ARC Course on Money Creation Session One (draft no. 1). July 11, 2023
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Possible working title for this lesson:

"MONEY CREATION: WHO CARES?" or "ONE MAN IN A MILLION"

[slide] Welcome to Session One of this nine-session course which I've titled: "A Black Hole In Economics: Money Creation And Its Consequences" for reasons that will soon be clear.

[slide]The title of today's introductory lesson is "Money Creation – Who Cares?" or, as we'll see soon, I could have called it "One Man In A Million."

[slide] This introductory lesson will answer three questions:

1. Why should you care about money creation?
2. Why is money creation so poorly understood?
3. What is the psychological barrier to understanding, and how can we overcome it?

After we answer these three questions, we'll preview the course so we all know where we are going. Then I'll introduce a few **key terms and concepts** that we will need as we dive into money creation. Finally, I'll provide a list of references – books and articles – that you can dive into if you have the time and interest.

WHY SHOULD YOU CARE ABOUT MONEY CREATION? BECAUSE SOUND MONEY IS ESSENTIAL TO HUMAN WELL-BEING, WE ARE LOSING IT, AND IT CAN BE RESTORED ONLY AFTER WE UNDERSTAND HOW SOUND MONEY IS PRODUCED.

To begin, let's scan the broad monetary landscape.

Daily commerce seems to hum along, but things don't seem right lately. The dollar buys less every year, affecting everyone. Nagging inflation erodes everyone's wealth, but no one saw it coming or seems to have a clear idea of what to do about it. Government spending is out of control, but there is no political will on either the left or the right to reign it in. Commercial banks are failing, both in the USA and abroad, resulting in bailouts by the central banks to prevent widespread financial panic. The U.S. dollar is losing its reputation as the currency of choice in international trade. Almost overnight, it seems, our money has become more fragile, less stable – in a word, less "sound."

Most of us have always taken "sound money" – money that is widely accepted and holds its value over time – for granted. "Sound money" is a phrase recognized for centuries around the world. It comes from a time when everyone knew what money was and where it came from because it was a physical entity from the earth. It describes the musical, metallic ring of a gold or silver coin dropped on a hard surface. If a coin was fake, one tell-tale sign was the sound it made when dropped on a table.

The term "sound money" has its roots in Ancient Rome. As the Roman Empire expanded, the emperors needed more money to maintain their power, so they gradually debased their pure silver coins with common metals, ultimately cutting the silver content to just 5 percent of its original.

History is full of similar currency debasements. Scholars have studied the disastrous economic and political results in detail. A similar kind of debasement is occurring today; however, it's somewhat different because our money is no longer physical but consists mainly of ledger entries in a bank account. Partly because of its abstract nature, there is little understanding of modern money or the impact of currency debasement.

Like all goods used in trade, money must be produced before use. Someone must create it. So, knowing how it comes into existence is a critical requirement for judging whether our money is sound, unsound, or somewhere in between.

Let's consider the role sound money plays in everyday human affairs. Whether you spend it for personal consumption or long-term investment, **sound money is essential for gauging prices and planning your life.**

Accurate economic calculation requires sound money. Whether you decide to spend money on a personal pleasure or a long-term investment, your decision depends on your ability to estimate the prices of future goods. How else can you know if you can afford a vacation or whether you should put the money aside for a rainy day?

Sound money is **essential to an economy with a highly advanced "division of labor**," i.e., an economy of highly specialized production. This specialization allows each of us to concentrate on the one or two things each of us do best, selling our product or time to others for money we then use to exchange for the fruits of others' labor. As Adam Smith taught us, specialized production is the key to success in any advanced economy. **Money itself is the result of increasingly specialized production.**

Sound money allows many people to coordinate their specialized efforts over distance and time, turning production into consumption. For example, if you buy a bicycle made in China, think of all the people you are cooperating with to get it manufactured and shipped to your home. Millions of people may collaborate in this process, each doing one specific task, but none of you need to know each other. Sound money, the profit motive, and solid contracts backed by good law are all you need to motivate these millions to provide that bike.

So, sound money is required for highly specialized production, and only highly specialized production can achieve the economic prosperity everyone wants and needs. It’s no exaggeration to say that sound money is in every person's self-interest and, therefore, in every country's national interest.

To appreciate the role of sound money in furthering human prosperity, let's compare it to another essential human invention: modern industrial energy. As most of you know, Alex Epstein, the author of *Our Fossil Future* and *The Moral Case for Fossil Fuels*, has brilliantly explained why reliable energy is crucial to human flourishing. To see why reliable money is equally vital, consider what sound money and reliable energy have in common.

Money and energy are both ubiquitous in a modern economy. Nearly every important economic transaction requires both sound money on the exchange side and reliable energy on the production side.

Money and industrial energy were both invented by humans, and humans can destroy both if we are not careful.

Money and energy are fundamental to economic progress and a rising standard of living because both are required for virtually all wealth-generating activities.

Most importantly, **money production and energy production have always worked best when left in the hands of private businesses.** Try as they might, bureaucrats no more create economic value through fiat energy production than they can through fiat money creation. Unreliable energy and fiat money are both government counterfeit operations. Today, money and energy are both under increasing threat from the government's interference in their creation.

Because most **people** don't know where their energy comes from and take its availability for granted, they **unwittingly support legislation and policies** that, if left unchecked, will ensure reliable energy's systematic destruction. As their energy poverty grows, as in the U.K. and Europe, they are left wondering what happened to their standard of living.

Similarly, **ignorance of money creation allows politicians and bureaucrats to embrace inflationary policies** that undermine our money, threatening our ability to grow and prosper economically.

Perhaps most Americans take sound money for granted because, despite periodic interruptions due mainly to wars, **the dollar has functioned well for many decades**. I am somewhat sympathetic to this complacency because **sound money should be something we don't have to think about.** After all, we cannot be experts in every important invention we depend on. You are probably not an expert on your electric power grid, your water system, or your car's electronic circuitry, so why should you have to become an expert on the operations of our monetary system?

It would be best if you didn't have to, but there's a problem **when a critical system no longer functions correctly:** Look at what's happened recently to the energy supply systems in California, Texas, the U.K., and Europe. When these systems fail, it is time to get interested in how they work. Under dire circumstances, learning how your electricity is produced and distributed could be a matter of physical survival.

In the same way, as our monetary system deteriorates, we must learn about it out of self-preservation. As we will see in Lesson Eight, understanding money creation may soon be essential to your financial survival.

MONEY CREATION IS AN CRUCIAL SUBJECT, BUT IT IS WIDELY MISUNDERSTOOD BY NEARLY EVERYONE: EDUCATED LAYMEN; POLITICIANS; THE DESIGNATED EXPERTS; AND EVEN ECONOMISTS

MISUNDERSTOOD BY THE EDUCATED LAYMAN

I first realized how badly misunderstood money creation is a few years ago during a conversation with my daughter and her husband. They had just bought their first home, and we were discussing their mortgage loan. At one point, I casually mentioned, "Isn't it interesting that the $300,000 you borrowed is brand new money created by the bank specifically for your mortgage? It's money that didn't exist until the banker made the loan."

My daughter, a successful lawyer, looked at me like I had lost my mind. My son-in-law, a managing executive at a large technology firm, immediately corrected me: "No, you must mean the bank loaned us somebody else's savings. That's what banks do. They lend out other peoples' money when they are not using it."

I gently explained that commercial banks do not lend out other people's money. On the contrary, banks create new money every time they make a loan. My daughter listened politely, perhaps out of respect for my long career in finance, including my many years as a banking analyst at a major investment firm. Perhaps she thought, "After all these years, maybe old Dad does know something." Still, she found my statement shocking.

My son-in-law was skeptical then and probably still is. And so is almost everyone else.

Both my daughter and her husband are intelligent, successful professionals. They probably attended a college course that covered money and banking, but they obviously knew nothing about it on the day of our conversation. I thought: **If these two bright people don't know, how many others are unaware of how money comes into existence?**

As I looked into this question further, I found that ignorance of money creation is rampant. Most professional pundits and journalists lack the basic knowledge that commercial banks create money by lending. Financial writers routinely describe banking operations by asserting that banks "lend out their customers' deposits" or that "banks lend out their cash reserves." They believe a bank must receive a deposit before lending it out when, in fact, banks create deposits in the act of lending.

Even most politicians, including those who appoint and supervise our bank regulators, are fundamentally illiterate in money and banking. Professor Andrew Hook of Sussex University documented this in a 2022 paper, "Examining Modern Money Creation":

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> "A study conducted by the University of Zurich in 2014 about the level of knowledge in the general population about the financial system…found that only 13 percent knew that private commercial banks provide the majority of the money in circulation; 73 percent mistakenly believed money is created by the state or by the Swiss National Bank. This ignorance extends to politicians, with a 2014 survey by the money reform group, Positive Money finding that only 15 percent of U.K. Members of Parliament (M.P.s) realized that private banks create the money supply."
> https://www.tandfonline.com/doi/full/10.1080/00220485.2022.2075510

What about professional economists? Even among those who understand that the banking system creates money, most do not know exactly how it happens. Their understanding is flawed because they accept the late Paul Samuelson's theory of money creation, commonly known as "fractional reserve banking." In his book *Economics*, perhaps the most famous and widely-used college-level economics textbook, Samuelson said money creation must begin with a cash deposit (false); that part of this deposit is then loaned out and "multiplies" as it is deposited and re-loaned by different banks (false); that no single bank can create new money (false), and that only a network of separate banks can create money through a series of deposits and loans (again, wrong).

On a close reading, Samuelson's original description of fractional reserve banking is incorrect, self-contradictory, and therefore confusing. Subsequent editions were modified slightly but never corrected, including the most recent version published in 1995.[1]

You'll have to wait until Session 9 for a full critique of Samuelson's theory. I'm not presenting it upfront because, rather than providing his false explanation and then having to refute it, I decided first to explain how money creation does work. Once we have the correct understanding, Samuelson's errors and contradictions are easier to grasp, and the repercussions of his false theory become clear.

The critical point is that ignorance of money creation is so pervasive that you can't trust many of the sources designated as financial media experts.

MISUNDERSTOOD BY THE DESIGNATED EXPERTS

Let's look at a typical example of this deficient knowledge. Here's a quote from a Bloomberg article describing the problem at Silicon Valley Bank when it failed in March 2023. The report, written by a well-known and highly respected Bloomberg columnist, is typical of dozens of such articles written during the March 2023 banking crisis.

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[1] See Werner, including footnotes: "A lost century in economics," https://www.sciencedirect.com/science/article/pii/S1057521915001477

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> From Bloomberg, March 13, 2023:
> "The way a bank works is that it borrows short to lend long…a bank might get its money from demand deposits, checking and savings accounts that customers can withdraw at any time…And then it invests the money."
>
> - Matt Levine
>   https://www.bloomberg.com/opinion/articles/2023-03-13/svb-couldn-t-ignore-its-losses-but-the-fed-can?sref=dJHrNkep

Matt Levine: https://www.bloomberg.com/opinion/articles/2023-03-13/svb-couldn-t-ignore-its-losses-but-the-fed-can?sref=dJHrNkep

To explain the nature of Silicon Valley Bank's problem, the author says banks invest (lend) money that they have "borrowed" from customer deposits. He believes the bank must first get customers to deposit some money so it can "borrow" these deposits to make loans or buy long-term assets like bonds. Most financial journalists accept this explanation of banking as "common knowledge" – information that "everyone knows that everyone knows."

But this "common knowledge" is simply untrue. **The Bloomberg writer accurately describes the activities of non-bank financial intermediaries, i**ncluding investment banks, mutual funds, certain ETFs, and money market funds; these institutions borrow in the short-term debt markets to lend longer-term. But that is not the essential activity of commercial banks like Wells Fargo or Bank of America, who create new money when they lend.

Banks do need to attract deposits, but not because they need money to lend. Banks need deposits because they need cash reserves to meet cash withdrawals, and cash reserves move with deposits from bank to bank. Therefore, a good way to maintain cash reserves is to attract deposits. But banks do not, and cannot, lend out their deposits or cash reserves. (We'll cover this issue in detail in Sessions Two and Three.

MISUNDERSTOOD BY ECONOMISTS

To appreciate the confusion surrounding money creation, we need some historical context. Over the last 150 years, three competing banking theories have attempted to explain money creation. These are the credit creation theory, the fractional reserve theory, and the financial intermediation theory.

COMPETING THEORIES OF BANKING

		COMPETING THEORIES OF ~~MONEY CREATION~~							
1840	**1860**	**1880**	**1900**	**1920**	**1940**	**1960**	**1980**	**2000**	**2020**
		Credit Creation Theory							
H.D. Macleod			Alfred Marshall					R. A. Werner	
			Knut Wicksell	J.A. Schumpeter				Bank of England	
			Hartley Withers.	A.C Hahn					
			Von Mises				M. Rothbard		
		Fractional Reserve Theory							
		Alfred Marshall		C.A. Phillips	Paul Samuelson*			Joseph Stiglitz*	
				W.F. Crick					
				J.M. Keynes			M. Friedman*		
				F. von Hayek*					
		Financial Intermediation Theory							
						James Tobin*	Diamond and Dybvig*		
							Bernanke and Blinder		
					"Many others		Ben Bernanke*		
					too numerous to mention"			Paul Krugman*	
		Asterisk (*) indicates Nobel laureate							
	Source:	R.A. Werner, *Can banks individually create money out of nothing? — The theories and the empirical evidence*							
		https://www.sciencedirect.com/science/article/pii/S1057521914001070#bb0510							

This timeline depicts some of the prominent economists who endorsed each of these theories. The chart is constructed by me, derived from research by Professor Richard Werner (DPhil, Linacre College, University of Oxford), whom we will meet several times again in this course.

Werner's paper surveys the history of these three theories. The credit creation theory, which holds that banks individually create money by lending or purchasing assets, was widely understood and accepted until the early 1930s.

(A personal observation. The credit creation theory seemed to fade with the rise of central banking, marked by the creation of the US Federal Reserve in 1913 and the subsequent demise of the gold standard, which formally ended in the USA in 1933. If these phenomena are connected, it is not clear why, but it’s worth further study.)

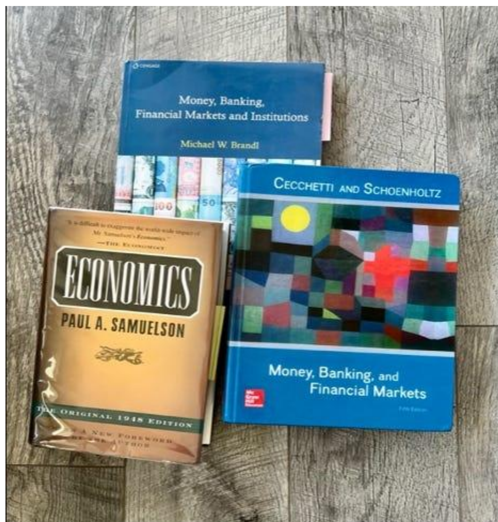
The "fractional reserve theory," best represented by Paul Samuelson's textbook explanation, gained prominence until the 1960s. Samuelson's version of the fractional reserve theory agreed with the credit creation theory that money is created in the banking system. However, it also claimed no single bank could create money and that only a systemic interaction of many banks could do so through a "reserve multiplier" process.

After the 1960s, the fractional reserve theory receded and was gradually replaced with the financial intermediation theory, which dominates today. This theory does not admit that commercial banks can create money at all but instead sees banks as pass-through intermediaries that borrow from depositors to lend out savings. The previously cited Bloomberg

article is an obvious example of this view of banking. If it allows for money creation at all, the financial intermediation theory holds that only central banks create new money.

Only in the last ten years or so has the credit creation theory regained some momentum, but this is mainly among professional investors. Most economists and academics either reject it or ignore it. However, as we will prove in this course, the credit creation theory provides the only correct explanation.

As the timeline shows, some of the world's most famous economists, including many so-called Nobel laureates, get money creation wrong. This knowledge problem continues today and goes straight to the top of the intellectual food chain. As Professor Werner points out, very few economists today see bank credit creation as the source of new money. For example, nearly all undergraduate economics textbooks continue to spread erroneous explanations, year after year, decade after decade.



To see for myself if Werner's claim was correct, I purchased and reviewed a sample of contemporary college textbooks. I could not find a single college textbook that endorses the credit creation theory. (If you know of one, please let me know.) Ultimately, I chose three books based on the recommendation of a personal friend, my former college roommate, and a professor of economics at a reputable college in Colorado. He recommended three books as representative of what undergraduate economics teaches today. They are pictured here.

The first is an old standby: *Economics* by Paul Samuelson. (The original 1948 edition is pictured; the most recent 1995 edition is still in use.) As I noted, Samuelson promotes the fractional reserve theory of banking and money creation. In the 1948 edition, he mentions explicitly the credit creation theory but dismisses it as a "false explanation."

Money, Banking, Financial Markets and Institutions (2017) by Michael Brandl asserts the fractional reserve or "reserve multiplier" theory put forth by Samuelson but does not mention the credit creation theory.

Money, Banking, and Financial Markets (2017) by Stephen Cecchetti and Kermit Schoenholtz does not acknowledge any role of banks in money creation. Instead, Checchetti describes banks as pure intermediaries between savers (depositors) and those needing funds (borrowers). Checchetti states flatly that only central banks can create money. This view obviously contradicts the Samuelson and Brandl textbooks.

Interestingly, even my college professor friend does not seem to realize that these books contradict each other. Apparently, money creation is not a topic of much interest in college courses today. This is consistent with a widespread belief in the financial intermediation theory. Even though the financial intermediation theory and Samuelson's fractional reserve theory contradict each other, I am unaware of any active debate among economists attempting to reconcile their differences.

The ignorance and contradictions surrounding money creation have significant consequences. By failing to understand the role of banks in money creation, these academic economists and the journalists who attend their courses cannot identify the true source of inflation or its destructive effects on the economy. As we'll see in Session Five, excessive money creation is at the heart of inflation.

As noted above, the role of banks in money creation was well-known until the 1930s. Since then, for nearly a century, ignorance and confusion have reigned. Today's competing views are the fractional reserve banking theory and the more dominant financial intermediation theory, both of which fail to accurately explain money creation. The credit creation theory is rarely mentioned.

[SLIDE] In a 2016 paper, Werner lamented this sad state:

> "How is it possible that for the largest part of the past century, erroneous and misleading theories have dominated the economics discipline? This is a topic for future research…"
>
> - Richard Werner, *A lost century in economics: Three theories of banking and the conclusive evidence*

This widespread confusion and ignorance point to what I call a "black hole" in the universe of economic knowledge. Practically no one understands money creation. The result is a plethora of errors and misunderstandings that fail to see banks as filling the essential role of money creation.

But unlike the black holes of outer space, which are poorly understood because science is not sufficiently advanced, money creation is misunderstood because the knowledge, once well

known, has been temporarily forgotten. As the great financial journalist Jim Grant once remarked, "Progress is cumulative in science and engineering, but cyclical in finance." That appears to be true in this case, but why the knowledge was lost remains a puzzle.

Unfortunately, in this course, we won't fully get to the bottom of that question. For us, the critical task is to re-learn the facts of money creation. After all, forgotten knowledge is the same as no knowledge until the memory is restored. The good news is that the lost knowledge has not only been recovered but is now proven true by observed firsthand facts consistent only with the credit creation theory. We'll review this important proof, provided by Richard Werner, in Session Two.

As we proceed, I believe it will become apparent to you, as it is to me, that in the field of money and banking, we cannot rely on most of our so-called "designated experts" – the usual professors, teachers, and journalists – to provide correct information on money and banking. When the "experts" become unreliable, the only remedy I know is for the average person to understand money creation better. It's time to de-mystify the black hole of money creation, starting with each of us individually.

Luckily, the valid account of money creation is much simpler to grasp than the erroneous accounts that dominate today's financial literature. Learning the ABCs of money creation is easier than understanding simple arithmetic or memorizing a poem. Any intelligent person can master the task.

WHAT IS THE PSYCHOLOGICAL BARRIER TO UNDERSTANDING MONEY CREATION?

There is an additional obstacle to understanding money creation that I must now address. I refer to the utter disbelief exhibited by most people when they hear that banks create money with only a few signatures and computer keystrokes. This obstacle is psychological, not intellectual. The late economist John Kenneth Galbraith put his finger on it:

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> "The process by which banks create money is so simple that the mind is repelled. When something so important is involved, a deeper mystery seems only decent."
>
> - J.K Galbraith, *Money, Whence It Came, Where It Went*

Although Galbraith was a Keynesian and an interventionist – not too inspiring from my free-market point of view – he thoroughly understood money creation, making his insight valuable. As his quote implies, there is an uncomfortable disparity between the importance of modern money creation and its disarming simplicity.

The revelation that money is "loaned into existence" strikes most people as an absurd joke, like saying storks deliver babies or Santa Claus brings toys down the chimney. Samuelson himself expressed this sentiment:

> "As every banker well knows, he cannot invest money that he does not have…."
>
> - Samuelson*, Economics*, p. 324

But as we'll see in Lessons Two and Three, commercial banks have *always* loaned money they do not have. This unique ability is what distinguishes banks from other financial institutions. It is the ability to create money that makes a bank a bank. The elusive banking license granted by sovereign governments is their legal authority to do so.

(In the Cobden Centre video mentioned below, there is a segment on the "Bank of Dave," which shows how difficult (or near impossible) it is to get a banking license today in the UK. It is still possible in the USA, although the number of banks in the USA is shrinking rapidly under the increasing regulatory burden.)

It's not hard to see why some people would be skeptical or outraged by the notion of "ex nihilo" money creation. To most hard-working people, the money they have saved is the frozen value of their toil, a tangible record of their financial success. The notion of "money from nothing" seems to defy common sense. Telling them that money somehow materializes when a bank makes a loan appears to trivialize their life savings and all the work required to save it. So, it isn't surprising that people would resist the notion that the bank so easily creates money. As Galbraith says, "The mind is repelled."

This very **understandable reaction explains the skepticism of my daughter and her husband** when I informed them that the bank had conjured up their mortgage money out of thin air.

We don't understand money, yet we exchange bank deposits among ourselves daily as money without asking where these deposits came from. Ironically, if we did understand money's origin, we might not be so confident in it.

> "Part of the widespread acceptance of bank deposits as payment may be due to the fact that the general public is simply not aware that banks do indeed create the money supply."
>
> - Ryan-Collins et al., *Where Does Money Come From*? 2014

So, as we proceed in this course, be forewarned of this psychological issue – the problem of disbelief. For some people, learning where modern money comes from is like the child discovering he was adopted and raised by surrogate parents after believing they were his birth parents for years. Some facts are hard to accept even after learning they are true, especially when conditioned by a strong prior belief or "common sense."

In this course, you must be willing to put aside prior bias and prejudice, such as the belief that banks lend out other peoples' money. Do not allow your mind to be "repelled," as Galbraith says, by a correct explanation merely because it sounds simplistic or strange. Armed with facts, some simple principles, and a few lessons from history, anyone can understand money creation. No formal background in economics or finance is required. All you need is genuine curiosity and an open mind.

ONE MORE REASON TO STUDY MONEY CREATION

Although I've already spent a lot of energy motivating you to study money creation, I'd like to offer one final source of inspiration, which may sound slightly grandiose but which I believe is true. Engaging with the material presented in this course will make you an uncommon person.

Consider this often-quoted passage from the 20th century's most influential economist, John Maynard Keynes.

> "Lenin is said to have declared that the best way to destroy the capitalist system was to debauch the currency. By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens. There is no subtler, no surer means of overturning the existing basis of Society than to debauch the currency. *The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose*." [italics added]
>
> - John Maynard Keynes, 1924, *The Economic Consequences of the Peace*

(The original quotation is lengthy but well worth reading in full. I'll include it in the notes I send out after this lesson.) **Keynes claims that "not one man in a million" can understand inflation, but this course will prove him wrong**. Inflation is easy to grasp if one first understands the basic mechanics of money creation, including how it is created, who is responsible for creating it, and why. Tracing a dollar's "life" as it is borne, spent, and re-spent makes it possible to see the "hidden forces of economic law" that make inflation so destructive.

This means that each of you can be an uncommon person, the so-called "one in a million" able to diagnose the effects of inflation. With this knowledge, you can be the one to anticipate and counter its effects, thus preserving your wealth. We'll delve into this theme deeply in Lessons Five through Eight.

And what if millions of us, not just one in a million, could understand money creation and inflation well? Wouldn't we be better positioned to demand constructive change from our monetary overlords in the central banks of Washington, London, Frankfurt, and Tokyo?

Thanks for listening to that lengthy introduction. In summary, I will say, let the sound money restoration project begin – with each of us, individually.

We still have some work to do today, but before we continue, let's pause for questions or comments.

[BREAK FOR QUESTIONS, COMMENTS]

We have a few more important tasks for the rest of today's Session One. First, we'll list the course objectives and describe in some detail how the course is structured, lesson by lesson, so we know where we are headed.

Next, we will review a short list of basic terminology you'll want to be familiar with. Most of you have heard these terms before, but it's OK if you still need to, as we will make them clear now and as we proceed. The main thing is to be sure we are all using the same definitions so we always know what we are talking about.

Then, finally, I'll introduce you to a reading list of helpful books and articles. There's a lot of material, but it's all optional, as this course is self-contained. However, consider reading them, time permitting, as they will benefit you just as they have benefited me.

COURSE DESCRIPTION

In this course, we will learn that sound money, in the context of our modern economy, comes from sound investment decisions made by private commercial banks, resulting in positive, non-inflationary economic growth.

We will also see that politicians and regulators often corrupt this process, with many destructive consequences. These negative consequences include an unwelcome increase in consumer prices, asset price bubbles, a pattern of disruptive booms and busts, the near impossibility of conventional saving, a waste of real wealth, unjust economic inequality, and stunted economic growth, not to mention the widespread moral degradation that always accompanies the loss of confidence in a currency. We'll see how excessive money creation encourages and enables unrestrained government spending.

Along the way, we will learn to identify some common errors of today's economic writers and financial pundits.

Finally, as a "cash value" for sticking with the course, you will (hopefully) gain new insight into how to protect yourself from bad money creation and the financial repression that follows.

I aim to make this the most fundamentally useful course in finance you have ever taken.

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The five specific course objectives are:

1. Understand a commercial bank's unique ability to create money.
2. Distinguish between good (productive or non-inflationary) money creation and bad (destructive or inflationary) money creation.
3. Understand how national monetary authorities encourage unrestrained government spending through money creation.
4. Learn to identify the common errors in financial reporting concerning money and banking.
5. Learn how to prepare yourself for financial repression.

Let's now preview the course in detail, session by session. Nine sessions are planned, today's being Session One: Introduction and Course Overview.

Sessions 2 and 3 will establish the framework for modern money creation. <u>Session 2, "Money Creation, Then and Now,"</u> will show the **surprising similarities and the crucial differences between money creation under the old gold standard and our current "fiat-reserve" standard.** Session Two is critical to laying down the fundamentals of how banks have always organized credit into what we call money. In <u>Session 3, "Money from Nothing?</u>" we'll apply the principles learned in Session Two to understand money creation in the modern economy fully. (By "modern economy," I mean the contemporary welfare state, which, in my view, formally began in 1933 when the United States abandoned the domestic gold standard.)

Sessions 4 and 5 deal with the legitimacy of modern money creation. Under what conditions does money creation contribute to a robust, progressing economy? <u>Session 4, "Good Money Creation, or the Capitalist Money Factory</u>," makes the case that even under our modern fiat reserve money system, money creation can be a positive economic force promoting non-inflationary growth. <u>Session 5, "Bad Money Creation</u>," explains how politicians and bureaucrats can hijack the banking system to undermine economic progress. Session 5 also conveys the key insight that unproductive money creation, caused by government influence that comes in various forms, is the cause of price inflation, asset bubbles, wasted capital, and unjust economic inequality, among other economic maladies.

Sessions Six and Seven address the important consequences of our current monetary disorder. <u>Session Six, "Uncle Sam's Unpayable Debt,</u>" outlines how excessive money creation, initiated by the U.S. Federal Reserve through control of its member banks, has enabled the U.S. government to pile up a mountain of unpayable debt that threatens to destroy the soundness of the dollar. <u>Session Seven, "The Disease and the Cure</u>," introduces the concept of "financial repression" by developing a **counter-intuitive insight: The same politicians who have exploited our money creation system to burden us with unpayable debt will, very likely, create even more money to pay down that debt.**

<u>Session Eight, "Surviving Financial Repression</u>," is the payoff lesson in which we will discuss practical strategies to endure and perhaps even prosper in the financial repression that is already underway. This session will provide basic guidance for saving and investing in an era of

high inflation, low real interest rates, and slow economic growth, a condition often called "stagflation." Although I won't offer detailed or personal investment advice, I hope that by understanding what government is likely to do with money creation, you can create your own saving and investment strategy to avoid the worst consequences of financial repression and even prosper, despite the challenging times ahead.

Finally, **Session Nine, "A Nobel Laureate's Blunder," will dissect Paul Samuelson's version of "fractional reserve" banking,** which has been endorsed by most economists who accept that the banking system does create money. The objectives of this final session are, first, to understand the errors of Samuelson and, second, to know that there are two different descriptions of "fractional reserve banking" lurking out there in the literature, Samuelson's version being the most prominent. The term "fractional reserve banking," which Samuelson applied to his version of money creation, became the standard explanation of money creation. I think the term could have been applied to the money-creation process described in this course. But since not most economists think of fractional reserve banking in Samuelson's terms, I feel we must give up that term to them. Instead, I aim to avoid confusion by following the lead of Richard Werner, who calls the money creation process described in this course "pure credit creation" for good reasons, as we shall see.

During this last session, Session Nine, we'll also answer any lingering questions and perhaps share ideas for future study.

Finally, we need to mention what this course will not cover. This is a course on money and banking, not a course in general economics. So we should ask, where does the subject of money creation fit into the overall science of economics?

[slide – definition of economics]
I define economics, according to guidance from George Reisman in his book *Capitalism*, as "the science that studies the production of wealth under a system of the division of labor."

The "division of labor" is fundamental to the study of economics. (Perhaps a better term would have been the "**division of production**" – h/t to Harry Binswanger for suggesting this term.) In my view, there was no need for an integrated science of economics until the specialization of production had developed to the point of using money as a medium of exchange. The evolution of money is itself the result of increasingly specialized production. The increasing use of money in trade then enables further specialization. As previously mentioned, sound money is essential to an efficient division of production, which lies at the heart of all economic progress. So, while understanding sound money is essential to understanding economics as a whole, the subject of money is much narrower than the study of economics as a whole, and money production is even more narrow.

Even so, **we can only study some aspects of the creation of sound money in the time available for this course, so there are some fascinating aspects of money we have to leave out**. For example, we will not cover the theory of the origin of money, the detailed history of money and

banking, the development of banking law, a deep analysis of the legal and accounting principles of banking, or foreign exchange issues. Although this course has implications for Austrian Business Cycle Theory, which some of you may be interested in, we will not discuss ABCT explicitly. Finally, we will not formally cover Bitcoin or the so-called cryptocurrencies, although these may come up in questions or discussions.

TERMINOLOGY

Next, let's engage with some **essential term**s so we all know what we are discussing.

Money: What is the definition of money? In popular economics, the pundits say money has four basic characteristics. You might have heard this little verse:

[slide – money]

"Money's a matter of functions four: a medium, a measure, a standard, a store."

It's a cute rhyme, but Von Mises pointed out that "measure of value," "standard of value," and "store of value" are all subordinate to money's more fundamental role as a "medium of exchange." For example, money cannot be a "store of value" unless there is a continuous production of valuable goods that can be exchanged for money. (Robinson Crusoe on a desert island does not need money to store value. He needs to store coconuts and dried fish, not money.) Therefore, money's function as a "store of value" depends on a more fundamental role – the ability to exchange it for goods.

So, if we define money by zeroing in on its most fundamental characteristic, which differentiates it from all other concepts, we must identify money as a commonly accepted medium of exchange. This was Mises's view, and it is also mine.

(As a historical note, Von Mises defined money in *The Theory of Money and Credit* [date] as a "universally employed" medium of exchange. This definition differs slightly from his later version in his 1949 treatise, *Human Action*, where he defined money as a "commonly used" medium of exchange. This last is the definition used in this course. I consider them virtually identical.)

[slide – definitions]
Mises further identified two classes of money: **Standard money** represents full and final payment. It is money that is not a claim to anything further. In modern financial jargon, we say standard money has no counterparties other than the payor and the payee. Under a gold standard, standard money is gold bullion and gold coins. Under our present fiat reserve system, standard money consists of coins, paper cash, and its digital equivalent, deposits held at the central bank. All forms of today's standard money are liabilities of the central bank, which it creates at its sole discretion.

A second and very important class of money is **fiduciary media**, which are transferable promises to pay out standard money on demand and accepted in commerce as equivalent to standard money, but for which standard money does not exist. The two leading examples of fiduciary media are banknotes, which are no longer in use, and bank deposits. The large majority of today's money supply is fiduciary media in the form of bank deposits. Most of the money used in today's economy is in the form of fiduciary media held in bank deposits, the creation of which is the main focus of this course.

Both standard money and fiduciary media fall under Mises's definition of money: a medium of exchange commonly accepted in economic transactions. Both are money. I say this to anticipate the objection of some gold advocates that only standard money in the form of gold can properly be called "money." This causes semantic confusion, so we will adopt Von Mises's definition of money.

Cash: In this course, "cash" will be considered synonymous with "standard money," or full and final payment. On a bank balance sheet, **cash, cash reserves, reserves,** and **vault cash** are all names for standard money. Dollar bills in your pocket or under your mattress are also cash or standard money. Economists often identify paper cash as **currency** or "currency in circulation."

This use of "cash" is somewhat different from other uses of "cash" in everyday language. For example, you might say you "paid cash" for your car if you wrote a check for full payment rather than borrowing the money. In that case, you used a bank deposit, not cash as we use it here.

In this course, "cash" refers to cash reserves in the bank or currency in circulation, representing full and final payment or standard money.

Credit: an agreement between lender and borrower in which the borrower receives property of value immediately and agrees to repay it later. "Credit" is synonymous with the generic meaning of "loan."

Inflation: An increase in the quantity of money caused by government action or influence. As will be made clear, it is misleading to define inflation as an increase in prices, even though that is standard practice among today's economists.

Next, two terms commonly used in banking are misleading because their meaning in banking is not the same as in the common language.

Bank deposit. A bank's promise to pay out standard money (cash) on demand, evidenced by a ledger entry in a customer's account. All "bank deposits" originate from loans or asset purchases by the bank and then circulate in the economy. This means that a deposit was not necessarily "deposited" by anyone, as the term implies.

Bank Loan. A “bank loan" is not the granting of temporary use of pre-existing property, as in the generic meaning of "loan." Instead, a “bank loan” is the bank’s purchase of a promissory note, paid for with a bank deposit created by the bank.

REFERENCES AND READING:
[slides]
Most of the ideas in this course are not original to me. I learned nearly everything from the giants of economics and monetary theory. These include the classical and Austrian economists, especially Carl Menger, Ludwig Von Mises, and his student George Reisman, who is still living. From the contemporary era, the writings of Richard Werner, more than any others, have helped me clarify money creation in the modern economy. There are other important writers, some of which are listed here, and some others that will be named as we proceed.

Books:
[slides]

Ryan-Collins, Josh et al., *Where Does Money Come From? A Guide To The U.K. Monetary and Banking System*, includes articles by Richard Werner and an introduction by the great Charles A.E. Goodhart, Professor Emeritus of the London School of Economics. This is the only book on money creation I recommend as a textbook. It is written from the perspective of the United Kingdom's money and banking system, which in all essential respects parallels the U.S. system.

Menand, Lev, *The Fed Unbound*. Menand is a law professor at Columbia University. He understands basic money creation at the bank level and offers a fascinating history of the legal evolution of banking in the 19th century. His insight into the increasing activism of the Fed is *enlightening. I credit Menand's book and his generous personal correspondence for helping me underst*and the legal basis of money creation.

Yang, Joseph, *Central Banking 101*, Yang is a former Fed bond trader who has seen the financial plumbing from the inside. This book's great virtue is its accuracy in explaining money creation. His style is terse, so you must pay close attention as you read. If you have technical questions about the relationship between commercial banks and central banks and the functions of our two-tier monetary system, Yang's book is your "go-to."

Werner, Richard A., *Princes of the Yen*. *Princes* chronicles Japan's great asset inflation of 1970 – 1989, one of the great investment bubbles of history. Werner demonstrates that Japan’s policy of "directed bank credit" (money creation directed by regulation to the real estate sector) caused the real estate price bubble that eventually spilled over into the stock market before its historic crash in 1989. *Princes* was a best-seller in Japan, selling over 100,000 copies. I consider Werner to be the world's foremost living authority on money creation. He was formerly an adviser to the Ministry of Finance and the Bank of Japan, where he coined the now-famous term "quantitative easing." A versatile scholar, he writes and lectures in English, German, and Japanese. Since the early 2000s, his ground-breaking research has sparked a new awareness of money creation and its consequences among financial professionals and some academics.

Werner's work is highly respected among professional investors but has not seriously influenced politicians or central bankers.

Leonard, Christopher, *The Lords of Easy Money*. A financial journalist, Leonard analyzes the Fed's increasing influence on money creation following the Great Financial Crisis of 2008-9. Leonard's narrative is seen mostly through the eyes of the lone dissenter to the Fed's policy of Quantitative Easing, Kansas City Fed Chairman Thomas Hoenig. Leonard gets the plumbing right. Readable, journalistic style, and very informative.

Samuelson, Paul, *Economics*. I recommend this traditional textbook to point out its errors in describing "fractional reserve banking." These errors are significant because, 75 years after its first printing, they are still taught in college-level courses as the standard description of money creation.

Galbraith, J.K., *Money, Whence It Came, Where It Went*, Galbraith demonstrates a solid grasp of the mechanics of money creation.

Coppola, Frances, *The Case For People's Quantitative Easing*. Although I do not endorse Coppola's money-printing proposals, I recommend reading her book because she clearly explains how central banks use commercial banks to create money. Read it to learn how central banks can abuse money creation.

Articles

McLeay, Michael, et al., *Money Creation In The Modern Economy*, The Bank Of England Monetary Analysis Directorate, Quarterly Bulletin 2014 Q1. **This article is the place to start!** Credit the Bank of England authors with a clear, accurate description of money creation. The article clarifies several misconceptions about bank reserves and the so-called "money multiplier." A must-read.
https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2014/money-creation-in-the-modern-economy

Werner, Richard A., *Can Banks individually create money out of nothing? The theories and the empirical evidence.* International Review of Financial Analysis, Volume 36, December 2014, Pages 1-19. A ground-breaking empirical test is conducted, whereby money is borrowed from a cooperating bank. At the same time, its internal records are being monitored to establish whether, in the process of making the loan available to the borrower, the bank transfers these funds from other accounts within or outside the bank, or whether they are newly created. This study establishes for the first time, inductively, that banks individually create money "out of nothing."
https://www.sciencedirect.com/science/article/pii/S1057521914001070

Werner, Richard A., *A lost century in economics: three theories of banking and the conclusive evidence*, Richard A. Werner, International Review of Financial Analysis, Vol. 46, July 2016, pages

361-379. This paper amplifies other work cited above, providing additional empirical evidence of money creation in an individual bank.
https://www.sciencedirect.com/science/article/pii/S1057521915001477

Werner, Richard A., *How do banks create money, and why can other firms not do the same? An explanation for the coexistence of lending and deposit-taking*, Richard A. Werner, International Review of Financial Analysis, vol. 36, December 2014, pages 71-77.
https://www.sciencedirect.com/science/article/pii/S1057521914001434#:~:text=It%20was%20found%20that%20the,issue%20money%20in%20this%20way.

Werner's website is also well worth perusing. https://professorwerner.org/
But don't expect to encounter a laissez-faire capitalist. Werner has mixed views on how free banking should be.

Jordan, Thomas J., *How money is created by the central bank and the banking system*, speech by Thomas J. Jordan, Chairman of the Governing Board, Swiss National Bank Zurich, January 16, 2018. Jordan accurately describes the money-creation power of banks. The speech includes a good discussion of the issues surrounding "sovereign money" (aka "standard money"), including digital currencies.
https://www.snb.ch/en/mmr/speeches/id/ref_20180116_tjn/source/ref_20180116_tjn.en.pdf.

Hook, Andrew, *Examining Modern Money Creation*, The Journal of Economic Education, Volume 53, 2022, Issue 3, pages 210-231. Professor Hook provides insight into the structure of the monetary system and provides data proving the widespread ignorance of money creation.
https://www.tandfonline.com/doi/full/10.1080/00220485.2022.2075510

Sommer, Joseph A. *Where is a bank account?* Maryland Law Review, Volume 57, Issue 1, Article 4, 1998. A thorough discussion of the legal status of a bank deposit. Under the law, your bank deposit is evidence of a "right of action" – your legal right to sue the bank for the delivery of standard money.
https://digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=3008&context=mlr&ref=crisesnotes.com

Sheard, Paul, *Repeat After Me: Banks Cannot And Do Not "Lend Out" Their Reserves*, Standard and Poors Rating Direct. Sheard was Chief Global Economist and Head of Global Economics and Research at Standard and Poors. The erroneous idea that banks lend out cash reserves is one of the most common errors made by financial professionals.
https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/programs/senior.fellows/2019-20%20fellows/BanksCannotLendOutReservesAug2013_%20(002).pdf

Wang, Joseph, *Primer: A Deposit's Life*, Joseph Wang, April 10, 2023. Wang follows the money better than almost anyone else.
https://fedguy.com/primer-a-deposits-life/

Videos

“Princes of the Yen,” video documentary, https://www.youtube.com/watch?v=17IKA-YsqXQ

“Ex Nihilo: The Truth About Money Creation,” a brand-new documentary from the Cobden Centre for honest money and social progress, directed by good friend Clive Davis. https://www.cobdencentre.org/?s=ex+nihilo

END OF SESSION ONE NOTES