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A Short Primer on Money

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Money is the lifeblood of society, yet few people really understand what money is and what it is not. Here I will explain why gold is not money, why no cryptocurrency is money, and the best money we can get is central-bank-issued digital currency run by an *automated* central bank that we must create. This is a very short course on macro economics.

Money is what you use to buy things, keep to spend later, and to get a loan and pay it back. Banks do not magically make money out of thin air—banks take collateral and monetize it, making hard assets liquid. When they lend money for credit cards, they are monetizing your credit potential (which goes down until the loan is repaid). Only central banks create money out of thin air. By adding and subtracting money, they can both stimulate the economy and maintain a good level of inflation. As we may very well be on the verge of a recession, now is a good time to understand what causes recessions and what we can do about it.

You can watch this video in 20 minutes or read it here in six:

https://www.youtube.com/watch?v=nuPFTCQJuQM&feature=youtu.be

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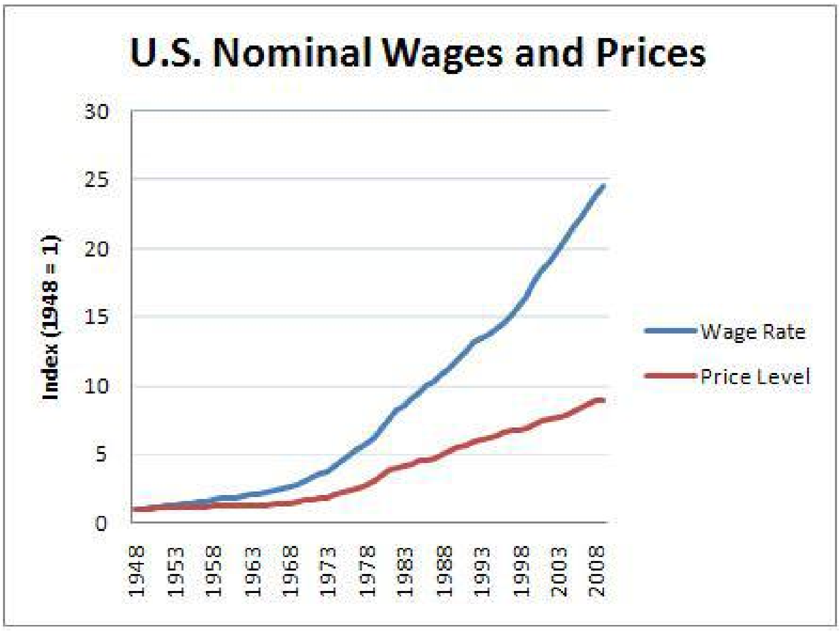
If you're still with me, let's get going.

First, two definitions: *Deflation* is when prices decline. If $1 buys 4 four lollipops today but five lollipops tomorrow, many people will hold money rather than spend it, and that tends to slow down economic growth. In general, deflation is bad, but it's not as bad as it used to be before we left the gold standard. Central banks are afraid of deflation, because they know if there is deflation they will be (rightly) blamed, so they focus a lot on inflation.

Inflation is when $1 buys four lollipops today but only three lollipops next year. As prices inflate, wages generally increase even faster, so over time the same amount of work can be exchanged for an ever larger basket of goods. We say inflation is "neutral," because prices are offset (usually exceeded) by wage gains.



This graph comes from David Andolfatto's essay (Andolfatto, 2011).

Wages tend to outpace inflation because technology and productivity improve faster than prices rise.

Investments like stocks generally outpace inflation, so putting your money into an index fund over time will give you more buying power than you had before.

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Inflation is not neutral for those who put money under a mattress (their buying power gets eroded) and for those who lend or borrow money. If prices decrease substantially from the time when the loan was made, then the borrower comes out ahead and the lender loses. If prices go up faster than they were when the loan was made, then the lender comes out ahead and the borrower loses or pays the loan off.

Central banks target a low rate of inflation. A rate of 2 percent per year doubles prices every 36 years. Seen through the lens of most central banks, this is a small price to pay to keep deflation away. Before we get to a better way to understand the economy, let's look at gold.

The Value of Gold

Gold has almost no intrinsic value, certainly no more than platinum. But for a long time, gold and silver were used as money until something better came along. There is a limited supply of Gold. In any year, the most all mines can produce is roughly one percent of world supply. So when demand for gold increases, price of gold increases; anything priced in gold goes down relative to gold. When demand for gold goes down, prices must go up. As Hayek said:

… if today all the legal obstacles were removed which prevent such an issue of private money under distinct names, in the first instance indeed, as all of you would expect, people would from their own experience be led to rush for the only thing they know and understand, and start using gold. But this very fact would after a while make it very doubtful whether gold was for the purpose of money really a good standard. It would turn out to be a very good investment, for the reason that ***because of the increased demand for gold the value of gold would go up; but that very fact would make it very unsuitable as money****. … if people were free to choose the money, in terms of which they kept their books, made their calculations, incurred debts or lent money, they would prefer a standard which remains stable in purchasing power.*

So even Friedrich Hayek, a founder of the Austrian school of economics, admitted that gold is "very unsuitable as money."

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What about Bitcoin?

Bitcoin, created by a person who certainly came from the Austrian school of economics, is a better form of gold. Because gold is heavy, it became common to offer paper notes that represented gold in the vault. But then, starting in the 1600s, it became all too easy just to print more notes than gold, causing ad-hoc inflation. There will never be printed notes that represent bitcoin—it simply is a better form of gold (and probably takes about as much energy to mine and secure as gold does).

There is no reason why bitcoin (or Zcash or DASH, etc.) should not replace all the gold in the world—about $7 trillion—as a store of value in the long run, and I hope they do. But all cryptocurrencies have the same flaw: they have a fixed or nearly-fixed quantity, and that makes them equally unsuited to be money. Suppose you lend a friend 100 ether at ten percent interest. A year later, you get 110 ether back. You made a ten-percent profit in ether, but did you? By then, the purchasing power of the ether may be half or twice as much , because we purchase things with dollars, euros, and pounds, not with ether. This makes it unsuitable for loans, as the interest rate is negligible compared to the exchange rate. Just because we call them "currencies" doesn't mean they are money.

Cryptocurrencies are not money. No cryptocurrency today has any chance of becoming money in the future. Ether cannot be "programmable money," but fiat-based stablecoins can.

Fiat Money

Money is relative to an economy. What functions as money in Iceland won't work in China. Whatever people say about Brexit, most Brits are probably happy to have pounds, rather than euros, in their wallets. The major currencies are practical solutions that keep evolving and still need a bit of tuning to get right. There are different solutions for different currencies, but the solution for the pound and dollar are the same: automate monetary policy. Target the result you want, not the inflation rate.

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Inflation Targeting

The goal of central banks is to try to help the economy, so there aren't big swings that lead to price bubbles and recessions. Most central banks try to keep inflation around 2 percent, and they are doing a pretty good job:

Since the early 1990s, the Fed has kept inflation between one and three percent, and in the last five years even better. But note the recessions (gray bars). Recessions put people out of work, often a lot of people, sometimes for years.

The Business Cycle

Most economies suffer from booms and busts. That's why central banks were created in the first place. After maintaining a small amount of inflation, most central banks have a second mandate:

to try to counteract the business cycle and prevent or lessen recessions. In general, they raise interest rates when the economy is at full employment and lower rates when more people are out of work. They have other tools, like paying interest on reserves, open-market operations, and statements about their intentions.

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Sometimes these work; usually they don't. You can think of this approach as trying to drive down the road with two steering wheels (inflation and growth) that are independent of each other—most of the time the wheels are not turned in the same direction. History has shown that central banker's expert judgment usually makes the business cycle worse. The Great Recession of 2008 was caused more by central banks doing the wrong thing (Sumner, 2011) and by a general shortage of housing (Erdmann, 2019) than a credit-driven bubble (if you don't believe that, click those two links).

Getting the Right Balance

Australia hasn't had a recession in 27 years, and it's no accident: Australia's central bankers do a better job managing their money supply, adding more money when the economy cools and reducing the supply when the economy heats up. They aren't just focused on inflation.

People have argued over the right way to do this for a century now. Keynesian theorists have focused on government spending, tax cuts, and interest rates. They claim the central banks are "out of gas" and "can't be effective at the lower bound (of interest rates)." Yet a Keynesian approach (using an old model called the Phillips Curve) hasn't worked very well, especially during the 2008/9 financial crisis.

Right now, we could be on the verge of another recession. Most economists predict a slowdown in Asia that spreads to the US and Europe. If we have a recession, it will be because central bankers once again are watching inflation rather than seeing the big picture. They are still using models that make business cycles worse.

We can blame them if growth turns negative and people lose jobs. Another group—monetarists—have shown that a) the amount of money in circulation really determines prices, and b) the stated future intentions of the central bank has a big influence on the rate of economic growth. Monetarists believe that the focus on inflation/deflation is the wrong way to look at the economy.

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They believe the central bank can effectively manage both inflation and the growth rate simply by controlling the amount of money in circulation. That is—they can just print money out of thin air to stimulate the economy after a shock and sell assets to slow the economy down if it's growing too fast.

Market Monetarism

We don't need recessions any more than we need small pox. We cause them; we can eliminate them. Scott Sumner (Sumner, 2019), one of the people behind a new school called *Market Monetarism*, explains how we can automate central-bank monetary policy using an approach to monetary policy called *nominal GDP level targeting*. The central bank should commit to the outcome they actually want rather than trying to adjust rates and instruments. Nominal GDP is the amount of money spent in a given year *without adjusting for inflation*. By maintaining a steady rate of NGDP growth, a central bank can provide just the amount of stimulus or braking the economy needs *on a daily basis*, using a single variable, giving everyone a clear signal that provides the best sustainable growth rate for an economy. In this view, inflation, deflation, and interest rates don't matter. The key is their commitment to "do whatever it takes" to support the target level of NGDP growth by adjusting the supply of base money.

CBDC

To do this, we will need Central Bank Digital Currency (CBDC). Many central banks are looking at this concept—converting their monetary base into a true digitally native platform like blockchain—but they are hesitant to even do experiments. They worry about various risks I won't go into here. But in 20–30 years, we *will* have digital currencies. I believe we can make the switch to a common digital currency in most countries by 2025 and it's important that we do.

By combining central bank digital currency (probably on a government blockchain) with smart contracts that implement NGDP level targeting, we will have an optimal solution for money in the US and UK with no more recessions, ever.

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Summary

Gold isn't money. Cryptocurrencies aren't money. The money we have today can be a powerful tool for governments to help counter the business cycle and bring us sustained economic growth *if* we tune monetary policy to eliminate recessions. Recessions put many people out of work, slow progress, and hurt the poor disproportionately. Digital currency will be faster, better, cheaper, and more secure than the fiat currencies we have today. For the US and UK, automating monetary policy with nominal GDP level targeting will keep our economies growing steadily for the 21st century and beyond.

David Siegel is an American serial entrepreneur living in London. He is the founder of 20|30 and the Pillar project, both of which have newsletters you may wish to subscribe to. He also leads Pillar Labs, which does research on macroeconomics, tokenomics, decentralized systems, governance, and new features for the Pillar wallet. Learn more at labs.pillarproject.io.

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