in the former Soviet states, plus the Asian crisis of 1997-98.

Beginning in 2000, declines vs. the dollar become less common, as the dollar itself was losing value during this time (vs. gold), so other currencies tended to do well vs. the dollar.

Despite the supposed "fall in the dollar price of gold" (implied rising dollar) beginning in late 2011 and especially continuing in 2013, other countries' currencies did not fall vs. the dollar.

But, most of all, we see just how many currency crises there have been, throughout the world, especially after 1971. Endless hardship and chaos.

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