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# A Template for Understanding What Is Going On

Ray Dalio

*Founder, President, and CIO*

*Bridgewater Associates*

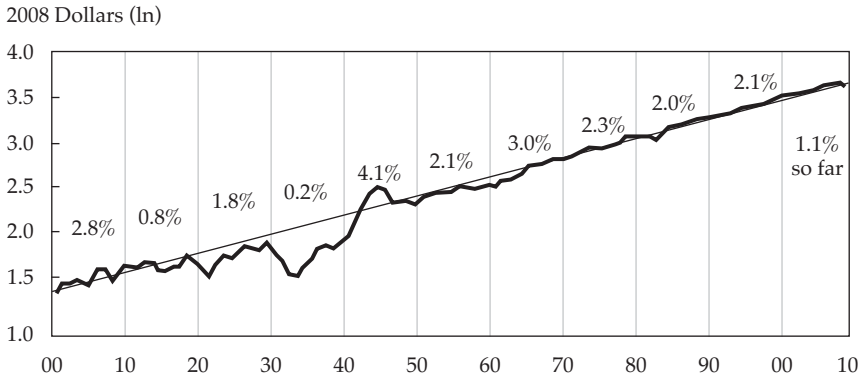
*Westport, Connecticut*

In this article, I will present a big-picture template for understanding economic and capital movements, which the current conditions reflect. I will then examine the deleveraging process more closely. This template consists of three big forces: (1) trendline productivity growth, (2) the long-term debt cycle, and (3) the business/market cycle. By understanding these forces and how they interact, one can go a long way toward putting what has happened and what is likely to happen into perspective. Although these forces apply to all countries' economies, I will use the U.S. economy over the past hundred years or so as an example and will follow it with in-depth examinations of other cases.

## The Three Big Forces

Three main forces drive economic activity: (1) trendline productivity growth, (2) the long-term debt cycle, and (3) the business/market cycle. Because business/market cycles repeat frequently, they are fairly well understood, but the other two forces are less well understood, so I will explain all three. I will then show how, by overlaying the archetypal "business" cycle on top of the archetypal long-term debt cycle and overlaying them both on top of the productivity trendline, one can derive an excellent template for tracking most economic/market movements.

As shown in **Figure 1**, real *per capita* GDP increased at an average rate of a little less than 2 percent over the past 100 years and did not vary a lot from that level. Because knowledge increases over time, it, in turn, raises productivity and thus living standards. As shown in Figure 1, over the very long run, there has been relatively little variation from the trendline. Even the Great Depression in the 1930s looks rather small. As a result, one can be relatively confident that, with time, the economy will get back on track. Up close, however, these variations from the trend can be enormous. For example, typically in deleveragings, the peak-to-trough declines in real economic activity are about 20 percent, the destruction of financial wealth is typically more than 50 percent, and equity prices typically decline by around 80 percent. The losses of financial wealth by those who have it at the beginning of deleveragings are typically greater than these numbers suggest because there is also a tremendous shifting of who has wealth.

**Figure 1. Real GDP per Capita, 1900–2010**

Swings around this trend are not primarily the result of expansions and contractions in knowledge. For example, the Great Depression did not occur because people forgot how to efficiently produce, and it was not set off by war or drought. All the elements that make an economy buzz were present, yet it stagnated. So, why didn't the idle factories simply hire the unemployed to use the abundant resources in order to produce prosperity? These cycles are not the result of events beyond our control, such as natural disasters. They are the result of human nature and the way the economic system works.

Most importantly, *major swings around the trend are caused by expansions and contractions in credit*: that is, credit cycles—most importantly, a long-term (typically 50–75 years) debt cycle (the “long-wave cycle”) and a shorter-term (typically 5–8 years) debt cycle (the “business/market cycle”).

## About Cycles

I find that whenever I start talking about cycles, particularly the long-wave variety, I elicit reactions similar to those that one would expect if I were talking about astrology. This reaction is especially pronounced when those who have been trained in efficient market theory are in the audience. For this reason, before I begin explaining these two debt cycles, I will make a few comments about cycles in general.

*A cycle is nothing more than a logical sequence of events leading to a repetitious pattern.* In a capitalist economy, cycles of expansions and contractions in credit drive economic cycles, and they occur for perfectly logical reasons. Each sequence is not predestined to repeat in exactly the same way or to take exactly the same amount of time, although the patterns are similar, for logical reasons. For example, if you understand the game of Monopoly, you can pretty well understand credit and economic cycles. Early in the game of Monopoly, players have a lot of cash and few hotels, and it pays to convert cash into hotels: Those who have more hotels make

more money. Seeing this result, players tend to convert as much cash as possible into property to profit from forcing other players to give them cash. But as the game progresses, more hotels are acquired, which creates more need for cash (to pay the rent for landing on someone else's property that has a hotel on it) just when many players have run down their cash to buy hotels. When players are caught needing cash, they are forced to sell their hotels at discounted prices; in other words, it pays to convert hotels to cash. So, early in the game, "property is king," and later in the game, "cash is king." Those who are best at playing the game understand how to hold the right mix of property and cash as this right mix changes.

Now let us imagine how this Monopoly game would work if we changed the role of the bank so that it could make loans and take deposits. Players would then be able to borrow money to buy hotels and, rather than holding their cash idly, deposit it at the bank to earn interest, which would provide the bank with more money to lend. If Monopoly were played this way, it would provide an almost perfect model for the way our economy operates. More hotels would be bought, and sooner than if there were no lending. The amount owed would quickly grow to multiples of the amount of money in existence, and the cash shortage for the debtors who hold hotels would become greater, so the cycles would become more pronounced. The bank and those who saved by depositing their money in it would also get into trouble when the inability to come up with needed cash caused withdrawals from the bank at the same time as debtors could not come up with cash to pay the bank. Basically, economic and credit cycles work the same way.

I will now look at how credit cycles—both the long-term debt cycle and the business cycle—drive economic cycles.

## **How the System Works**

Prosperity exists when the economy is operating at a high level of capacity—in other words, when demand is pressing up against a pre-existing level of capacity. At such times, business profits are good and unemployment is low. The longer these conditions persist, the more capacity will be increased, typically financed by credit growth. Declining demand creates a condition of low capacity utilization. As a result, business profits are bad and unemployment is high. The longer these conditions exist, the more cost cutting (sometimes called "restructuring") will occur, typically including debt and equity write-downs. Therefore, prosperity equals high demand, and in our credit-based economy, strong demand equals strong real credit growth. Conversely, deleveraging equals low demand and, hence, lower and falling real credit growth. Contrary to now-popular supply-side thinking, recessions and deleveragings do not develop because of low productivity (i.e., an inability to produce efficiently); they develop from declines in demand.

Because changes in demand precede changes in capacity in determining the direction of the economy, one would think that prosperity would be easy to achieve simply by pursuing policies that would steadily increase demand. When the economy is plagued with conditions of low capacity utilization, depressed business profitability, and high unemployment, why doesn't the government simply give it a good shot of whatever it takes to stimulate demand to produce a far more pleasant environment of high capacity utilization, fat profits, and low unemployment? The answer has to do with what that shot consists of.

**Money.** Money is what you settle your payments with. Some people mistakenly believe that money is whatever will buy you goods and services, whether that is dollar bills or simply a promise to pay (for example, a credit card or an account at the local grocery). When a department store gives you merchandise in return for your signature on a credit card form, is that signature money? No, it is not because you did not settle the transaction. Rather, you promised to pay money. So, you created credit, which is a promise to pay money.

The U.S. Federal Reserve (Fed) has chosen to define "money" in terms of aggregates (i.e., currency plus various forms of credit—M1, M2, etc.), but this is misleading. Virtually all of what the Fed calls money is credit (i.e., promises to deliver money) rather than money. The total amount of debt in the United States is about \$50 trillion, and the total amount of money (currency and reserves) in existence is about \$2 trillion. So, if I use these numbers as a guide, the amount of promises to deliver money (i.e., debt) is roughly 25 times the amount of money in existence to deliver.<sup>1</sup> The main point is that most people buy things with credit and do not pay much attention to what they are promising to deliver and where they are going to get it from, so there is much less money than there are obligations to deliver it.

**Credit.** Credit is the promise to deliver money, and credit spends just like money. Although credit and money spend equally easily, when one pays with money, the transaction is settled, but when one pays with credit, the payment has yet to be made.

Demand can increase in two ways—with credit or without it. Of course, it is far easier to stimulate demand with credit than without it. For example, in an economy in which there is no credit, if I want to buy a good or service, I have to exchange it for a comparably valued good or service of my own. Therefore, the only way I can increase what I own and the only way the economy as a whole can grow is through increased production. As a result, in an economy without credit, the growth in demand is constrained by the growth in production. This constraint tends to reduce the occurrence of high prosperity and severe depression. In other words, it tends to produce swings around the productivity growth trendline of about 2 percent.

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<sup>1</sup>Because a substantial amount of dollar-denominated debt exists outside the United States, the total amount of claims on dollars is greater than this characterization indicates, so it is provided solely for illustrative purposes.

By contrast, in an economy in which credit is readily available, I can acquire goods and services without giving up any of my own. A bank will lend money on my pledge to repay, secured by my existing assets and future earnings. In the short run, a monetary expansion supports a credit expansion because it makes it easier for me to pay off my loans (with money of less value) and makes the assets I acquired worth more through inflation. In turn, a monetary expansion improves my credit rating and increases my collateral, thereby making it that much easier to borrow and buy more. In such an economy, demand is constrained only by the willingness of creditors and debtors to extend and receive credit. When credit is easy and cheap, borrowing and spending will occur, and when it is scarce and expensive, borrowing and spending will be less. In the “business cycle,” the availability and cost of credit are driven by central bankers, whereas in the “long-wave cycle,” the availability and cost of credit are driven by factors that are largely beyond central banks’ control. Both debt cycles cause swings around the long-term trendline growth shown in Figure 1 because there are limits to excess debt growth and all debts must be either paid off or defaulted on.

The most fundamental requirement for credit creation to exist is that both borrowers and lenders must believe that the deal is good for them. Because one man’s debts are another man’s assets, lenders have to believe that they will get paid back an amount of money that is greater than what they lent after adjustment for inflation (that is, more than they could get by storing their wealth in inflation hedge assets), net of taxes. And because debtors typically have to pledge their equity assets as collateral to convince lenders of their creditworthiness, they have to be confident in their ability to pay their debts to the extent that they value the equity assets that they pledged as collateral.

Another important consideration for investors is liquidity—the ability to sell one’s investments for money and use that money to buy goods and services. For example, if I own a \$100,000 Treasury bond, I have probably made the decision to do so based on the belief that I will be able to exchange it for \$100,000 in cash and, in turn, exchange the cash for \$100,000 worth of goods and services. But because the ratio of financial assets to money is so high, if a large number of people try to convert their financial assets into money and buy goods and services at the same time, the central bank will have to produce a lot more money (risking a monetary inflation) and/or allow a lot of defaults (causing deflationary deleveraging).

**Monetary Systems.** One of the greatest powers governments have is the creation of money and credit. They exert this power by determining their countries’ monetary systems and by controlling the levers that increase and decrease the supply of money and credit. The monetary systems chosen have varied over time and by country. In the old days was barter (the exchange of items of equal intrinsic value). It was the original basis of money. When one paid with gold coins, the exchange

was of items having equal intrinsic value. Then credit developed, where credit consisted of promises to deliver “money” having intrinsic value. With the emergence of fiat money (which has no intrinsic value or “value in use”), the next development was credit consisting of promises to deliver money that did not have intrinsic value.

Those who lend expect that they will get back an amount of money that can be converted into goods or services that are somewhat more valuable than the money they originally lent. In other words, they expect a positive (or at the very minimum, zero) real return on their loan. So, since credit began, creditors essentially have asked those who controlled the monetary systems, “How do we know that you won’t just print a lot of money so that when we go to exchange it for goods and services in the future, it won’t buy us much?” At different times, this question has been answered differently.

Basically, there are two types of monetary systems: *commodity-based systems*, those consisting of some commodity (usually gold), currency (which can be converted into the commodity at a fixed price), and credit (a claim on the currency), and *fiat systems*, those consisting of just currency and credit.

In the first of these systems, it is more difficult to create credit expansions because the public will negate the government’s attempts to increase currency and credit by demanding that the government give them back the commodity that it is exchangeable for. As the supply of money increases, its value falls or, looked at the other way, the price of the commodity into which it is convertible rises. When the market price of the commodity rises above the fixed price, it is profitable for those holding credit (that is, claims on the currency) to sell their debt for currency to buy the commodity from the government at below the market price. The selling of the credit and the taking of currency out of circulation cause credit to tighten and the value of the money to rise. At the same time, the general price level of goods and services will fall. The result of this chain of events will be lower inflation and lower economic activity.

Because the value of money has fallen over time relative to the value of just about everything else, I could tie the currency to just about anything to show how this monetary system would work. For example, because a one-pound loaf of white bread in 1946 cost 10 cents, let us imagine we tied the dollar to bread. In other words, let us imagine a monetary system in which the government, in 1946, committed to buy and sell bread at 10 cents a pound and stuck to that system until now. Today, a one-pound loaf of white bread costs \$2.75. If we had been on a “bread standard” since 1946, the price could not have gotten to \$2.75 because we all would have bought our bread from the government at 10 cents instead of from the free market until the government ran out of bread. But to finish the illustration of how a commodity money works, let us say that the price of bread did actually reach \$2.75. At that price, I would certainly be willing to take all of my money, buy bread from the government at 10 cents, and sell it in the market at \$2.75; others would do the

same. This process would cause the amount of money in circulation to be reduced, which would reduce the prices of all goods and services and increase the amount of bread in circulation (thus lowering its price more rapidly than other prices). In fact, if the supply of bread were not greatly increased, in this counterfactual example, because of its convertibility to currency, this tie—the use of a physical commodity as the basis of currency—would have dramatically slowed the last 50 years' rapid growth in currency and credit.

Obviously, what the currency is convertible into has an enormous impact on this process. For example, if instead of tying the dollar to bread I chose to tie it to eggs, currency and credit growth would have been less restricted because the price of eggs has risen much less than the price of bread: A dozen eggs cost 70 cents in 1947 and about \$2.00 today.

Ideally, if one has a commodity-based currency system, one wants to tie the currency to something that is not subject to great swings in supply or demand. For example, if the currency were tied to bread, bakeries would, in effect, have the power to produce money, leading to increased inflation. Being difficult and expensive to find and extract from the ground, gold and, to a much lesser extent, silver have historically proven more stable than most other currency backings, although they are by no means perfect.

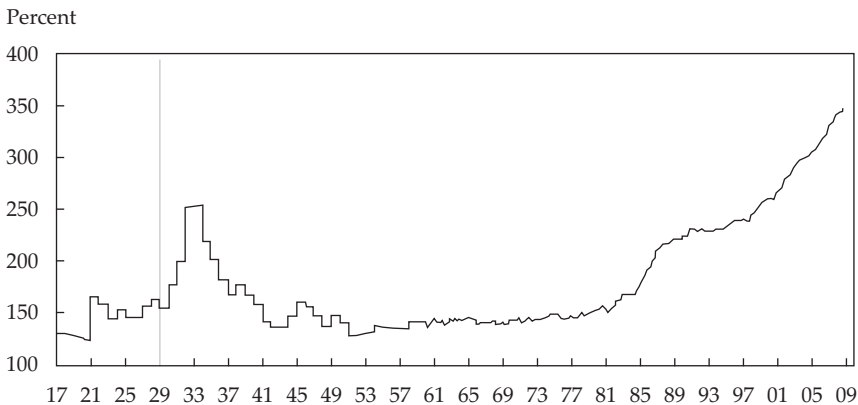
In the second type of monetary system—a fiat system in which the amount of money is not constrained by the ability to exchange it for a commodity—the growth of money and credit is very much subject to the influence of the central bank and the willingness of borrowers and lenders to create credit.

Governments typically prefer fiat systems because these systems give them more power to print money, expand credit, and redistribute wealth by changing the value of money. Human nature being what it is, those in government (and those not) tend to value immediate gratification over longer-term benefits, so government policies tend to increase demand by allowing liberal credit creation, which, in turn, leads to debt crises from time to time. Governments typically choose commodity-based systems only when the fiat money they have been issuing has lost almost all of its value. (This happens when the government “prints” a lot of fiat money to pay its own debts because the debts have grown so large that they cannot be paid out of tax revenues.) And governments abandon commodity-based monetary systems when the constraints to money creation become too onerous in debt crises. So, throughout history, governments have gone back and forth between commodity-based and fiat monetary systems in reaction to the painful consequences of each. Nevertheless, they do not make these changes often because monetary systems typically work well for many years, often decades, with central banks varying interest rates and the money supply to control credit growth well enough that these inflection points are rarely reached.

## The Long-Term (i.e., Long-Wave) Cycle

Figure 2 shows U.S. debt to GDP going back to 1917 and illustrates the long-term debt cycle. (Here, “debt” means the sum of government, business, and private or individual debt.) These long-term debt cycles have existed for as long as credit has existed. Even the Old Testament described the need to wipe out debt once every 50 years; the year of debt cancellation was called the year of “Jubilee.”

**Figure 2. Total Debt as a Percentage of GDP, 1917–2009**



**Upwaves.** Upswings in the cycle occur, and are self-reinforcing, in a process by which money growth creates greater debt growth, which, in turn, finances spending growth and asset purchases. Spending growth and higher asset prices then allow even more debt growth. This last step occurs because lenders determine how much they can lend on the basis of the borrower’s income, or cash flow, available to service the debt; the borrower’s net worth and/or collateral; and their own capacity to lend. All of these factors tend to rise together in a self-reinforcing manner. For example, during the last upward cycle, incomes, housing prices, and stock prices all rose, so people’s collateral increased in value, allowing them to borrow against it to increase their spending. This increased spending led to higher corporate earnings, which supported rising stock prices and other asset values, giving people more collateral to borrow more against, and so on.

In the upwave part of the cycle, promises to deliver money (that is, debts and debt service payments) rise relative to both (1) the supply of money and (2) the amount of money and credit that debtors have coming in (via incomes, borrowings, and sales of assets). This upwave in the cycle typically goes on for decades, with variations in it primarily caused by central banks tightening and easing credit (which



makes business cycles). But the upwave cannot go on forever because it is impossible for obligations to deliver money (that is, debt) to rise *indefinitely* relative to the amount of money that is coming in. When promises to deliver money (debt) cannot grow any further relative to the money and credit that is coming in, the process works in reverse, and we have deleveragings.

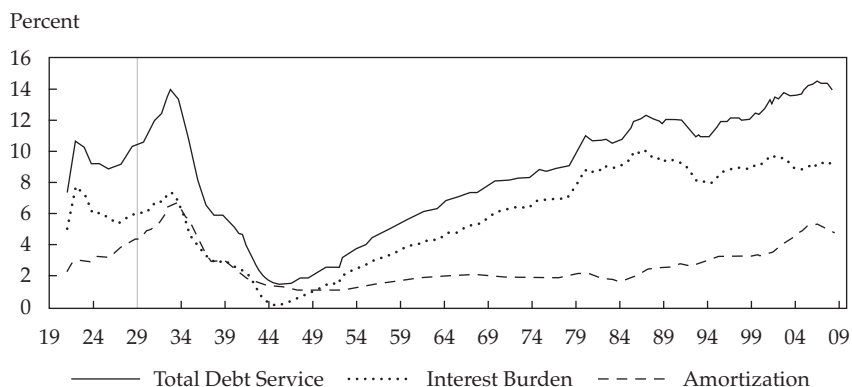
Although Figure 2 shows the amount of debt relative to GDP—that is, the debt ratio—it is more precise to say that high debt service payments (principal and interest combined), rather than high debt levels themselves, cause debt squeezes that slow the economy because cash flows must clear: The portion of income available to service debt must at least equal the amount required by the creditor. For example, if interest rates fall enough, debts can increase without debt service payments rising enough to cause a squeeze. This dynamic is best conveyed in Figure 3. It shows interest payments, principal payments, and total debt service payments of U.S. households as a percentage of their disposable incomes going back to 1918. I am showing this debt service burden for the household sector because the household sector is the most important part of the economy; the concept, however, applies equally well to all sectors and all individuals. As shown, by 2007, the debt service burden of households had increased to the highest level since the Great Depression. Although it is obvious that this burden cannot continue to rise indefinitely, one must ask, what, specifically, triggers reversals?

The long-wave cycle top occurs when debt and debt service levels are high relative to incomes and monetary policy does not produce credit growth. Although tops can occur for many reasons (e.g., the excessive debts of Germany’s Weimar Republic arose primarily because of war reparations), they occur most typically

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**Figure 3. Household Debt Service as a Percentage of Disposable Income, 1919–2009**

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because assets are bought at high prices and on leverage<sup>2</sup> (i.e., because debt levels are set on the basis of overly optimistic assumptions about future cash flows) and because actual cash flows, when they come in, fall short of what are required for debtors to service their debts. And then monetary policy is ineffective in rectifying the imbalance. Ironically, quite often the cash flows fall short because of high interest rate monetary policies that are overdue attempts to curtail these bubble activities (as in 1928–1929 in the United States and 1989–1991 in Japan).

**Downwaves.** In deleveragings, debts fall rather than rise relative to money as they do in upwaves. Because the money coming in to debtors via incomes and borrowings is not enough to meet their obligations, assets must be sold and spending must be cut to raise cash. The ensuing drop in asset values reduces the value of collateral and, in turn, reduces incomes. Because of both lower collateral values and lower incomes, borrowers' creditworthiness is reduced, so they justifiably get less credit. This process continues in a self-reinforcing manner.

One can see this dynamic in Figures 2 and 3. The vertical line on these figures is at 1929. Figure 2 shows that the ratio of debt to GDP shot up from about 160 percent to about 250 percent between 1929 and 1933. Figure 3 shows the same picture: Debt service levels rose relative to income levels because income levels fell. In an economic and credit downturn, debt burdens increase at the same time that debts are being written down, so the debt liquidation process is reinforced. **Figure 4** shows the debt of the household sector, relative to its net worth, over time. This leverage ratio is shooting up from already high levels, as it did during the Great Depression, because of declines in net worth arising from falling housing and stock prices.

In a credit-based economy, as noted earlier, the ability to spend is an extension of the ability to borrow. For lending and borrowing to occur, lenders have to believe that they will earn a positive real rate of return and that they will be able to convert their debt into money. In deleveragings, lenders justifiably worry that these things will not happen.

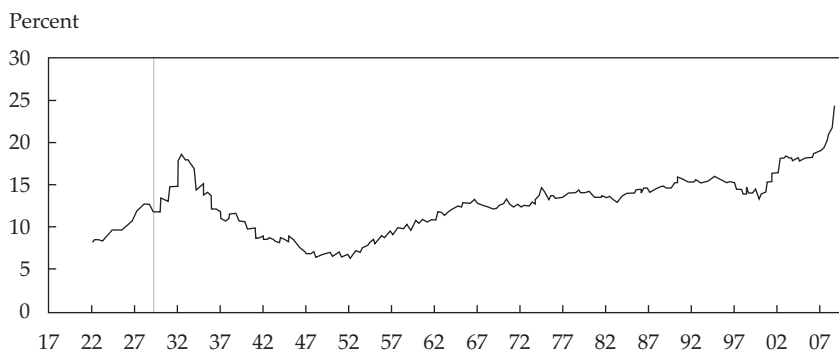
Unlike in recessions, when cutting interest rates and creating more money can rectify this imbalance, in deleveragings, monetary policy is ineffective in creating credit. In other words, in recessions (when monetary policy is effective), the imbalance between the amount of money and the need for it to service debt can be rectified because interest rates can be cut enough to (1) stimulate economic activity by lowering monthly debt service payments relative to incomes and (2) produce a positive wealth effect. In deleveragings, however, this result cannot occur. In a

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<sup>2</sup>This time around, residential and commercial real estate, private equity, lower-grade credits, and to a lesser extent, listed equities were the assets that were bought at high prices and on lots of leverage. In both the U.S. Great Depression and in the Japanese depression, stocks and real estate were also the assets of choice that were bought at high prices and on leverage.

**Figure 4. Household Debt as a Percentage of Net Worth, 1917–2009**

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deleveraging, or deflationary depression, monetary policy is typically ineffective in creating credit. Interest rates hit zero, so they cannot be lowered. Consequently, other, less effective ways of increasing the money supply are followed. Credit growth is thus difficult to stimulate because borrowers remain overindebted, making sensible lending impossible. In an inflationary depression, monetary policy is ineffective in creating credit because increased money growth goes into hard-money currencies and real (inflation hedge) assets instead of domestic-currency-denominated assets that investors fear will depreciate in value.

All deleveragings start as a result of a shortage of money relative to the need for it (the “fundamental imbalance”) as credit contracts. This situation leads to large numbers of businesses, households, and financial institutions defaulting on their debts and cutting costs, which, in turn, leads to higher unemployment and other problems. To try to alleviate this fundamental imbalance, governments inevitably create initiatives to encourage credit creation, ease the rules that require debtors to come up with money to service their debts (i.e., create forbearance), and increase the supply of money. Typically, these moves come in progressively larger dosages as the initial doses fail to rectify the imbalance and reverse the deleveraging process. These dosages, however, do typically cause temporary periods of relief that are manifest in bear market rallies in financial assets and increased economic activity. For example, during the Great Depression, there were six big rallies in the stock market (of between 21 percent and 48 percent) in a bear market that totaled 89 percent, with each of these rallies triggered by escalating government actions designed to reduce the fundamental imbalance. But these rallies did not foreshadow a true economic recovery because the fundamental imbalance was not eliminated.

Some people mistakenly think that the problem is just psychological—that scared investors move their money from riskier investments to safer ones (e.g., from stocks and high-yield lending to government cash)—and that problems can be rectified by coaxing investors to move their money back into riskier investments. This thinking is wrong for two reasons.

First, the deleveraging dynamic is not irrational but, instead, a reasoned response to the then-prevailing supply and demand conditions for credit, money, and goods and services. Second, it is not correct that the amount of money in existence remains the same and simply moves from riskier assets to less risky ones. Most of what people think is money is really credit, and it does disappear. For example, when you buy something in a store using a credit card, you do so essentially by saying “I promise to pay.” The seller books that promise as an asset, so his net worth goes up. Together you created a credit asset and a credit liability. So, where did you take the money from? Nowhere. You created credit. It goes away in the same way.

A big part of the deleveraging process, then, is people’s discovering that much of what they thought was their wealth is not really there.

When investors need cash, they try to sell their investments. In cases in which the investments prove illiquid, panic-induced “runs” and sell-offs of securities occur. Naturally, those who experience runs, especially banks (although this is true of most entities that rely on short-term funding), have problems raising money and credit to meet their needs, so they often fail. At such times, governments are forced to decide which institutions to save by providing them with money and whether to get this money through the central government (i.e., through the budget process) or through the central bank’s ability to “print” more money. Governments inevitably do both, although in varying degrees. What determines whether a deleveraging is deflationary or inflationary is the extent to which central banks create money to negate the effects of contracting credit.

Governments with commodity-based monetary systems are more limited in their abilities to “print” and provide money, whereas those with fiat monetary systems are less constrained. In both cases, however, the central bank is eager to provide money and credit, so it always lowers the quality of the collateral it accepts and, in addition to providing money to some essential banks, it also typically provides money to some nonbank entities that it considers essential.

The central bank’s easing of monetary policy, and the movement of investor money to safer investments, initially drives down short-term government interest rates, steepens the yield curve, and widens credit and liquidity premiums. Those who do not receive the money and/or credit needed to meet their debt service obligations and maintain their operations, which is typically a large segment of debtors, default and fail.

As credit collapses, workers lose jobs, and many of them, having inadequate savings, need financial support. So, in addition to needing money to provide financial support to the system, governments need money to help those in greatest financial need. Additionally, to the extent that they want to increase spending to make up for decreased private sector spending, they need more money. At the same time, their tax revenue falls because incomes fall. For these reasons, governments’ budget deficits increase. Inevitably, the amount of money lent to governments at

these times increases less than that of their needs (i.e., they have problems funding their deficits), despite the increased desire of investors to buy government securities to seek safety at these times. As a result, central banks are again forced to choose between “printing” more money to buy their governments’ debts or allowing their governments and their private sector to compete for the limited supply of money, causing extremely tight money conditions.

Governments with commodity-based money systems are forced into having smaller budget deficits and tighter monetary policies than governments with fiat monetary systems, although they all eventually relent and print more money (i.e., those on commodity-based monetary systems either abandon these systems or “debase” the currency by reducing the amount of the commodity that they will exchange for a unit of money). This “printing” of money takes the form of central bank purchases of government securities and nongovernment assets, such as corporate securities and equities. In other words, the government creates new money (“prints” it) and uses it to negate some of the effects of contracting credit. If the money creation is large enough, it devalues the currency, lowers real interest rates, and drives investors from financial assets to inflation hedge assets.

Because governments need more money and because wealth and incomes are typically heavily concentrated in the hands of a small percentage of the population, governments raise taxes on the wealthy. These increased taxes typically take the form of greater income and consumption taxes because these forms of taxation are the most effective in raising revenues. Despite these greater taxes on the wealthy, increases in tax revenue are inadequate because incomes—both earned incomes and incomes from capital—are depressed and expenditures on consumption are reduced.

The wealthy experience a tremendous loss of “real” wealth in all forms (i.e., from their portfolios declining in value, from their earned incomes declining, and from higher rates of taxation, in inflation-adjusted terms). Quite often, they are motivated to move their money out of the country (which contributes to currency weakness), illegally dodge taxes, and seek safety in liquid, non-credit-dependent investments.

Workers who are losing jobs and governments that want to protect them become more protectionist and favor weaker currency policies. Protectionism slows economic activity, and currency weakness fosters capital flight. Debtor countries typically suffer most from capital flight.

When money leaves the country, central banks are once again put in the position of having to choose between “printing” more money, which lessens its value, and not printing money in order to maintain its value but allowing money to tighten. They inevitably choose to “print” more money, which is additionally bearish for the currency.

Debtor, current account deficit, countries are especially vulnerable to capital withdrawals and currency weakness because foreign investors also tend to flee as a result of both the currency weakness and the environment being inhospitable to

good returns on capital. This is less true, however, for countries that have a great amount of debt denominated in their currencies (such as the United States now and during the Great Depression) because these debts create a demand for these currencies. Because debt is a promise to deliver money that one does not have, this environment essentially creates a short squeeze that ends when (1) the shorts are squeezed (i.e., the debts are defaulted on), (2) enough money is created to alleviate the squeeze, and/or (3) the debt service requirements are reduced in some other way (e.g., forbearance).

The risk at this stage of the process is that the currency weakness and the increased supply of money will lead to short-term credit (even government short-term credit) becoming undesirable, causing the buying of inflation hedge assets and capital flight rather than credit creation. For foreign investors, receiving an interest rate that is near zero and having the foreign currency that their deposits are denominated in decline produce a negative return, so this set of circumstances makes holding credit, even government short-term credit, undesirable. Similarly, for domestic investors, this set of circumstances makes foreign currency deposits more desirable. If and when this happens, investors accelerate their selling of financial assets, especially debt assets, to get cash in order to use this cash to buy other currencies or inflation hedge assets, such as gold. They also seek to borrow cash in that currency. Once again, such actions put the central bank in the position of having to choose between increasing the supply of money to accommodate this demand for it or allowing money and credit to tighten and real interest rates to rise. At such times, governments may seek to curtail this movement by establishing foreign exchange controls and/or prohibiting gold ownership. Also, price and wage controls may be put into place. Such moves typically create economic distortions rather than alleviate problems.

Although the deleveraging process seems horrible and certainly produces great hardships—in some cases, even wars—it is the free market’s way of repairing itself. In other words, it gets the capital markets and the economy into a much healthier condition by rectifying the fundamental imbalance. Debts are reduced (through bankruptcies and other forms of debt restructuring), businesses’ break-even levels are reduced through cost cutting, financial assets become cheap and attractive, and the supply of money needed to buy these assets and to service debts is increased by the central banks. So, capital formation becomes viable again.

The decline in economic and credit-creation activity is typically fast, lasting two to three years. The subsequent recovery in economic activity and capital formation, however, tends to be slow. It takes roughly a decade (hence the term “lost decade”) for real economic activity to reach its former peak level. And it typically takes more than 20 years for real stock prices to reach their former highs.

As mentioned, these cycles are caused by human nature and the way the system works. Throughout this process, most everyone behaves pretty much as one would expect them to in pursuing their self-interests.

## The Business Cycle

The business cycle is the shortest of the cycles described in this article and is overlaid on the longer trends and cycles. This description is brief and stylized, and I should caution that no business cycle evolves along precisely these lines. Consistent with my desire to provide a template, however, the generalities that follow are applicable more often than not.

The business cycle is primarily controlled by central banks' policies that (1) tighten when inflation is too high and/or rising uncomfortably because not much slack exists in the economy (as reflected in the output gap, capacity utilization, and the unemployment rate) and credit growth is strong and (2) ease when the reverse conditions exist. They can be described a bit differently by different people, but they are all about the same. The way I describe them is in six phases—four in the expansion and two in the recession.

**Expansion Phase of the Cycle.** The *early cycle* (which typically lasts about five or six quarters) usually begins with the demand for interest rate-sensitive items (e.g., housing and cars) and with retail sales picking up because of low interest rates and lots of available credit. This increased demand pulls the average workweek and then employment up. Credit growth is fast, economic growth is strong (i.e., in excess of 4 percent), inflation is low, growth in consumption is strong, the rate of inventory accumulation is increasing, and the stock market is typically the best investment (because the economy is growing fast and interest rates are not rising because inflation is not rising). Inflation hedge assets and commodities are the worst performing assets.

The early cycle is typically followed by what is called the *mid-cycle* (which lasts an average of three or four quarters), in which real economic growth slows substantially (to roughly 2 percent), inflation remains low, growth in consumption slows, the rate of inventory accumulation declines, interest rates dip, the rate of increase in stock market prices tapers off, and the rate of decline in inflation hedge assets slows.

The mid-cycle, in turn, is followed by the *late cycle* (which typically begins about 2½ years into expansion, with variation depending on how much slack existed in the economy at the last recession's trough). At this point, economic growth picks up to a moderate pace (i.e., around 3.5–4.0 percent), capacity constraints emerge, but credit and demand growth are still strong. So, inflation begins to trend higher, consumption grows, inventories typically pick up, interest rates rise, the stock market stages its last advance, and inflation hedge assets become the best performing investments.

The late cycle is followed by the *tightening phase* of the expansion. In this phase, actual or anticipated acceleration of inflation prompts the Fed to turn restrictive, which shows up in reduced liquidity, interest rates rising, and the yield curve flattening or inverting. These changes, in turn, cause money supply and credit growth to fall and the stock market to decline before the economy turns down.

**Recession Phase of the Cycle.** In the *early part of the recession*, the economy contracts; resources are underutilized (as measured by the output gap, capacity utilization, and the unemployment rate); stocks, commodities, and inflation hedge assets fall; and inflation declines because the Fed remains tight.

In the *late part of the recession*, the central bank eases monetary policy as inflation concerns subside and recession concerns grow. So, interest rates decline and the lower interest rates cause stock prices to rise (even though the economy has not yet turned up), while commodity prices and inflation hedge assets continue to be weak. The lower interest rates and higher stock prices set the stage for the expansion part of the cycle to begin.

**Summary.** Although I have referred to average time lags between each of these stages of the cycle, it is the sequence of events, not the specific timeline, that is important to keep an eye on. For example, given the previously described linkages, because inflation does not normally heat up until the slack in the economy is largely eliminated and the Fed does not normally turn restrictive until inflation rises, an expansion that starts off after a deep recession (i.e., one that produces lots of slack) is bound to last longer than an expansion that begins with less excess capacity. Similarly, as the cycle progresses through its various stages as a function of the sequences just described, the rate at which it progresses will be a function of the forcefulness of the influences that drive its progression. For example, an expansion that is accompanied by an aggressively stimulative central bank is likely to be stronger and evolve more quickly than one that is accompanied by a less stimulative monetary policy. Also, exogenous influences, such as China's entry into the world economy, wars, and natural disasters, can alter the progressions of these cycles.

## Conclusion

Although the economy is more complicated than this template suggests, laying the business cycle on top of the "long-wave" cycle and laying them both on top of the trend per capita real GDP growth line gives a reasonably good road map for understanding the capitalist system and seeing both where we are now and where we are probably headed. One should always be careful about projecting any past cycle or pattern into the future because circumstances change each time and history never repeats itself exactly. A template is necessarily an incomplete description. The details of "what is different this time," as well as what is the same as it always has been, will be filled in as we observe history in the making.

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