How the Economy Works: A (Kind of) Brief Guide

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So what is the economy?

Ever since you were a little kid, you've probably been able to associate the economy with money. But what actually is the economy? A quick search on Google will tell you that it's "An economy or economic system consists of the production, distribution or trade, and consumption of limited goods and services by different agents in a given geographical location. The economic agents can be individuals, businesses, organizations, or governments." Great, but what does that actually mean?

Put simply, an economy is the sum of the transactions that build it up. Each transaction consists of a buyer exchanging money or credit for goods, services, or financial assets. Individuals (people like you and me), business, organizations, and governments all can take part in these exchanges. The sum of all the money and credit circulating in the economy is defined as **total spending**. Transactions drive the entire economy. This may seem extremely basic - we'll get to the good stuff in just a minute.

The economy is composed of many different **markets**. Every good (such as computers, clothing, art) and service (such as cleaning, babysitting, plumbing) has its own market. The total spending and total quantity sold in each market will tell you everything you need to know about that sector.

So you're telling me the economy is nothing more than people buying and selling stuff?

Well, kind of. It's not as simplistic as it may seem. The biggest buyer and seller is the government. It has two different parts that play a major role in the economy. The **central government** collects taxes and spends money. The **central bank** on the other hand, is different from other buyers and sellers, because it controls the amount of money and credit in the economy. It does so by influencing interest rates and printing new money.

Wait, what's credit?

Credit is actually the most important part of the economy. This is because it's the biggest and most volatile. But to understand what credit is, we need to talk about how it's created.

Lenders and **borrowers** have a very similar relationship to the everyday buyers and sellers we see at the grocery store. Lenders (usually a bank) want to make their money into more money, while borrowers usually want to buy something that they can't afford, like a house, car, or the money to start a business. So credit allows both parties involved to get what they want. The borrower will promise the lender that they'll give back the money that they took (principal) with a bit extra extra money (interest). When interest rates are high, there's less borrowing because it's

more expensive. The converse is also true; when interest rates are low, more borrowing occurs because it's cheaper. To summarize: A borrower will promise to repay a lender the principal loan with some interest, and if the lender believes them and gives them the loan, **credit is created**. The thing about credit - as soon as it's created, it becomes **debt**. This is regarded as an **asset** for the lender, but a **liability** to the borrower. When you buy an apple with cash at the grocery store, the transaction is over. However, when lenders offer a loan to borrowers, the transactions isn't settled until the debt is paid off by the borrower.

Ok...so what's the big deal about credit?

Credit is important because it allows the borrower to increase their spending, and **spending drives the economy**. Remember: **One person's spending is another person's income.** Ok, maybe it isn't THAT simple. But the essential idea is, whatever money you spend has to go somewhere. And where does it go? Into someone else's pocket. So remember, one person's spending is another person's income. So when you spend more, other people earn more. As people have increased levels of income, they are deemed **creditworthy**, because lenders are more confident that the borrowers will be able to payback their loan. But if for some reason they can't pay back their loans, people with higher levels of income also tend to have more valuable assets that can be used as **collateral**. Collateral means that things such as the borrower's house, car, jewelry can all be seized by the lender and sold off to pay back the loan. This makes lenders more comfortable to lend money, and increased borrowing results in increased spending. As you can imagine, this results in a cycle that ultimately forces economic growth.

So the economy just continues to grow forever?

Not at all. There are other factors that play a defining role in economic success. For example, **productivity growth**, which essentially means getting more done. In economics, it's generally thought that hardworking people will get more done and earn more money as a result, while the lazy and complacent will not. We know there are other factors that play into this however, because the economic status you're born with often plays a defining role in success. Regardless, **productivity is what matters most in the long run for an economy**. However, **in the short run (which is all most consumers seem to care about), credit matters most**. This is because productivity growth doesn't change much, so it's not a huge driver of economic swings. After all, Americans aren't going to suddenly wake up one day and decide "I'm going to be 25% more productive today. Debt on the other hand, can be quite volatile and have immediate impacts. When we acquire debt, we **are forced to consume more than we produce**. On the other hand, when we have to pay back debt, **we are forced to consume less than we produce**.

What kind of cycles do debt and credit occur in?

Ok, I'm guessing you didn't actually ask that question. Regardless, it's crucial to understand future topics, so I'm going to tell you. Debt is actually relatively predictable. **Debt swings**

fluctuate in two types of cycles: One occurs in 5 to 8 years, and the other takes 75-100 years. Swings in economic growth aren't really due to innovation or hard work; rather, **they're based on credit**. So how does credit cycle then? Well when you borrow something, what you're actually doing is borrowing from your future self to push your current spending forward. This means that you'll have to spend less money in the future. So any time that you buy credit, you're creating a cycle of increased and then decreased spending. Again, this is a key difference between money and credit, because the transaction takes much longer to take its course when you are dealing with credit. In reality, **most of what people call money is actually credit**. The United States has about 50 trillion dollars of credit, but only 3 trillion of actual printed money.

So is credit good or bad?

Let's suppose there was an economy without any credit. The only way for the economy to increase growth would be to increase productivity. As discussed before, that's a lot more stable, but also a lot more difficult to increase. However, in an economy with credit, you can increase spending by increasing borrowing. Remember, **spending drives growth**. While credit does involved more spending in the short run, as mentioned before, after people take loans, they have to save money in the future because of the "credit cycle". In the long run, however, the more or less same levels of economic growth are attained, regardless of whether or not there was credit involved. So credit isn't necessarily bad, **unless it finances over consumption that can't be paid back**. At the same time, **credit can be good when it is paid back and drives growth**. When you use credit to buy a bed, it's not really generating money (for you) when you pay back your debt. It can actually generate money for others, but we'll get to that in a second. On the other hand if you're a farmer who buys a tractor, the tractor will allow you to grow more crops, assumedly sell more crops as a results, and improve your living standards as you increase how much money is circulated in the economy.

Borrowing and lending can create money?

Let's give a hypothetical with a bit of math (because who doesn't love math?). In economy with credit, let's follow an example with transactions and see how growth is made. Suppose you have 100k in assets and have no debt. The banks will offer 10% of your total assets in lending, meaning you can get 10k in debt through credit card spending. Basically, you can spend 110k even though you only have 100k. Since your spending is someone else's income, that's 110k for someone else. When that person gets 10% in a loan, they receive 11k in credit spending. The cycle continues, as the next person has 121k to spend, though he has only earned 110k. His spending is someone else's income, and the cycle goes on. **So credit creates money that doesn't actually "exist".** Remember when I said we have only 3 trillion dollars in physical cash, as opposed to 50 trillion in debt? So this is how debt exceeds actual, existing money.

Is there any way this entire process is regulated?

Of course. Remember when I mentioned the central bank earlier? In the United States, our central bank is called the "**Federal Reserve**". But before we get into how the Federal Reserve works, let's talk about what it has to regulate.

As discussed, borrowing creates cycles. If cycle goes up, it needs to come down. This leads us into the **short term debt cycle**. As economic activity increases, we see an expansion in the short term, meaning spending increases and prices rise. When spending and income grow faster than the production of goods, prices rise. When prices rise, we call this **inflation**. When inflation increases by over 50% per month, we call this **hyperinflation**, but that is a very rare occurrence.

However, the central bank doesn't want too much inflation, because this can cause problems, such as forcing businesses to spend less many on long term projects and focus on the present, minimizing innovation. As prices rise, so do interest rates. Higher levels of interest mean that less people can afford to borrow money, and the cost of existing debt rises. Because people will borrow less and have higher debt repayments, they have less money to spend. This bring us back to the idea that one person's money is another person's income. As incomes drop, economic growth will decrease. People spend less, so prices go down, a process called **deflation**. Economic activity will decrease, and this entire time period is known as a **recession**. If the problem gets too severe and inflation is no longer a problem, the central bank will lower interest rates to make everything pick up again. With lower interest rates, debt repayments are reduced, while borrowing and spending pick up. This results in expansion.

In the short term debt cycle, spending is constrained only by willingness of lenders and borrowers to receive credit. When credit is easily available, there is economic expansion, and when credit isn't easily available, its a recession. This cycle is controlled primarily by the central bank. The short term cycle lasts 5-8 years and repeats itself for decades. In the long run, economic growth will increase, but the dangerous part is, so does debt. Unfortunately, **people have an inclination to borrow and spend more instead of paying back their debt**, which is the main cause behind most financial crises.

Why would they do that? Don't they know the financial implications?

The problem is, they don't really know what's going on. This is what's known as a **long term debt cycle**; after a while, debt begins to rise faster than income does. Despite people becoming more in debt, lenders begin to lend even more freely. This is because everyone thinks things are going great. Typical characteristics of this phase are high income and a well performing stock market. Everyone is buying lots of things with borrowed money. When lots of people are doing this, it is called an **asset bubble**. As long as income rises, the **debt-to-income ratio (DTI)** is manageable. Asset values will soar, and people will obviously continue buying assets, for

which they need to borrow a lot of money. People (foolishly) feel wealthy, and even with huge debt, the rising values of income help borrowers remain credit worthy. However, this can't just continue forever. DTIs increase, and eventually debt repayments grow faster than income, forcing people to cut back on spending. Since one person's spending is another person's income, incomes decrease. **Less people become creditworthy, and ultimately borrowing will go down**. Because the debt repayments rise, spending drops significantly. Eventually, a DTI peak is attained before it faces a huge drop. For the United States, Europe, and much of the world, this happened in 2008.

Yikes. What comes after?

That depends on how the government handles the situation. This is when we face **deleveraging**, when people cut spending, incomes fall, credit disappears, asset prices drop, banks are squeezed, stocks drop, and social tensions rise. Borrowers lose lots of money and are no longer creditworthy. As credit dries up, borrowers can no longer make enough to meet their debt repayments. Scrambling to fill this hole, borrowers must sell assets. This only makes the problem worse. Everyone rushes to sell assets occurs at the same time, which results in decreased spending, a stock market collapse, real estate tanks, and banks get into trouble. So as assets lose value, the value of collateral that borrowers can put up drops. This makes borrowers even less creditworthy, so we experience less spending, less credit, less borrowing, and so on. Horrible as this may be, it's **different than a recession because interest rates can't be lowered to save the day**. In a recession, the Federal Reserve can lower interest rates which stimulates borrowing. However, during deleveraging, lowering interests doesn't work because interests rates are already low, and will eventually hit zero (which has happened, for example, in 2008). In deleveraging, the DTI of borrowers is simply too much to be fixed by simply decreasing interest rates. As lenders realize the debt is too great to pay back, borrowers lose the ability to pay back, particularly because the collateral has lost value. So lenders stop lending, while borrowers stop borrowing.

Fun. So how can this be fixed?

It can't - you're screwed. Kidding, of course. The main problem is that DTIs are too high and must be lowered. This can be done in four ways. These are the same four ways that have happened during every deleveraging in history.

1. People, government, and businesses cut their spending.
    a. Usually, spending is cut first. This is only natural. People trim their costs to pay off debt. This is referred to as "**austerity**". You would think this causes debt to decrease, but remember, "one man's spending is another man's income". So in fact, the opposite happens. We observe less spending, meaning lower income rates. Income will unfortunately decrease faster than debt, so the DTI actually increases. This cut in spending is **deflationary** and painful, because businesses must cut jobs which results in more unemployment.

2. Debts are reduced from defaults and restructuring.
    a. Many borrowers find selves unable to repay loans, which can be a problem, because as mentioned before, a borrower's debts are a lender's assets. When borrowers can't find a way to repay loans, everyone else rushes to withdraw their money from banks. Their rationale is that because people can't pay back the banks, the banks won't have any money to give THEM when THEY need it. This causes people, businesses, and banks to default on their debts, forcing severe economic contractions. Banks need money or else their "assets" (people's debt) become worthless if people can't pay them back. The solution: **debt restructuring**. Lenders agree to be paid back less, over a longer time, or at a lower interest rate than initially agreed. Lenders figure that it's better to get a little money, as opposed to none. So debt beings to disappear, but debt restructuring simply causes income and asset values to disappear faster, meaning the DTI only increases. Like cutting spending, this process is also painful and **deflationary**.

3. Wealth is redistributed from the rich to the poor.
    a. Everything mentioned so far affects the central government, which we haven't really touched upon yet. People end up with less money, meaning the government collects less taxes. However, while the government is taking in less money, they actually are in a situation in which they're supposed to increase their spending for people who are unemployed and/or need financial support. Additionally, the government is responsible for creating stimulus plans and increasing spending to make up for **deficit** in the economy. The deficit thus grows as government spends more than it earns through taxes. To fund the deficit, the government must either raise taxes or borrow money. With less money and fewer jobs, where will the money come from? The rich! **A large portion of the money in this country is concentrated within a small population of extremely wealthy people**, so this isn't really rebelled against because it pleases the majority. Ultimately, the redistribution of wealth isn't enough to compensate for the amount of deficit racked up by the government through these programs, and this policy is also **deflationary**.

4. The central bank prints money.
    a. As mentioned before, most of what people thought was money, was actually credit. So because people now become desperate for money, the Federal Reserve starts to print money, which, unlike the previous three strategies, is **inflationary**. The government proceeds to use it and buy financial assets and government bonds. This method is what helped the United States and Europe in 2008. However, only the Federal Reserve can print money, while only the central government (from a government sandpoint), can provide goods and services. In order to stimulate economy, the two must work together. The central bank prints money, gives it to the central government, which spends it to increase spending on goods and services through stimulus programs and unemployment

benefits. Overall, this **increases how much money people have to put into the economy, while decreasing the overall DTI**. However, this process will increase the overall nation's debt burden, which is the "cost of servicing the public debt". The hard part about this is finding the right amount of money to print.

Won't printing money just result in an inflation problem then?

Not if it ends up offsetting falling credit. By printing money, the central bank can make up for the lack of credit being spent. In order to turn things around, not only does income growth need to increase, but there must be higher rate of income growth than the increase in the rate of interest on debt. So you need to find the happy medium; you must print enough money for income growth to exceed debt growth. At the same time, **you must avoid printing too much money or you'll end up with extremely high inflation**, like Germany in the 1920's.

So when incomes rise, borrowers appear more creditworthy, and lenders begin to lend money again. Debt burdens fall. Eventually, the economy begins to grow again. It takes roughly a decade for economic activity to recover, which is called a **lost decade**.

So that's all there is to it?

Well, of course not. There's a lot of complex stuff that I left out. However, I hope this gave you a better understanding of how our economy actually works. If you have any questions, suggestions, or would like me to clarify something for you, feel free to send me an email or message!