

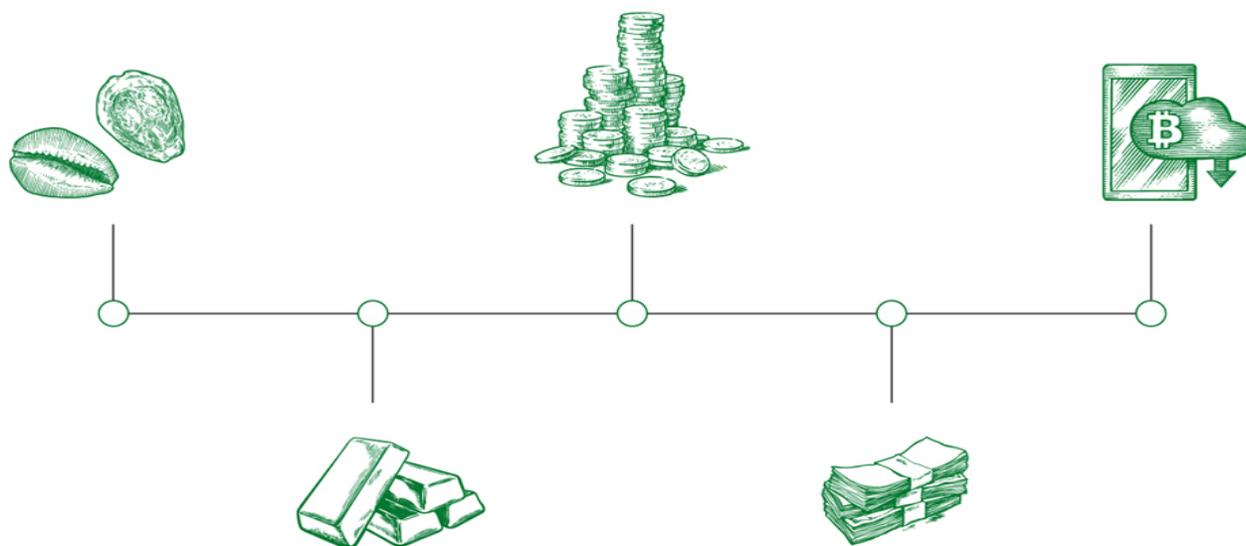
“Jacob Goldstein is a lucid, entertaining explainer of all things economic.”  
—IRA GLASS, host and executive producer of *This American Life*

# MONEY

THE TRUE STORY  
OF A MADE-UP THING

JACOB GOLDSTEIN

COHOST OF NPR'S *PLANET MONEY*



# Money

The True Story of a Made-Up Thing

Jacob Goldstein

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*To Alexandra, Julia, and Olivia*

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## Author's Note

### **Money Is Fiction**

In the fall of 2008, I went out to dinner with my aunt Janet. She started life as a poet (the '60s) and wound up with an MBA (the '80s), so she's a good person to talk with about money. In the weeks before our dinner, trillions of dollars in wealth had suddenly vanished. I asked her where all that money went.

"Money is fiction," she said. "It was never there in the first place." That was the moment I realized money is weirder and more interesting than I thought.

I was working as a reporter at the *Wall Street Journal* at the time, but I covered health care and didn't know much about finance or economics. As the financial world fell apart, I started looking for anything that would explain what was going on. I discovered a podcast called *Planet Money*. The hosts didn't use dry, news-story language or voice-of-God anchorman tones. They talked like smart, funny people who were figuring out what was going on in the world and telling stories to explain it. I loved the show so much I went to work there.

By the time I got to *Planet Money*, the acute phase of the financial collapse was over, and we started looking at less urgent but more fundamental subjects. In 2011, we went on the radio show *This American Life* to ask the question I'd been wrestling with since that dinner with my aunt: "What is money?"

The host, Ira Glass, called it "the most stoner question" he had ever posed on his show.

Maybe! But if so, it's the good kind of stoner question, the kind that still seems interesting in the sober light of morning. I returned to the idea of money again and again, chipping away little pieces, one episode at a time. Each little piece was interesting, but the more I learned, the more I felt like

there was a deeper, richer story to tell. So I started working on this book.

Over time, I came to understand what my aunt meant when she said money is fiction. Money feels cold and mathematical and outside the realm of fuzzy human relationships. It isn't. Money is a made-up thing, a shared fiction. Money is fundamentally, unalterably social. The social part of money—the “shared” in “shared fiction”—is exactly what makes it money. Otherwise, it's just a chunk of metal, or a piece of paper, or, in the case of most money today, just a number stored on a bank's computers.

Like fiction, money has changed profoundly over time, and not in a steady or gentle way. When you look back, you see long periods of relative stability, and then suddenly, in some corner of the world, money goes bananas. Some wild genius has a new idea, or the world changes in some fundamental way that demands a new kind of money, or a financial collapse causes the monetary version of an existential crisis. The outcome is a profound change in the basic idea of money—what it is, who gets to create it, what it's supposed to do.

What counts as money (and what doesn't) is the result of choices we make, and those choices have a profound effect on who gets more stuff and who gets less, who gets to take risks when times are good, and who gets screwed when things go bad. Our choices about money gave us the world we live in now: the world where, when a pandemic hit in the spring of 2020, central banks could create trillions of dollars and euros and yen out of thin air in an effort to fight an economic collapse. In the future we'll make different choices, and money will change again.

These origin stories of money are the best way I know to understand what money is, and the power it has, and what we fight about when we fight about money. This book is the story of the moments—full of surprise and delight and brilliance and insanity—that gave us money as we know it today.

!

## INVENTING MONEY

*The origin of money isn't what we thought it was; the story is more messy and bloody and interesting. Marriage and murder are part of it. So is the invention of writing. Money and markets grow up together, and they make people more free but also, sometimes, more vulnerable.*

# CHAPTER 1

## The Origin of Money

Around 1860, a French singer named Mademoiselle Zélie went on a world tour with her brother and two other singers. At a stop at a small island in the South Pacific, where most people didn't use money, the singers agreed to sell tickets in exchange for whatever goods the islanders could provide.

The show was a hit. A local chief attended. They sold 816 tickets. Zélie sang five songs from popular operas of the day. In a letter to her aunt, Zélie catalogued her pay for the show: “3 pigs, 23 turkeys, 44 hens, 5000 coconuts, 1200 pineapples, 120 bushels of bananas, 120 pumpkins, 1500 oranges.” But the windfall, Zélie wrote, left her with a problem.

“What to do with these proceeds?”

If she were at the market in Paris, Zélie told her aunt, she could sell everything for 4,000 francs. A nice haul! “But here, how to resell this, how to cash in all this? The fact is that it is quite difficult to hope to find money from buyers who themselves have paid in pumpkins and coconuts for the pleasure of listening to us....

“I am told that a speculator from a nearby island... will arrive tomorrow to make cash offers to me and my comrades. In the meantime, to keep our pigs alive, we feed them the pumpkins while the turkeys and chickens eat the bananas and oranges.”

In 1864, Zélie's letter was published as a footnote in a French book on the history of money. The British economist William Jevons loved the footnote so much that a decade later he used it to open his own book, *Money and the Mechanism of Exchange*. The moral of the story, for Jevons: barter sucks.

The trouble with barter, Jevons said, was that it required a “double coincidence” of wants. Not only did the islanders have to want what Mademoiselle Zélie offered (a concert); Zélie had to want what the

islanders offered (pigs, chickens, coconuts). Human societies solved that problem, Jevons said, by agreeing on some relatively durable, relatively scarce thing to use as a token of value. We solved the problem of barter by inventing money.

Adam Smith had said the same thing a hundred years earlier, and Aristotle had said something similar a few thousand years before that. This theory—that money emerged from barter—is elegant and powerful and intuitive, but it suffers from one key weakness: there’s no evidence that it’s true. “No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money,” the anthropologist Caroline Humphrey wrote in 1985, summarizing what anthropologists and historians had been pointing out for decades.

The barter story reduces money to something cold and simple and objective: a tool for impersonal exchange. In fact, money is something much deeper and more complex.

People in pre-money societies were largely self-sufficient. They killed or grew or found their food, and they made their own stuff. There was some trade, but often it was part of formal rituals with strict norms of giving and getting. Money arose from these formal rituals at least as much as it did from barter.

In the case of Mademoiselle Zélie, the local custom where she visited would have been to take the pigs and turkeys and coconuts and bananas, and throw a feast for everybody. This would have given her status—like the status people get today for paying for a new hospital wing or university library. The guests at the feast would likely have been obliged in turn to throw a feast for Zélie. Entire economies were built on this kind of reciprocity.

On the northwest coast of North America, for example, at festivals called potlatch, Native American people spent days hanging out, making speeches, dancing, and giving stuff to each other. Gift giving was a power move, like insisting on paying the check at a restaurant. Before the Europeans arrived, high-status people gave furs and canoes. By the twentieth century, they were giving sewing machines and motorcycles. This wanton generosity freaked out the Canadians so much that the government made the practice illegal. People went to prison for giving stuff to each other.

Lots of cultures had precise rules about what you had to give somebody if you wanted to marry their child, or if you had killed their spouse. In many places, you had to give cattle; in other places it was cowrie shells. In Fiji it was sperm whales' teeth, and among Germanic tribes in Northern Europe it was rings made of gold, silver, or bronze. (Those tribes even had a specific word—*wergild* , “man payment”—for a payment to resolve a murder.) Rules for ritual sacrifice were often similarly explicit. In Vanuatu, a group of islands in the South Pacific, only certain pigs with especially big tusks could be sacrificed.

Once you know that anybody who is going to get married needs a string of cowrie shells, or that everybody who is going to attend the ritual sacrifice needs a long-tusked pig, you have an incentive to accumulate these things—even if you have no immediate need for them. Someone is going to need them soon enough. These objects become a way to store value over time. They are not quite money as we know it, but proto-money; they are money-adjacent. In Vanuatu, an elaborate web of borrowing and lending long-tusked pigs developed. Interest was based on the rate at which the tusks grew. An anthropologist reported that “a high proportion of the disputes and murders [were] over the payment or non-payment of pig debts.”

Money isn't just some accounting device that makes exchange and saving more convenient. It's a deep part of the social fabric, bound up with blood and lust. No wonder we get so worked up over it.

## **IOU Six Sheep**

Gift giving and reciprocity worked great in small villages built around family relationships, but they were a tough way to run a city. And by the time the first known cities began to emerge in Mesopotamia more than 5,000 years ago, people had started sealing little clay tokens inside hollow clay balls to represent debts. A little cone stood for a measure of barley; a disc stood for a sheep. If I gave you a ball with six discs inside, it meant IOU six sheep. At some point, people started pressing the tokens into the outside of the ball before sealing them in, to indicate what was inside. Eventually, somebody realized they didn't need to put the tokens inside the ball at all: they could just use the marking on the outside to represent the

debt.

As Mesopotamian cities grew, power was centralized in urban temples and jobs became more specialized. Keeping track of who owed what to whom got more complicated. A class of people who worked for the temple (which functioned as a proto-city hall) figured out how to keep track of stuff by elaborating on the tokens-pressed-in-clay system. They used a reed stylus to make marks on a little clay tablet and started using abstract symbols for numbers themselves. The first writers weren't poets; they were accountants.

For a long time, that's all writing was. No love notes. No eulogies. No stories. Just IOU six sheep. Or, as a tablet from a famous mound in a Sumerian city called Uruk, in present-day Iraq, said: "Lu-Nanna, the head of the temple, received one cow and its two young suckling bull calves from the royal delivery from [a guy named] Abasaga."

Silver—a metal people had used previously for jewelry and rituals—was desirable and scarce and easy to store and divide, and it became money-ish in Mesopotamia, but for lots of people—maybe most people—money still wasn't a thing. They raised food and animals and ate what they grew. Once in a while, a tax collector who worked for the priest, or the queen, or the pharaoh, came around and took some of their barley and sheep. In some cities, the people who worked at the temple or palace also told the artisans who made cloth and bowls and jewelry what to make, and how much, then handed out the stuff as they saw fit.

The more some central authority decides who makes what and who gets what, the less a society needs money. In the Americas, thousands of years after the Mesopotamians, the Incas would create a giant, complex civilization without any money at all. The divine emperor (and the government bureaucrats who worked for him) told people what to grow, what to hunt, and what to make. Then the government took what they produced and redistributed it. Incan accountants kept detailed ledgers in the form of precisely knotted strings that recorded vast amounts of information. The Incas had rivers full of gold and mountains full of silver, and they used gold and silver for art and for worship. But they never invented money because it was a fiction they had no use for.

## Money Changes Everything

For a long time, the kingdoms in ancient Greece ran largely on this kind of tribute and redistribution, complete with accountants who kept track of everything in their own specialized script. But that civilization collapsed around 1100 BC. Nobody knows why—maybe there was an earthquake, maybe there was a drought, maybe pirate raiders swept in. The kings disappeared, the castles fell down, the population declined, and the bureaucrats' accounting script was forgotten.

A few centuries later, the Greek population started growing again. Villages became towns. A class of artisans emerged. Trade led to specialization: fancy pottery in Athens, metalwork in Samos, roof tiles in Corinth. In 776 BC, Greeks converged for the first time on a town called Olympia for a month of sporting events; the birth of the Olympics was a sign of closer ties among Greek towns, and of Greeks getting rich enough to take a month off and go hang out in Olympia.

Greek towns started constructing public buildings and shared waterworks. It was the classic setting for an economy that revolved around a system of tribute and redistribution, controlled by a king or priest, which was still common in the civilizations to the east. But instead of creating top-down mini-kingdoms, the Greeks created something new. They called it the “polis,” a word whose standard translation, “city-state,” is so boring and generic that you could almost overlook the fact that the polis is the origin of much of political and economic life in the West. Not coincidentally, it was also the place where the first thing we would recognize today as money really took off.

Hundreds of poleis developed around the Greek world, and each had a citizen assembly. In some, including Athens, the polis evolved into democracy (though, by our standards, it was a crappy democracy that excluded women, slaves, and most immigrants). In other poleis, the assembly would meet and argue, but final decisions would be made by a smaller elite.

But in every case, the citizens—the polites—wanted a say in who gave what to whom. They needed a way to organize both public life and everyday exchange without a top-down, micromanaging ruler or a bottom-

up web of kinship relations. They needed money!

Around 600 BC, Greece's neighbor Lydia, a kingdom in present-day Turkey, was mining a lot of a gold-silver alloy called electrum. This presented a kind of ancient first-world problem for the Lydians, because they had to assess the ratio of gold and silver in each piece to figure out its value. Somebody in Lydia came up with a clever solution: they started taking lumps of electrum with a consistent ratio of gold to silver, breaking them into standard sizes, and stamping the image of a lion onto each lump. So every lump of a given size had the same value as every other lump of that size. The Lydians had invented coins. Soon, they took the next step: they started minting coins of pure silver and pure gold.

Greece might have flourished if coins didn't exist. Coins probably would have spread even if Greece didn't exist (for the story of coins in China, see the next chapter). But coins and Greece were a perfect match, and the Greeks went wild for coins.

Standardized lumps of metal were exactly what the city-states needed to build their new kind of society—a society too big to run on familial reciprocity but too egalitarian to run on tribute—and soon there were a hundred different mints spread across Greece making silver coins. Within a few more decades, the money-ish things the Greeks had been using to measure value and exchange goods (iron cooking spits, lumps of silver) weren't money-ish anymore. Money was coins, and coins were money.

Coins transformed daily life in Greece. Each Greek city-state had a public space called the agora where citizens gathered to hear speeches and talk about the news and in some cases have formal meetings of the citizens. Around the time coins arrived, people started showing up at the agora with stuff to sell. Soon the agora became the market—this new kind of place where ordinary people went to buy and sell cloth and figs and pots and everything else. The agora also continued to be a place for public discussion, but in the long run shopping won out over public discourse. In modern Greek, the word *agora* is a noun that means market, and a verb that means to buy.

Before the arrival of coins, poor Greeks would work on the farms of rich landowners, but they didn't get anything like a wage as we would understand it. They would agree to work for a season or a year, and the

landowner would agree to give them food and clothes and a place to sleep. In the decades after coins arrived, that changed. Poor people became day laborers, showing up in the morning and getting paid at the end of the day. The practice of signing on to work for a year at a time vanished. Poor workers no longer had to stay on a farm for a year; they could leave if they were badly treated or if they found a better arrangement. But no one was responsible anymore for feeding them and clothing them and giving them a place to stay. They were on their own.

People flowed into the new wage-based economy. Women sold ribbons and picked grapes, though it was considered a sign of desperation when a citizen's wife had to work for money. When the Athenians built a new temple on the Acropolis in the fifth century, slaves did a lot of the work, but wage laborers did some of the detail finishes, like carving the fluting into the columns at the front of the temple. Because a random accounting tablet happened to survive, we know that the slaves worked almost every day, but the wage laborers worked less than two-thirds of the time. Were the laborers choosing to take time off because they preferred to do something else? Or were they denied work that they needed to survive? As the scholar David Schaps asked, was it “the blessing of leisure or the curse of unemployment”?

The spread of coins—the rise of money—made people more free and gave them more opportunities to leave the life they'd been born into. It also made people more isolated and vulnerable.

Not everybody liked what coins were doing to Greece. Aristotle complained about Greeks who thought of wealth as “only a quantity of coin,” and called getting rich in retail trade “unnatural.” Complaints like these would follow money forever, but they didn't matter much in the end. Once coins took root in Greece, they took over the world.

## CHAPTER 2

### When We Invented Paper Money, Had an Economic Revolution, Then Tried to Forget the Whole Thing Ever Happened

In 1271, Marco Polo went to Asia. Twenty-five years later, he went home to Venice, bought a ship to fight in a war against Genoa, got captured and thrown in jail, and dictated a book about his travels to his cellmate, a Pisan who was a writer of popular books, including the first Italian version of the story of King Arthur. Marco Polo's book is important for lots of reasons, but for our purposes it's huge because of chapter 24, which has the long-but-worth-it title: *How the Great Kaan Causeth the Bark of Trees, Made into Something Like Paper, to Pass for Money Over All His Country*.

Polo starts the chapter by saying: This is so crazy, you're not going to believe me. ("For, tell it how I might, you never would be satisfied that I was keeping within truth and reason.") He was right. His story about paper passing as money seemed so absurd to people in Europe that they thought he was making it up. (To be fair, they thought he was making a lot of stuff up, and some stuff he did make up, but we know now that what Marco Polo said about money was true.) He saw in China a radical monetary experiment that appeared in the world for a moment, then disappeared and wouldn't return anywhere on Earth for hundreds of years. What Polo saw reveals the fundamental economic miracle of an entire society starting to rise out of poverty—and how fleeting that miracle can be.

For a long time before the age of Marco Polo (really, for all of the time before the age of Marco Polo), interaction between China and Europe was pretty limited. The Chinese invented coins around the same time the Lydians did, possibly earlier, but as far as anybody knows that was just a coincidence.

Some of the earliest Chinese coins were tiny knives and tiny shovels made out of bronze, which may have been a vestige of real knives and shovels serving as money-adjacent stuff. Eventually, coins turned into small pieces of bronze with a hole through the middle. The hole let people string a bunch of coins together to make it easier to carry them. This was useful because the value of coins was based on the value of metal they contained, and bronze wasn't very valuable, so it took lots of bronze coins to buy stuff. The standard unit became a string of 1,000 coins, which weighed more than seven pounds.

By the early part of the first century AD, China had become a unified, bureaucratic empire. Tens of thousands of students took competitive exams to get high-status government jobs, and the lucky few who managed to land those jobs spent their working lives keeping extensive records written on silk and on tablets made of wood or bamboo. Treaties were written in triplicate: one copy for each side in the dispute, and a third for the spirits.

As record keeping proliferated, the expense of silk and the bulkiness of wood and bamboo became a problem: Chinese officials needed something better suited for all that paperwork. They needed paper. According to official records, they got it in 105 AD, when a eunuch named Cai Lun, the emperor's "officer in charge of tools and weapons," ground up mulberry bark, rags, and fish nets; dipped a screen into the mash; then let the mash dry on the screen. People loved paper, and Cai became rich and famous. (For a while, anyway. Eventually, Cai was accused of falsifying some financial paperwork, so he took a bath, put on his fanciest clothes, drank poison, and died.)

Printing came a few hundred years later, driven in part by the spread of Buddhism, which prized reproducing sacred texts. Some monk who was tired of writing the same sacred text over and over and over had the truly brilliant idea of transferring the text to a wood block, carving away everything that was not the sacred text, then covering the block with ink and stamping it onto paper. The earliest surviving printed text is a paper scroll with a Buddhist prayer printed in China around 710 AD.

Now China had paper, and printing, and coins. The final step came two centuries later in the province of Sichuan. Most Chinese coins were made of bronze, but in Sichuan, where bronze was scarce, they used iron. In a world

where the value of a coin was based largely on the value of the metal it was made of, iron was a terrible thing to use for money. To buy a pound of salt, you needed a pound and a half of iron coins. It would be like having to do all your shopping using only pennies.

Around 995 AD, a merchant in Sichuan's capital, Chengdu, had an idea. He started letting people leave their iron coins with him. In exchange for coins, he would give people fancy, standardized paper receipts. The receipts were like coat-check tickets for coins. And just like anyone with a coat-check ticket can claim the coat, anyone with a receipt could claim the coins: the receipts were transferable. Pretty soon, rather than go to the trouble of getting their coins every time they wanted to make a purchase, people started using the coat-check receipts to buy stuff: the paper itself turned into money. (The merchant didn't invent this out of thin air. Provincial governments had previously given traders paper receipts in exchange for bronze coins, but traders typically just used those receipts to avoid taking coins on long journeys; those receipts never really took off as money.)

Other merchants started issuing their own paper receipts. Inevitably, some shady merchant figured out that he didn't need to start with a deposit of iron coins. He could just print up an IOU, go out in the world, and buy something with it. Once that happened, it was only a matter of time before someone came to trade in that IOU for iron coins and found out it was just a worthless piece of paper. People got angry. There were lawsuits. After a few years, the government took over the business of printing paper money.

For people who couldn't read, most bills had a handy picture of the number of coins they could be exchanged for. There was usually some kind of landscape or streetscape. The bills were printed in multiple colors—text in black, landscape in blue, official seal in red. Almost always, a big chunk of the bill was taken up by a warning like this one, from a bill printed around 1100 AD:

*By imperial decree: criminals who counterfeit [this bill] are to be punished by beheading. The reward [for informers] shall be 1,000 guan.... If accomplices of counterfeiters or any who harbor them willingly identify the ringleaders to the authorities they will be absolved of criminal liability and given the above-stipulated reward.*

The warning wasn't entirely successful: The earliest surviving printing plates for paper money are counterfeits. But despite the forgeries, paper money was a hit.

At a time when transporting large quantities of heavy coins made trade difficult or impossible, paper money was a breakthrough. As it spread across China, trade increased, people learned more from each other, and technology improved. Paper money even changed how people worked. For hundreds of years, taxes had been collected in cloth and grain, forcing people to weave and plant simply to meet the government's demands. Now the government shifted toward collecting taxes in coins and paper. Suddenly, people were free (or freer, anyway) to choose what to do.



Scholars describe an “economic revolution” at this moment in China, hundreds of years before Europe's own industrial revolution. Movable type and the magnetic compass were invented. Farmers figured out new agricultural techniques that allowed them to grow far more rice in the same amount of space. Printed books spread information on these breakthroughs around the country. More and more people moved out of a feudal(-ish) economy that ran on tribute, and into a market economy that ran on money. Now people could specialize in what they and their land were best suited for. Some grew mulberry trees, the leaves of which were fed to silkworms to make silk, and the bark of which was mashed into paper. Some grew seeds that were pressed into oils for “cooking, lighting, waterproofing, and to go in hair creams and medicines.” Some farmers started fish hatcheries; others built special containers to transport baby fish hundreds of miles to ponds best suited for raising the fish to maturity.

Earlier emperors had confined markets to small, government-supervised blocks where prices were rigidly controlled. Merchants who tried to sell outside these markets were buried alive, a hundred at a time. Now, rules on markets were loosened, and people could sell what they wanted, where they wanted.

Markets and money made cities. At a time when fewer than 100,000 people lived in London and Paris, two Chinese cities grew to more than a

million people each. In Hangzhou, China's southern capital, a restaurant scene appeared. Money now bought meals at cheap noodle shops, spicy Szechuan places, and fancy restaurants known for specialties like goose with apricots and noodles stuffed with pork. One account from the time suggests hip, urban diners were as insufferable then as they are now:

*As soon as the customers have chosen where they will sit, they are asked what they want to have. The people... are very difficult to please. Hundreds of orders are given on all sides: this person wants something hot, another something cold, a third something tepid, a fourth something chilled; one wants cooked food, another raw, another chooses roast, another grill....*

The normal state of human affairs for most of human history was economic stasis: people, on average, did not become richer over time. In China, around the time paper money emerged, that changed. The money-driven growth of markets went hand in hand with technological breakthroughs, and as a result, a day's work started to buy more stuff than it used to. People—not just a few people, but lots of people—were getting richer. This is the fundamental economic miracle, and it is the only way to sustainably raise the standard of living over the long run. (Not coincidentally, intensive growth may also have emerged in ancient Greece around the time coins were invented, but it didn't last.) By 1200, China was quite possibly the richest and certainly the most technologically advanced civilization in the world.

Then the Mongols rode in.

## **Money Backed by Nothing**

In 1215, Genghis Khan's army captured what is now Beijing. Forty-five years later, his grandson Kublai was elected Great Khan, and took control of the biggest empire in the world.

The vast reach of the Mongol empire was great for trade. Now the market for Chinese goods extended not just throughout China, but across

Asia and beyond. In cottage factories, Chinese artisans carved images of the Madonna and Child for export to Europe. An especially smooth type of Chinese silk also became popular in Europe. Shiploads of the stuff left from a Chinese port that Arab traders called Zaytun, which sounded to British ears like “satin,” so that’s what they called the fabric that came from there. The famous Moroccan scholar and traveler Ibn Battuta described Chinese trading ships that had four decks and carried a thousand people.

The Mongols were nomads, and they loved how much easier it was to move paper money than metal coins. They understood that speed meant wealth. So the year Kublai became the Great Khan, he created a new kind of paper money, to be used across vast swaths of the empire. He called it the “inaugural treasure exchange voucher.” (It’s not just paper; it’s a voucher you can exchange for treasure!) Kublai Khan really wanted people to use his new paper money, so he made it illegal to use bronze coins for trade. And as Marco Polo saw when he arrived a few years later, the Great Khan’s plan worked.

*This paper money is circulated in every part of the Great Khan’s dominions; nor dares any person, at the peril of his life, refuse to accept it in payment. All of his subjects receive it without hesitation, because, wherever their business may call them, they can dispose of it again in the purchase of merchandise they may require; such as pearls, jewels, gold, or silver. With it, in short, every article may be procured.... All of his Majesty’s armies are paid with this currency, which is to them of the same value as if it were gold or silver. Upon these grounds, it may certainly be affirmed that the Great Khan has a more extensive command of treasure than any other sovereign in the universe.*

Being able to literally print money is awesome (it’s good to be the Khan), but with great power comes a great desire to print more and more. Kublai Khan resisted for a while, but eventually the temptation was too strong to bear. After all, Japan was sitting right there, across a little sea, just begging to be invaded. Why not print up a little more paper so we can pay people to build ships to sail 70,000 soldiers and horses over there to show

them who's universal sovereign?

In 1287, after not one but two failed invasions of Japan, Kublai Khan issued a new kind of paper money. The paper still had pictures of bronze coins on it, but this time they were just pictures. Government offices refused to redeem the paper for silver or bronze; people could no longer exchange their treasure exchange vouchers for treasure. We have to imagine there was some panic. There was inflation: prices rose as money became less valuable. But then the economy stabilized. The center held. Pieces of paper that were just paper, that weren't even pretending to be treasure vouchers or silver IOUs, still worked as money.

This is the radical experiment that Marco Polo witnessed: money as almost pure abstraction, backed by nothing. It would be like if Wile E. Coyote ran off the cliff, looked down, saw empty space below him—and didn't fall. Partly this is a testament to the sheer power of the Mongol state: use this paper as money or I'll kill you. But partly, after three hundred years of using paper money, people in China had figured out that paper money worked not because it was backed by silver or bronze, but because everybody agreed paper could be money.



The era we live in now bears a bit of resemblance to China 1,000 years ago. Because of technological change, most people are richer than their ancestors were. This started in England about 250 years ago, with the industrial revolution. One of the oldest questions in economic history is: Why then and there? After thousands of years of economic and technological muddling along, what changed in England around 1800? Some people cite intellectual and legal changes like the scientific revolution and clearly defined property rights. Others take a more practical approach, arguing that the relatively high wages of British workers inspired people to create labor-saving machines, and that Britain just happened to have vast quantities of coal on hand to power those machines.

But in the past few decades, as Western economists have become less Eurocentric, they've noticed that technological improvements and economic growth didn't start two hundred years ago in England. China had

its own economic revolution eight hundred years before England's. And while economic growth didn't explode in China the way it would in Europe, Chinese inventions from that era—paper, printing, the magnetic compass—were essential for Europe's development. Now, scholars are asking a new question: What happened to China? It was on the cutting edge of economic sophistication and new technology in 1300, but far behind by 1900. Why?

Maybe it's because China, as the dominant state in the region, wasn't constantly pushing to economically outcompete its neighbors, so it stagnated relative to the European states that were always at war with each other. Maybe it's because labor in China was cheap, so there was little incentive to continually invent labor-saving devices. Another reason is particularly compelling for our story: the Chinese rebel leader who drove out the Mongols really didn't like money or markets.

The man who became known as the Hongwu emperor was the child of poor farmers who died by the time he was sixteen. He entered a Buddhist monastery to avoid starving to death, then joined a band of anti-Mongol rebels and fought his way up through the ranks. In 1368, after the Mongols were pushed north of the Great Wall, Hongwu founded the Ming Dynasty, which would last for nearly three hundred years.

Hongwu wanted to take China back to a (totally idealized) past, a time not just before the Mongol invasion, but before China's economic revolution. He dreamed of a nation of self-sufficient agricultural villages where people grew and shared what they needed. So he and his successors systematically got rid of the economic changes that drove China's economic revolution. They banned overseas trading. They moved away from a money-and-markets economy back toward an ancient system of tribute and redistribution, in which the government took cloth and grain from peasants and gave it to government workers.

By the mid-1400s, paper money had disappeared from China entirely. People used lumps of silver as money, and sometimes copper coins, and often no money at all. The emperor had succeeded in dragging China back to the past. The average person in China was poorer than her ancestors had been two hundred years earlier. The economic revolution that happened when paper money was invented was largely forgotten.

Because it happened a thousand years ago, China's golden economic age of technological breakthroughs and paper money and fancy restaurants feels

like a blip. And on a very long time horizon, it was dwarfed by the technological and economic growth of the past few centuries.

But there's another way of looking at this blip: It lasted about as long as our current experiment with paper money and technological breakthroughs and fancy restaurants has lasted so far.

Today, we take economic growth and scientific discoveries for granted. If the economy shrinks even a little bit, for a few seasons in a row, we declare it a recession and wonder what the problem is and when it will get better. But one thing China's three-hundred-year-blip tells us is this: economic growth and technological change aren't guaranteed to continue forever. Development is not a one-way street. Civilizations don't just get richer or stay the same. Sometimes they become poorer, generation after generation. Sometimes money itself disappears.

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## THE MURDERER, THE BOY KING, AND THE INVENTION OF CAPITALISM

*In Europe in the 1600s, a bunch of things started happening at once. Goldsmiths accidentally became bankers. A tiny country invented the stock market and the modern corporation and became fabulously rich. And gamblers discovered a fundamentally new way of thinking about money and the future. These threads came together to create modern capitalism.*

*The hero/anti-hero of the era is John Law. He starts out sticking his head into the corner of a few early frames as this new world is emerging. By the end of the era Law is at the center of everything. He creates a modern economy for an entire nation, becomes the richest non-king in the world, and seizes control of nearly half of what is now the continental United States—but only after being convicted of murder, going on the lam for twenty years, and winning a fortune as a gambler. The world Law was born into, and the world he created, explain a lot about how money, banks, and, really, entire nations still succeed and fail.*