MONEY MANIA

BOOMS, PANICS, AND BUSTS FROM ANCIENT ROME TO THE GREAT MELTDOWN

BOB SWARUP

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To Radhika for her love, for her endurance, and for her refusal to deliver our first until I had delivered the kernel of this book.

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Déjà Vu All Over Again

Chapter 1

Of Men, Money, and Mania

When experience is not retained, as among savages, infancy is perpetual. Those who cannot remember the past are condemned to repeat it.

—George Santayana (1863–1952)

Recurrent speculative insanity and the associated financial deprivation and large devastation are, I am persuaded, inherent in the system.

—J. K. Galbraith (1908–2006)

Take a deep breath.

Feel the air hit the back of your throat and disappear down the trachea. As your lungs inflate, you diaphragm pushes downward and your stomach swells. Inside, trillions of oxygen molecules with the air pass into your bloodstream, hitching a ride on the nearest passing blood cell and rushir throughout your body. Millions of cells now ignite millions of molecular furnaces, burning the ra fodder from your last meal to release energy and fuel the constant little processes that allow them grow, multiply, and thrive, maintaining in aggregate the necessity we term life. If you close your eye and focus, it really is the most euphoric feeling.

But there is a catch.

The sensation is always momentary, repeating a dozen times a minute as you exhale and inha again. Try as you might, you cannot hang on to it. Nor should you.

Now try holding your breath.

As oxygen dissipates into your body, it is initially replaced by carbon dioxide—the waste by product of all the above millions of chemical reactions. But if you don’t breathe out, the trapped a soon becomes saturated, and the carbon dioxide now begins to build up in your bloodstrear Meanwhile, the oxygen levels in your blood continue to drop as your body uses up its precious stores

A minute in, your circulation becomes inefficient, and your pulse starts to race. Your ski becomes flushed and your blood pressure begins to climb. That earlier feeling of exhilaration soo wears off, to be replaced by palpitations in your chest. Your muscles and limbs begin to twitch as you oxygen debt soars to dangerous levels and the first pangs of air hunger hit you.

Override your body’s demands, and soon you feel a mild headache forming. You’re tired now, an you can feel your reactions and judgment becoming impaired. But then suddenly, the confusion soon replaced by euphoria—not a moment of Zen but the narcotic effects of excessive carbon dioxic and the growing lack of oxygen to your brain. Your body is now screaming for air, making rapi movements and fighting more viciously than ever against your conscious control.

Suppress its natural urges and your euphoria begins to transmute. Is that dizziness you’re feelin now? It’s hard to tell—your hearing seems to have become muffled and your eyes are finding th outside world increasingly dim. If you’re still in charge, your body is now beginning to tremble.

And then, thankfully, some three to four minutes in, you pass out and your body begins to breath again—your conscious intent short-circuited before it caused any lasting damage.

Now that you're conscious again, congratulations—you have just lived through a microcosm of financial crisis.

The core is the same. It's not about air or money. Those are only different stage settings for th same primeval drama played out at different levels. Rather, it's all about the very human choices w make to control our environment and their consequences. Rises and falls are as natural and vital to th economic condition as breathing is to the human condition. Try to remove these ebbs and flows, an both conditions will begin to rebel against their unnatural state of being. Try too hard out of hubris t control your world and the outcome is inevitably the same, as amply demonstrated througho recorded history.

The Myth of Normality

The subprime crisis and the ensuing credit crunch that began in July 2007 were the most rece reminder of how damaging financial crises can be.

It began innocuously enough, with the collapse of two overleveraged hedge funds owned by th U.S. investment bank Bear Stearns. The funds had a simple premise: borrow money cheaply, buy so called asset-backed securities that paid attractive yields higher than the cost of funding (thanks their specialization in a fast-growing sector of the mortgage market known as sub-prime), and kee borrowing more and more until the returns looked attractive enough to persuade investors to part wi their capital. It seemed a good idea until someone realized that the mortgages weren't actually wor the digital paper they were written on and the funds even less so, thanks to the leverage hidden with their opaque financial wizardry.

I have no wish to go through the timeline and ponder details—others have spent enough hou poring over the entrails—but I remember some things well. Bear Stearns's original letter announcin this inconvenient truth ended with a chest-beating bravado that soon became a constant plaintiv refrain: "Our highest priority is to continue to earn your trust and confidence each and every da consistent with the Firm's proud history of achievement. As always, please contact us if we can be o service."

By the end of July 2007, both funds had filed for bankruptcy and a third, the $850 million Be Stearns Asset-Backed Securities Fund, seemed to be teetering on the edge, despite the bank's shri protestations to the contrary. Its acronym, BS ABS, would soon become an in-joke.

Three months later, the fallout had gathered pace. Vaunted buying opportunities seemed les certain now. A friend bought a financial instrument from an investment bank that I will not name—th kind of instrument that through the miracle of rapid mathematical juggling and financial sleight hand promised the earth in terms of returns with none of the risk. All he had to do was bet that twenty five of the world's largest banks would not default on their bonds over the next five years and he stoo to make twice the current coupon.[1] With rapidly approaching hindsight, that seemed less secure an the promised paltry return of an additional 0.62 percent seemed poor compensation for agreeing sandbag the rapidly escalating deluge.[2]

Over the next two years, many lost good money as they stooped to pick up these pennies on th highway and forgot to check on the speeding traffic.

In the meanwhile, we all clustered around our Bloomberg screens daily, waiting to see if someon had called time on happy hour. People began to obsess about the dreaded *R*: recession.

On December 1, 2007, the United States officially went into recession. It was not a surprise hindsight, given the events of the previous few months, though few of us at the time had any inkling how much more painful life was about to become.

Six months later, in May 2008, an innocuous conference entitled "Reporting Liquidity Risk an Liquidity Risk Frame Works" took place in Hatton Gardens in London. The keynote speaker was th head of treasury at Lehman Brothers in the United Kingdom, who outlined in a clear, articulate ta how Lehman was never going to make the same mistakes as Bear Stearns and go under. They ha learned their lesson from the Russian default crisis of 1998 and knew full well the perils of illiquidit This was the moment he and his team lived for, and at a flick of a keystroke, billions of dollars we ready and primed to be drawn down and deployed.

That September, Lehman collapsed. The money clearly hadn't been enough.

Within days, a new joke went viral around the financial community. A rich kid falls in love wit the Wild West and for his eighth birthday asks his billionaire father for a horse. So his father goes ou and buys him a whole stableful of beautiful stallions. The next year, he asks his father for a cowbo film and his father goes out and buys him every Wild West movie ever made. The following year, h asks his father for a cowboy outfit, so his dad goes out and buys him Lehman.

Lehman wasn't the only firm to fall afoul of its arrogance. Chuck Prince, the former chairman Citigroup, found himself rapidly elevated to the pantheon of immortal idiocy as his moment of Ze like honesty came back to haunt him: "When the music stops, in terms of liquidity, things will b complicated. But as long as the music is playing, you've got to get up and dance. We're sti dancing."[3]

We all were. As 2008 drew to a close, I was having lunch with the former chief economist of large bank. We were at the nadir—the banking system seemed close to collapse and the money ha begun to flow from the spigots at the central banks in an effort to stem the bleeding in the glob economy.

Two years earlier, he told me, worried by the growing strains in the world economy, he had gon to his boss and expressed his conviction that this was all going to end badly. His boss called in th head of trading, who said confidently that he could handle any trouble. All he had to know was whe to pull the plug and he would stop all activities. "I'm an economist," replied my friend. "I can't te you when it's going to happen, only that it's going to be painful when it does."*

The head of trading was flabbergasted. As he noted, he could not stop trading just because on person was worried. Who was going to make the money in that scenario? But he had an idea. All th teams would be instructed to run their positions on a very tight leash and be ready to liquidate at moment's notice. When things went wrong, they would all be able to exit with minimal losses. M friend agreed and went away relieved.

A few months later, he was at a dinner in Switzerland—an annual event organized behind close doors for the chief economists of all the banks. As they sat around and dwelled on the worsenin economic situation, my friend suddenly had a horrifying revelation. Every person in the room ha given his or her bank the same advice. Every bank sat with its finger on the trigger, ready to rush fo the door at the first sign of trouble. A couple of tentative steps toward the exit by any one party woul soon escalate into a stampede by all. And since no door is infinitely wide, especially in the financi markets, a bloody outcome was a foregone conclusion. It was at that point that he realized we we never going to somehow just muddle through.

As defaults soared and subprime contagion gave way to sovereign panic, the finger-pointin began. It was the fault of bankers for lending irresponsibly. It was the fault of central bankers fo keeping interest rates so low. It was the fault of the politicians for turning a blind eye to the weapon of financial mass destruction massing outside suburbia and Capitol Hill.

~~Everybody else was to blame, and everyone wanted just to return to happier days when~~ *bust* was term confined to late-night television and poker games, growth and ever-rising financial markets we a given, and money was something we could all make or access. In short, they wanted to get back normal.

There's only one problem. That is not normal. Easy money is not normal.

What *is* normal: a fragile financial system defined by booms and busts, where money is ju another expansive synonym for the constant dance of human emotions—optimism, arrogance, gree fear, and capitulation—around a maypole of trust.

What *is* normal: a complex world where emotion and money leverage off each other, binding u into vast instinctive herds that charge into uncertainty, striving only for forward movement with litt regard for the terrain beneath our feet, running headlong into the myopic horizon and stumbling, on to pick ourselves up, shake our heads, and resume the pursuit of our peers once again.

A multitude of arguments were put forward in the aftermath to explain what happened, rangi from inadequate corporate governance to a lack of transparency to poor regulatory supervision. B among the shock, the scrutiny, and the blame merry-go-round, the biggest surprise is precisely wh this crisis was such a surprise to everyone.

As the Wheel Turns

There is a popular children's story in England called "The Gruffalo." It charts a mouse's walk throu a dark wood, where he protects himself from various predators by inventing a monster that he is on h way to meet. Successive fantastical details—terrible claws, huge tusks, poisonous warts, penetrati eyes, and so on—layer on to create this mythical terrible creature, the Gruffalo. Then, to his horro the mouse actually meets a Gruffalo.

Crises are not new phenomena. They have been around for centuries and have occurred wi alarming frequency—about once a decade on average for the last four hundred years in weste Europe alone, by some estimations. Coincidentally, changes in banking regulations have maintaine an impressive correlation in their shorter life span, occurring about once a decade as well for the la two centuries—a Sisyphean tragicomedy where the solution to the last crisis inevitably seems blinker them to the next.

The genealogy is relentless and impressive. Before the current credit crunch, we had the dot-co crash in 2000 as hypergrowth turned out to be little more than hyperfantasy; the Russian near defau and the infamous Long-Term Capital Management fiasco of 1998, which proved that two Nobel Priz winning economists don't necessarily equal a moneymaking fund; the Asian currency crisis in 199 which ended in the complete financial and political restructuring of the Asian tigers; the implosion the Japanese economy in 1990, which contributed the phrase "lost decade" to the financial lexicon a is now approaching its silver jubilee without an end in sight; and at the edge of today's memory, th legendary Wall Street crash of 1987 that etched Black Monday into cultural memory.

Between the two world wars, the developed world seemed to spend the best part of two decades perpetual crisis, the notable low points being the lengthy Great Depression and the hyperinflation the German Weimar Republic. Go further back and there was the Panic of 1907, which led exasperated French banker to describe the United States as "a great financial nuisance" and birthed t Federal Reserve; the recurrent stock market crises of the late nineteenth century that seemed to occ almost like leap years; the Barings crisis of 1890 and the great Latin American meltdown th accompanied it; the international panic of 1873, which gave rise to the first Great Depression[4]; th ~~recurrent banking and railroad panics of the 1830s, 1840s, and 1850s that were birthed by the fir~~ great emerging market boom—the United States; the Latin American debt crisis of 1825, whe speculative loans were even made to Poyais, a completely fictitious country; the British credit crun of 1772, which contributed to the American Revolution; the Mississippi and South Sea bubbles o 1719–20, when the French acquired a distaste for paper money and the Bank of England nearly we bankrupt; and the legendary tulipmania of 1637.

This is just a quick head count of some of the near and dear family. The extended family of crise has many more members. There was the disastrous Chinese experiment with paper money in th Middle Ages, the Dark Ages were punctuated by a century-long depression, and texts from long ag tell us that banking bailouts were not unknown to the ancient Greeks and Romans.

Despite this rich genealogy, our knowledge of crises is woefully limited. On the surface, the revel in diversity. Every country has a crisis to share and every story is different. For ever hypothesized commonality, there is an exception. They have occurred in different eras—ancien medieval, and modern; under democracies, dictatorships, and monarchies; before we had central ban and after we had them; when the world clung to a gold standard and when it sought out paper mone instead; in complex international systems and in small isolated communities; in eras of both laisse faire capitalism and didactic state commerce; and in diverse asset classes from stocks to property tulips to red mullets.

All it seems you need are people and a medium—money by any other name.

The other common feature is that the wise men of the day—astrologers, shamans, vizier courtiers, and economists—miss the signs that are all too obvious in hindsight. In the aftermat explanations and solutions abound, but again diversity reasserts itself. No two are ever the sam though all claim to have a lasting answer.

In time, the cycle repeats—the words, symbols, and resolve spent on modeling and solving the la crisis to theoretical perfection typically impotent once again. Even today, for all our knowledge, w struggle. The copious economic data accumulated only tell us that we do not know enough to answ the question of why, let alone the thornier issue of when again. That we soldier on regardless testament to our optimism and stubborn ego.

Financial crises are for us what natural disasters were to our ancient ancestors. The unpredictability and their punishing aftermath—capable of rending societies in extremis—make the objects of mystery and morbid fascination. Thousands of years ago, the causes took the form whimsical gods in an ever-growing pantheon while the solutions lay in an ever-growing religio litany to carefully placate each and every one. Today, our new gods come from the theories o economics and finance, while the litany is replaced by a growing body of bureaucracy and regulatio In common, the answer still evades us.

But like tales often repeated, gods are transient. They change their names; they change their way New ones arise to challenge the old, and just when we think we know the answers, the pantheon disperse and reassemble anew. This failure to learn only emphasizes the fact that we cannot take to narrow a view and focus on the fine details of any given crisis.Rather, the roots to all our crises pas present, and future are to be found in the clash between our simple human nature and the comple societies and economies we create. The psychological mechanisms that drive us have not changed thousands of years and naturally give rise to speculative booms, thanks to our propensity toward he behavior. Their punishing aftermath is also born of human psychology as trust evaporates and sel preservation becomes paramount.

Galbraith noted in his erudite tome *A Short History of Financial Euphoria* that the "circumstanc that ~~induce the recurrent lapses into financial dementia have not changed in any truly operati~~ fashion since the tulipmania of 1636–37." He was right: we all love making money and accrui status. By looking at the long history of endlessly repeated cycles—optimism, arrogance, greed, fe and capitulation—this fascination entails, we perhaps might come to an understanding of our huma foibles and even glean some lessons to guide us through the next inevitable *Ring of the Nibelung*.

Galbraith's only error of assertion is on dates. Modern accounts began in 1636, but the behavi they so carefully noted began far earlier.

This book had its genesis in a casual mention of the first documented sovereign default in a 19 book entitled *Foreign Bonds: An Autopsy*. The author was one Max Winkler, an overachieving Jewi immigrant from Romania who became a professor of economics at the College of the City of Ne York, ran the foreign department at Moody's, and founded a brokerage firm on the eleventh floor the New York Stock Exchange in 1929. Four years later, in January 1933, Winkler stood in front of th U.S. Senate Committee on Banking and Currency and found himself picking through the rubble of t Great Depression, trying to make sense of what had just occurred. As president of the Americ Council of Foreign Bondholders—a sorely aggrieved lot if ever there was one—he had a ringside se to the whole debacle as country after country reneged on its obligations.

The primeval default Winkler chronicled itself took place some millennia earlier, in 377 B.C. ancient Greece. The culprits were ten city-states that borrowed heavily and then defaulted on the debt to the Temple of Apollo at Delos. But as Winkler discovered, this was no isolated inciden Subsequent accounts tell us that economic recessions were not uncommon and the orators of the d found time enough between the speeches that have made their way down to us to also vent their sple at a nascent banking community for its periodic and contagious paroxysms. While the recessions we triggered by the changing fortunes of wars between the different city-states such as Athens and Spart these were only catalysts. What was common was credit, euphoria, and a financial banking syste reliant on confidence. Nearly twenty-five hundred years later, the spectacle of a Greek default pla out once again.

Plus ça change . . .

The Unchanging Id and the Pliant Ego

As a species, we believe that everything that happens to us is unique and unprecedented, making it a the more important to put current events in some historical perspective. The many financial crises th have occurred over the last three millennia can be used as lenses to understand why crises seem occur with such regularity and why we never seem to learn.

Poring over the follies of the past is not an exercise in schadenfreude. Financial crises and t speculative booms that birth them have important and lasting effects on economies. At the same tim economies are not closed cocoons but have social, political, and, increasingly, internation dimensions. Therefore, crises also have important and long-lasting effects on governmen hegemonies, and societies. They accentuate tensions, expose structural frailties, and, through repeat application, usher in dramatic shifts in existing paradigms. The Roman Empire's history is in part reflection of how it dealt with its financial fragilities, while the French Revolution was in part society's dismay at the dystopia wrought by a century of financial folly. No other recurrent eve encapsulates the intellectual onanism at the heart of human nature better than financial crises do.

For all their notional diversity, financial crises are bound by the common factor of human natur

We humans are intendedly rational, but in practice, what we term rationality is actually bounded on a sides by experience, emotion, and environment. These give us shortcuts that allow us to make quic decisions but also leave us with a host of unconscious behavioral biases that find their collectiv expression in a crisis. A simple example may be found in the customary stroll to dinner. Tw restaurants present themselves, one empty and the other with some people already within. O automatic response is to infer that the second is in some way better and go there. We do not chec menus, study layouts, ask to sample the wares, weigh ambiences, and so on. That may be the ration way to make the best decision, but it would be a waste of time and the evening would soon pass th truly rational man by. Instead, we trust our peers and follow the herd.

Like geese flying in formation, each of us moves individually through the world but never isolation. If one changes course, his or her actions impede on neighbors, affecting their behavior. O bounded rationalities overlap and cascade through the flock until suddenly the whole formatio changes course, the new order emerging unbidden from the initial random movements of a few.

Other biases abound. For example, we care more about today than about the distant future. Th young couple will always prioritize paying for home and school today over saving for a secu retirement tomorrow. The drug addict will care more about the hit in a few seconds than the far wors comedown in a few hours. The money to be made today is more real and alluring than what lies ahea next year, even if the latter may be much greater. Our long shared history is a monument to th common temporal myopia in which the urgent usually trumps the potentially more important.

Life is simply too short for us to be truly rational. But there are benefits to our shortsightedness well. If entrepreneurs were truly rational, they would never set up businesses. Any genuine assessme of the risks tells you that there are just too many uncertainties. The majority of new businesses wi always fail, but we still continually plow on. The blinkered taking on of risks, the relentless focus o the here and now, the ability to persuade your peers into your vision, and so on—these are also a qualities that led to the creation of successful empires, fed innovation, built economies, and allowe us to progress from lone hunters in caves to the sophistication we have today. As George Bernar Shaw noted, all progress depends on the unreasonable man.

All these episodes we discuss have something in common: they involve people. A financial mark is not a static entity. It is a collective noun for the actions born of the hope, greed, and fear o countless human participants. Like the refrain from John Gay's *The Beggar's Opera*, man truly is th most sociable of predators. Though we may prey on each other, we still herd together. Our collectiv emotions and the actions born of them ebb and flow over time, euphemistically creating the boom and busts we term cycles.

The psychological factors are invariant in every recurrent episode of financial euphoria, panic, an denial, whether it be Greece in the fourth century B.C. or Greece in the twenty-first century A.D. Th we greet each episode with surprise is telling of how often we fail to see beyond the outsid ornamentation and how quickly we choose to forget. Can we prevent them? Not if we choose to stud the minutiae of each crisis—the wealth of data accumulated has filled countless books but shown u remarkably little about the causes, prediction, and prevention of crises. There is no simple ear warning system. Rather, the answers lie in understanding the human element and how it relates t money.

Money is only a medium, a transient store of value. It provides a way of keeping score, an abstra means of exchange and payment. Our tragedy is that we are always looking to stay in the present, n realizing that it is always doomed to become the past. And money is a physical reflection of this fac We hoard it believing that it will keep its value while the world conspires to prove us wrong, be through devaluation, inflation, repossession, usurpment, destruction, or confiscation. Money another dogma like religion. In the shifting sands of time, it provides a seeming certainty, and there lies its chief attraction. Whether it be a medieval merchant counting his precious reserve of gold coi or a modern trader eyeballing the digital decimals of his worth, we have changed little in thousands years.

This construct of money both unites and divides us. By giving us all a common reference point, brings us together irrespective of affluence, geography, or language. The coin or note becomes constant thread, weaving together a disparate and growing society every time it changes hands. B that same medium emphasizes inequalities between us and eventually widens them by giving o innately competitive natures a simple means of keeping score. Social harmony and stability come be inextricably linked to our perception of money and its value.

From Boom to Bust

Our psychology lends itself naturally to boom and bust. What raises it to the architecture of crisis the addition of money to the mix. The two feed off each other, leveraging our innate biases till a entire economy and society resonate in sympathy. Self-belief is buttressed by the enhanced status th money imparts. Initial speculation leads to overconfidence and a growing illusion of skill. What is f now a virtuous circle—a boom, in everyday parlance—soon buoys up the egos of those involve though this becomes increasingly suspect as asset prices become ever more inflated.

Alongside, money booms. Speculation needs money. As investors bid up the prices commodities, property, food, gold, stocks, bonds, and so on, it becomes easy for us to imagi ourselves rich. This nebulous creation of wealth means we can borrow more and funnel it into o investments, leading to an explosion of debt. There is now a race on to ensure that we are all maki money, whether it be by lending or investing. Where there is insufficient money, people find ways creating more—the history of finance is replete with innovations such as bills of exchange, bond paper money, and derivatives.

The phenomenon is understandable. Speculation conquers sense. Ego denies the hand of luck a instead thanks skill, knowledge, and pre-science. In an economic boom, there is also no shortage oracles and cheerleaders, whether it is John Law in the eighteenth century, Irving Fisher prior to t Great Depression, or Michael Milken in the junk bond boom of the 1980s. Each increase in valu rubber-stamps and diffuses the innate superiority of our chosen gurus until by the end we are all se affirming experts and inevitably oblivious to the increasingly shaky ground underneath.

Intelligence and idiocy are often two sides of the same coin, separated only by a sliver of tim When the bubble bursts, it causes surprise every time. Inevitably, the triggers are innocuous, thou all too obvious in retrospect. It is the failure of some small link in a complex financial chai misdirected imperial or sovereign edicts that accentuate rather than ameliorate crises in confidenc new opportunities elsewhere that promise more and steal our limited attention span, the flooding the system with money through debasement or printing only to learn Gresham's law yet again, and on.[5]

Irrespective of this diversity, at its core a crisis is always a question of trust. That same knife-ed of trust that allows every bank to take liquid deposits from us and return illiquid loans back purchase whatever takes our fancy is sharpened by euphoria till it glides through our illusions a fancies to reveal our base human motivations and fears.

In the wake of a crisis, those baser elements take center stage. The extreme brevity of financ memory ensures that people do not learn from the last crisis, preferring instead to find extern ~~scapegoats in the aftermath, whether individuals or groups. As the tide departs and shipwreck~~ surface, allegations of fraud and deceit abound. There is the self-righteous belief—but alwa excusing oneself—that excesses need to be purged and speculation punished. There is hope that poli makers will provide answers and create a utopian world where economies are no longer subject to t vagaries of boom and bust.

But hope is not a strategy. The introspection needed is sorely lacking, and myopic postcra mutterings only contribute to the brevity of financial memory. The tools of the boom—stocks, tuli derivatives, mortgages, and so on—are scrutinized, demonized, and finally rehabilitated throu regulation. But the all-too-human wielders of those tools and the societal incentives that drove the are never mentioned.

It is hardly surprising, then, that there is such a strong correlation between regulation and crise Sheathing the sword does not make it any less dangerous—it only presents the illusion of doing so. we do not address the underlying causes, crisis and regulation are forever condemned to follow ea other like night and day.

Crises are endemic, and efficient markets—the core commandment of modern finance—are a l The regularity of crises and our persistent failure to avoid them hint that markets are inherent unstable and fragile. To ignore the human actors within them is to ignore the lifeblood that drives o history. Like the drunken man zigzagging back home after a night out, we lurch from crisis to o notion of normality to crisis again.

The same pattern repeats in financial crises from the Greek and Roman bailouts of the ancient e to the follies of tulipmania in the seventeenth century to our modern experiences in the twenty-fi century, even as the human race steadily marches on through history, progressing to new heights achievement.

The March of Complexity

We live in a world that is more interconnected and complex than ever. You don’t have to look far t see how rapidly it has evolved, particularly over the recent past (see Figure 1 in the photo insert, gra of estimated global GDP).

Till about 1700, the world grew on a Malthusian dynamic—that is, its growth was linked to t growth in population, increasing steadily. Communities ran into each other more often, explored ne lands, and traded more widely. Productivity increased steadily and there were periodic technologic breakthroughs (e.g., gunpowder), but the pace of these was slow. The world was divided into tho who had a lot of money and those who had very little. The middle class, as such, was thin on t ground and largely composed of the merchant class and occasional urban gentry. Agriculture was t dominant profession and contributor to global growth, its upward trend ensured by a steady increase the mouths that needed to be fed.

The crises we see during this period are often fiscal crises of empires and nations. They borrow too much money or spent too heavily in pursuit of their interests. As money ran short, they resorted watering down the metal content of their coins—debasement or inflation the old-fashioned way—a found themselves losing all credibility. Insurrections, invaders, and assassinations purged the syste and collapsed its nascent complexity before it could encompass too large a population. Bankers we few and debt was limited.

There were exceptions to the above. Rome was one, where the system evolved a rare complexi of economy. The influences of that complexity still echo in our language and laws today. But it als ~~came with costs in the form of repeated battles between debtors and creditors, numerous financi~~ crises, and a state that grew so large and dominant within the Roman hegemony in its pursuit certainty that it became a financial black hole, causing the system to implode.

Post-1700, however, we see a distinct change. The Industrial Revolution unleashed a surge productivity thanks to technological innovation, and growth suddenly took off. Thereafter, econom growth appeared to decouple from population growth and was driven by the ever-increasing pace technological progress.

With this sustained exponential surge in growth, society became increasingly complex at accelerated rate. As interactions between people as well as demand grew apace, money flowed into th system in response. Innovation was fueled and productivity increased dramatically. A virtuous circl of leverage was created. The promise of enhanced status, driven by a slice of future growth, entic more people to commit ever more capital. Where they did not have any, intermediaries sprang up manufacture this for them by mortgaging the future, increasing the stock of money in the system. A arbitrage of location between supply and demand became one of time. By pulling the future earnin of many people into today, you financed growth in the present, so when tomorrow arrived, you we already far richer.

A secondary industry based around money arose. By taking resources and lending them o repeatedly to others, it deepened the links across the network. Trust became commoditized and efficiency of allocation emerged. The result was the distribution of money across a far wider swath people, all of whom now acted to further grow their individual influence (and, thereby, their statu within this complex network by moving their money to where growth might emerge.

The nature of financial crises changed as well. Losses of trust grew more pervasive. Debt a leverage increasingly became a structural part of the link. Thus, the failure of a link affected mo people and for longer. The phenomenon of contagion was born. As herds moved around this ne ecosystem, rotating through different opportunities, a more distinct boom-and-bust cycle was create

Recessions and crises have become more common over recent centuries. Their impact has al grown. Both are in proportion to the growth in complexity and the more efficient transmissio mechanisms created by this. The debasing and defaults of sovereigns have been joined by the defaul and restructurings of smaller collectives and individuals as they seek to alter the promises made headier times.

One may see the transition as akin to the transition from an oxcart to a car. The latter will get yo to where you want to go much faster, but it also has far more moving parts that can break dow unexpectedly. However, that is a compromise we make willingly every time because we value th added benefits.

The Good, The Bad, and The Ugly

Given their roots in the excesses of human nature, it is easy to typify all crises as bad. But this is to simplistic a view. Throughout history, progress and growth have always been linked to the capaci for error. Speculation and overlending may cause bubbles if unchecked, but at the same time, it is th taking on of imprudent risks that has often led to many of the advances throughout history.

It was likely a speculator who left his milk out too long one day and discovered cheese, a possibly a greater fool who came to the party even later to discover blue cheese. The rise of th Internet spawned an infamous dot-com bubble. However, that same bubble also financed a paradig shift in the global exchange of information and social interaction that is now increasingly defining o modern world.

Conversely, attempting to dampen down too far is stifling. The Dark Ages may possibly b construed as a greater depression, as the Christian ban on usury and the lack of a financial framewo to support speculation slowed economic growth to a crawl. Legend has it that when the great Mong warlord Tamerlane reached the borders of eastern Europe in the fourteenth century, after scything h way through Asia, he looked across and deemed the continent too insignificant and poor to pillage. third of global GDP during those times resided in China, which was experimenting with the concept fiat money—money based only on trust, as we have today. Along the way, the Chinese created legendary empire and discovered gunpowder and paper as well as new financial phenomena such hyperinflation. It was only when greedy banking families such as the Medicis began to fraudulent lend money without holding sufficient reserves—a necessary if criminal speculation—that th Renaissance and the ascendancy of European culture actually began. Other examples abound. Th South Sea bubble in the eighteenth century was intrinsically tied both to governments' need to develo a functioning bond market to help finance them and to the growing popularity of the stock compan financing the dreams—for better or worse—of countless entrepreneurs (and a few criminals) throug to the present day.

But though birthed from the same socioeconomic DNA, crises can evolve down very differe paths. Some crises, such as the Wall Street crash of 1987 and tulipmania, only lead to brief lulls economic activity and little lasting damage. Others are more scarring. Almost all of the 1400s we beset by inflationary forces, while 1929 and its aftermath have been seared into cultural memory the Great Depression.

Depressions have deep roots. The amount of debt is critical. When the borrowing has been far to excessive such that the deleveraging required is monumental, then that may necessitate years an perhaps even decades of liquidation to return to some semblance of normality.

The long-term planning and management of a society's different aspects also necessitate a lon term perspective. But in practice, the actions of those charged with this task always have a horizon f shorter than the complexity of the system they manage. Little decisions today play out in big wa tomorrow as the actors in the economy respond individually to them and the incentives they procreat New permutations of group behavior and, thereby, complexity are born. Some will inevitab reinforce existing bubbles or create new ones. However, these bubbles also have a critical point the will reach at some time in the future when emotions tip over and confidence turns to growing concer

At these turning points, when the disequilibrium beneath the surface comes to the fore, failing appreciate the complexity of what you are dealing with can cause great harm despite all the be intentions. The small decisions can accumulate, allowing the herd to grow far larger than it might otherwise, yet always too little to right the structural weaknesses when the cycle turns. In time, the crescendo over successive crises, and what would otherwise be a recession becomes something f more scarring that can threaten the sustainability of an economy and way of living.

A depression then becomes fundamentally a tragedy of small decisions. Bubbles are born in th minds of individuals, nurtured by the incentives of their environment, and grow to adulthood in th complexity of economies. Their aftermath is dictated by these same forces as well.

Because we are human and seem to have a preference for capitalism, we may not be able prevent the contagion. But knowing how to manage crises and minimize their wider impact—bo economic and sociopolitical—is still an important goal. As I noted at the start of the chapter, rises an falls are as natural to the economic condition as breathing is to the human condition. Removing the ebbs and flows would be to stifle progress, as has been amply demonstrated throughout history. But clear ~~perception of the characteristics common to these episodes can also help in warning~~ of ar curbing our enthusiasm so that we minimize the risk of our speculations becoming systemic. Whi this may be less mechanical than many hope for, the signs of delusionary euphoria are sti unmistakable. When the world is increasingly convinced that something can only go up, it is time gently bring it back down to earth.

The importance of that cannot be overstated. Beyond the systemic risks, an economic crisis left go on for too long always becomes a political and social one. The Europeans' impotent obsession wi reparations and war debts led to the rise of Nazism. The Spaniards' love of gold in the sixteenth ar seventeenth centuries eventually bankrupted their nation. China's dalliance with floating exchang rates in the late 1930s led to hyperinflation and the advent of Chairman Mao. The lessons of histo and the human imperative underlying them are clear; we simply have to recognize them.

In our language, we talk constantly of flows: the flow of water, the flow of money, the flow c ideas, the flow of our thoughts, the flow of the words on these pages. It is an unconsciousne acceptance of the fact that we live in a dynamic world and that all life is movement.

You hold in your hand a history of financial speculation and its consequences. It tracks ar analyzes the persistent seduction of our senses by new investment opportunities; the subsuming individuals into the euphoria of the crowd as the illusion of insight takes hold; the never-ending, eve enriching boom, fueled by a surfeit of money; the complexities we never understand till it's too lat the unexpected catalysts that expose the emperor's new clothes; the inevitable crash as investo scramble to realize their monies and salvage their egos; and, finally, the brevity of financial memo that allows us to repeat the cycle endlessly without ever critically evaluating our own failings.

In short, it is the story of what makes us human.

* As Galbraith once noted, the only point of economic forecasting was to make astrology look respectable.

Deconstructing the Gruffalo:
A Roman Parable

Past things shed light on future ones; the world was always of a kind; what is and will be was at some other time; the same things come back, but under different names and colors; not everybody recognizes them, but only he who is wise and considers them diligently.

—Francesco Guicciardini (1483–1540)

All the perplexities, confusions, and distresses in America arise, not from defects in their constitution or confederation, nor from want of honour or virtue, as much from downright ignorance of the nature of coin, credit, and circulation.

—John Adams (1735–1826)

In A.D. 33, a certain Jesus of Nazareth, also known as the Christ, was crucified by Pontius Pilate, tl fifth prefect of a distant province of the Roman Empire called Judaea.

A few paragraphs may have been devoted to the abovementioned unfortunate in Pilate's regul report to Emperor Tiberius on tax collections and the general mood of the local populace. It certainl earned a passing mention in the Roman historian Tacitus's diatribe against the "Chrestians" in h *Annals* some eighty-three years later.

Otherwise, this distant death was of little consequence to the ancient world. Tiberius was bus throwing his friend Sextus Marius to his death off the Tarpeian Rock in Rome, some 1,434 mil away. He and the rest of Rome had their hands full dealing with their deepest financial crisis to date.

An Empire of Commerce

The year began as any other for a Roman Empire seemingly in its ascendancy. Roman legions ha conquered much of Europe, and the empire's borders now stretched from Spain in the west to Syria the east, from the length of the Danube in the north to Egypt and Libya in the south. A constant strea of people from the outlying provinces flooded Rome in search of prosperity and status. Despi periodic skirmishes with those unenlightened enough to resent Rome's rule, peace was the order of tl day, and the Pax Romana was rapidly becoming the cultural myth that future generations would aspi to.

Long before our own modern globalization, a dense web of interconnected economies and trade- all supported by a complex morass of banking and credit—already existed. Rome was the econom and cultural capital of the Mediterranean world, the city where all roads led. Nowhere was this mo evident than on the Via Sacra, the main street of ancient Rome, which meandered from the gre temples at the top of the Capitoline Hill through the Forum with its bankers and traders befo finishing up at the Colosseum, where ordinary Romans went to enjoy an afternoon of gladiatori combat or highbrow drama.

This was the most expensive retail street in the ancient world, the Fifth Avenue or Champ

Elysées of its day. Here you could pick up a slave for a lifetime, or a whore for the afternoon, if th ~~price of the former—often more than a year's wages for the typical Roman legionnaire—was to~~ steep. Find a backstreet gambler to chance your precious monies with or instead trust them to one the many bankers or companies dotted around the fora. Traders vied with one another to sell yo exotic spices from India or holy scarabs from Egypt. Little eateries set up shop next to each othe tempting you with fine wines from Spain, hams from Germany, and olive oil from northern Italy. nothing else, one could saunter down the paved street and admire the many architectural delights le by generations past, from triumphal arches to sycophantic statues to the pagan magnificence of th Pantheon.

Smaller tendrils reached out, catering to the wants and whims of those unable or unwilling afford the wares of the Via Sacra. These economic contours radiated outward, delineating the strata Roman society, until finally, on the Tiber, one reached budding Monte Testaccio, the future eighth hi of Rome and a testament to how much Roman commerce had come to dominate the world. A dumpin ground for disused amphorae, Monte Testaccio would eventually become the resting place for som fifty-three million amphorae, rising in a mound nearly 160 feet high and with a circumference of mo than half a mile.[1] Today it forms the grassy hub of a bustling working-class neighborhood of Rom many of whose visitors are oblivious to the ancient clay beneath their feet as they stock up f weekend picnics at its famous market by day and at night venture into the many nightclubs carved in the hill.

The Via Sacra was a true melting pot for the whole empire. Around this artery of commerce, burgeoning financial district had taken shape to cater to Roman denizens of all strata. Hidden in th markets were the moneychangers, each hard at work at his *bancu*—a long bench that would in tim give us the words *bank* and *banker*. Foreign coins were weighed, checked for quality and purity, an then converted into the gold denarii, silver sestertii, and other lesser coins issued by the imperial min

A step above were the *argentarii*, professional bankers who received deposits and made loan They advanced credit to buyers at auctions and also collected money on behalf of the sellers. Ov time, other types of bankers would spring up who combined varying aspects of the moneylenders an *argentarii*.

Finally, at the other end of the scale were the financiers. Akin perhaps to the merchant bankers o the nineteenth century or the private-equity powerhouses of today, these were entrepreneurs who too part in financial enterprises and speculations on a grander scale. They lent money to cities and king created large companies to bid for public contracts and collect taxes on behalf of Rome, an dominated ancient mining and shipping.

Between all these echelons, a complex financial network extended throughout the empire. It boun society as well as provided the fuel for economic growth. Most important, it instilled a sense of tru that was vital to the success of the Roman economy.

A Foundation of Debt

Modern banking is typified by fractional reserving, a notion under which money deposited is loane out repeatedly, with only a small amount held back in reserve. Through this provision of credit, th money supply is boosted and the economy receives a huge influx of capital to help it grow. Behin this lie two calculated risks: first, that the profits on loans made will exceed any losses suffered an provide the banker with a return over and above the deposits entrusted to him; and second, th depositors will not ask for their money back all at once. All banks always have only a small amount o liquid cash on hand to manage their daily outgoings. The rest is all tied up in longer-term loans th are ~~not so easy to call in at short notice and unlikely to retain more than a fraction of their value~~ in a disorderly liquidation. Therefore, trust is all-important to this façade: people are unlikely to make run on the bank as long as they have confidence that they will be paid back their money whenever th need it.

However, this concept of a leveraged economy sustained by trust is not a modern invention. Th word *credit* comes to us from the Latin verb *credere*, "to trust or believe," and ancient civilizatio were well versed in the use and abuse of credit.

Many temples across the ancient world from Greece to Egypt to Asia took full advantage of the privileged position in society and had a profitable sideline in taking deposits, extending loans, ar changing currencies. Credit was a vital part of facilitating trade and arguably predated the mediu termed money. Ancient legal codes such as Hammurabi's Code from the eighteenth century B. prescribe the treatment of debt and debtors in extensive detail. The cultural pervasiveness of cred may be judged by the repeated mention—rarely flattering—of bankers by ancient orators such Isocrates and Demosthenes, while other records demonstrate that the ancient Greeks at least were ab to add default to their list of accomplishments alongside democracy.[2]

Nevertheless, it took the Romans to elevate credit to the architecture of an economy. Roman la made distinctions between money handed over to a banker for a period of time or to be available o demand (*mutuus*), typically with interest, and money that was given explicitly for safekeepi (*depositum*), often in a sealed bag. The former could be lent out at will by the bank, while the latt was strictly off-limits. These concepts have lasted through to modern times and even as late as th nineteenth century were being cited in U.S. court cases. Today we still unconsciously distinguis between them by choosing to put money in our bank accounts or valuables in a safe-deposit box.[3]

Credit was fundamental to both the growth and sustenance of the Roman hegemony. Rome wa one of the earliest mercantile powers, where trade and empire went hand in hand. As Cicero noted one of his speeches, "All Gaul is full of traders—Roman citizens. No Gaul does any business witho a Roman's aid."

The size of the Roman Empire demanded both extensive infrastructure and finance to facilita trade across this growing commercial reality. The evidence lies strewn across Europe and Africa in th remains of countless aqueducts, Roman roads, and Mediterranean shipwrecks. This commerce allowe Rome to spread its influence, laws, and culture across much of their known world, binding people in a common society that stretched across thousands of miles. As long as everyone was making mone few had reasons to disturb the Pax Romana.

At its zenith, the city of Rome had a population of over a million people—a number thereaft unmatched until London in the early nineteenth century laid claim to being the largest city in th world. Meanwhile, the growing number of cities across Italy and the empire added their own deman for wheat, oil, and luxuries.

Loans were advanced to traders, with wheat and dried fruits as security. Contracts for futu delivery—a rudimentary form of what we term today financial derivatives—provided insuran against crop loss and the risks of long-distance commerce.[4] As ships set sail for distant lands, banke provided the guarantees that allowed merchants to chance the uncertain journey.

Famous Romans over the years such as the orator Cicero, the philosopher Seneca, and Juli Caesar's assassin, Brutus, competed to provide the grease to lubricate the growing Roman econom and made handsome profits as a result. Senators, knights, and rich plebeians all congregated arou the Forum to trade in debt claims and the shares of *publicani* and shipping companies, deposit the monies with the financiers of the day, or take loans for that other perennial Roman speculation, land.

~~Financial speculation was the quickest way to climb or sustain your position on the greasy~~ pole Roman society. Like many ancient societies, Rome had a hierarchical structure. At the top were th privileged senators, originally the old landed gentry who had founded and ruled the republic for man years. Beneath them were the equestrians or knights, ambitious junior members of the aristocracy wh took advantage of a burgeoning Roman Empire to accumulate vast estates and fortunes. Then the were lesser elites—typically the aristocracies of other cities—and the poorer strata of Roman societ culminating in the freedmen (ex-slaves) and slaves at the very bottom.

However, this hierarchy was remarkably fluid and one could move in either direction by virtue fortunes made or lost. The role of money in determining status in society was eventually codified the first Roman emperor, Augustus (63 B.C.–A.D. 14). Senators required a minimum property thresho of 250,000 denarii (about 1,100 times the annual wage of a legionary), while knights required 100,00 denarii.

The role of trade and finance in aiding this social mobility is best illustrated with two example The Latin poet Horace’s father was first a slave, then a freedman, and eventually, a profession banker. The fortune he made enabled him to build up a significant real estate portfolio and provide h son with the best education money could buy. Horace in turn became eventually a knight and one the most famous Latin poets, immortalizing his father’s contribution in verse.

> And yet if my disposition be culpable for a few faults, and those small ones, otherwise perfect (a if you should condemn moles scattered over a beautiful skin), if no one can justly lay to my charg avarice, nor sordidness, nor impure haunts; if, in fine (to speak in my own praise), I live undefile and innocent, and dear to my friends; my father was the cause of all this. . . . As long as I am in my senses, I can never be ashamed of such a father as this, and therefore shall not apologize [for my birth], in the manner that numbers do, by affirming it to be no fault of theirs. (Satires 1.6.65–92)

Still more remarkable was the story of the family of Vespasian, one of the preeminent Roma emperors in the late first century A.D. His grandfather Titus Flavius Petro was one of the earlie recorded professional bankers, offering the full gamut of services from receiving monies at auctio to deposits to exchanging money, in the time of Julius Caesar during the early first century B.C. H father, Titus Flavius Sabinus, built on this foundation to establish a significant fortune. He began h career as a private tax collector in Asia and then moved on to advancing loans to various tribes acro the Roman Empire. The Swiss, in particular, were among his best clients, giving him the distinction being history’s first recorded Swiss private banker. Thanks to his father’s enterprise, Vespasia himself ascended to the ranks of knight, senator, and eventually emperor, though he lost little of h family’s taste for making money.[6]

The Architecture of Crisis

By A.D. 33, many senators and knights were not averse to making money through commercial a financial ventures, such as lending, banking, and tax farming. It was a way of growing their patrimo and ensuring their preeminence at the political dinner table. It was also their share of the spoils of growing empire. These few thousand men and their families dominated the Roman economy and we to play a vital role in the future history of the empire.

Much of this growing optimism and attendant mobility was thanks to one man: Augustus, the fir Roman emperor. Born Octavian, he was a short, quiet man who lacked the charisma of his great-unc Julius Caesar but was blessed with superior political acumen. As Octavian, he ruthlessly maneuvere his way through a bloody civil war in the aftermath of the assassination of Julius Caesar to emerge th unchallenged victor. Then, as Augustus, he adopted a more benevolent façade as the kindly empero and father of the nation. His chameleon-like ability to play the political game was evident in his dyin words: “Since well I’ve played my part, all clap your hands and from the stage dismiss me wi applause.”

But it was not an easy path. In 30 B.C., surrounded by Octavian’s troops in Alexandria, Mar Antony—once Caesar’s confidante and Octavian’s co-ruler—fell on his sword and killed himsel pausing only to have a final glass of wine. As he died, the Egyptian queen-pharaoh Cleopatra claspe an asp to her breast, according to the legends, and chose death over the humiliation of being parade in the inevitable triumphal march in Rome.

The civil war now over, Octavian’s challenge was immense. Rome was decimated an impoverished after the latest episode in over a century of civil wars. High taxation, the dearth commerce, punishing inflation in the prices of basic necessities, and numerous debt and liquidi crises had reduced economic growth to a theoretical term.

Rome and its businessmen needed stability to recover. Octavian provided this by hunting dow and killing the eldest of Caesar’s, Antony’s, and Cleopatra’s children. With that accomplished and vast army at his call, all political threats were removed. By itself, that would have led to a recovery time as Roman commerce recolonized Europe and reopened trade routes. Octavian, however, wa impatient. He was also mindful that social tensions between debtors and creditors had been at the ro of Rome’s troubles for the last century.

This was the flip side of the complex economy built over successive generations. Mone permeated throughout Roman society. The growth of Roman power and wealth had led also to growing inequality in society, as rich landowners accumulated vast estates and a large number commoners found themselves increasingly impoverished and unable to compete with the influxes cheap labor flooding in from distant conquests in the form of slaves. The rise of the knights as a ne breed of entrepreneurs only exacerbated this disenfranchisement and led to growing tensions within society in the absence of political reforms. Tax farming—the use of private *publicani* to collect tax from the provinces—was particularly lucrative and open to abuse. The method employed was uniqu The state wanted the stability of revenues, so contracts were auctioned for different territorie Companies bid for these and paid the expected revenue up front. They would then go out and extra the taxes from the local populace, taking on the risk of any shortfalls. Naturally, the desire maximize profits soon meant that the focus was on extracting as much as possible in excess of the b paid to the Roman state. For the populace, the need to pay taxes soon meant that moneylenders had captive clientele, and many cities found themselves perilously and perpetually in debt. Brutu infamously lent money to the city of Salamis in the first century B.C. at the generous rate of 48 perce and then tried to coerce the local governor into using his troops to collect on his debt when they bega to default.

The Romans soon found themselves learning the now familiar cycle of boom and bust as th market economy grew more complex and credit percolated throughout Roman society. Financi crises driven by debt or liquidity began to be recorded in the historical annals with increasin frequency from the early second century B.C. onward, both in Rome and in its provinces.[7]

By the end of the second century B.C., land reform and debt relief were major political issues an led to the splitting of the Roman elite into two rival factions supporting debtors and creditor respectively. ~~The class struggles that Karl Marx would write about two millennia later were~~ bein played out in all their brutal glory in the streets of Rome. Echoes of this cultural memory may b found in the name Marx gave his working-class heroes: the proletariat. The word derives from th Latin word *proletarii*, for the lowest rung of Roman society, who had little to no property and whos only contribution to Roman dominance were the *proli* or offspring they produced to fill the ranks the army and colonize new provinces.

Given the intractability of both sides, war and crisis were inevitable and chronic. The Social Wa of 91–88 B.C. between Rome and its vassal Italian city-states was a bitter struggle over the thorny issu of land redistribution and a growing inequality divide. It led to a financial crisis, as a fall in real esta values was compounded by the hoarding of money by cautious Romans and troubles in the province Asia Minor, where considerable Roman money was invested. The interconnecting threads linking th new Roman economy became a noose for many as investments went sour and debts fell due. A deflation took hold, debt burdens grew harder to shoulder, forcing yet more people into selling the lands and possessions at any price to settle their books, and creating a vicious cycle that we now kno today as the debt-deflation spiral. Resolution was reached only when one side emerged victorious an the new consuls Valerius Flaccus and Marcus Cinna pushed through a debt relief bill that cut all deb by three-quarters.

But the pattern was now set, and debt was rapidly becoming a structural part of the econom Roman demands for reparations from the cities of Asia Minor for their impudent rebellion soo created another financial crisis, resulting in the first-ever documented banking bailout: a ten-ye moratorium on the return of deposits for the troubled banks of Ephesus in 85 B.C. Two decades later, 64 B.C., another looming financial crisis led to the infamous Catiline conspiracy. Debts had aga grown across Roman society. Rome strained under an influx of dispossessed farmers and ex-soldie looking for jobs and money. Many senators found themselves unable to repay their debts witho sacrificing the patrimony that gave them their privileged place and political clout. The senat Catiline demanded the abolition of debts and attempted a coup to overthrow the Republic, only to b foiled by the great orator Cicero, who summarily executed the conspirators to remove any potenti threat to the state.[8] Possibly Cicero was also influenced by his own partisan pursuits, as he lent larg sums of money often and traded in debt claims. In later years, as his own debts piled up, Cice ruefully remarked to a friend that he would gladly join in some conspiracy but that none would hav him after his punishment of Catiline.

Barely fifteen years later, the latest round of civil war—now between Julius Caesar and Pompey- triggered another crisis in 49 B.C. Worries about political instability led to the hoarding of coins and drying up of the money supply. Creditors began to call in their loans, but debtors found themselve unable or unwilling to sell. The economy once again ground to a halt.

A functioning and growing economy depends on how fast money moves through the system. I Rome, as for us today, the velocity of money is determined by the entities that buy and borrow an lend, that is, banks, businesses, and ordinary consumers, as an economy is fundamentally nothin more than the sum total of their interactions. In order to have an effect on the economy, money nee to move through the system, and that can only be determined by these participants' willingness t borrow and lend rather than hoard and save. When banks refuse to lend, businesses begin to conser cash and consumers stop buying and borrowing, choosing instead to save and hoard money. Moneta velocity crashes, transactions dry up, and the economy begins to shrink in recession—the bogeym of kings and politicians through the ages. Deflation becomes the order of the day as asset prices fall an attempt to become attractive enough to entice those hoards out of hiding and kick-start a stall economy.

Then, much as in the following passages of human history, the resulting panic and hardship le Caesar to negotiate settlements between debtors and creditors as well as bring in new laws that limit the amount of interest that could be charged on loans. Senators such as Brutus were unlikely to hav been supporters of such measures, given their lucrative dealings. There are suggestions that Caes even tried to fix the maximum proportion of a patrimony that could be loaned out by the upper cla going forward. If true, it would have represented the earliest equivalent of asking banks to limit the leverage and hold more regulatory capital. Caesar's reforms were soon ignored, making him amo the first to learn that one cannot legislate away market forces of supply and demand.

The Cusp of Mania

All this history was fresh in Octavian's mind. Political stability had already been ensured for no through the sword. Dragging Rome out of its deflationary spiral and reigniting growth were critical Rome was to manage its social tensions and create an empire that could withstand the test of time.

We often debate today what the right policies are to engineer growth and maintain it. Schools thought inspired by economists such as Keynes, Hayek, and Friedman dominate the exchang between policy makers and central bankers on key issues such as taxes, interest rates, and the supp of money in the economy. Recent events such as the credit crunch of 2007–9 can add urgency to som of these discussions as each school trumpets its favored solution to end an ongoing crisis and resto growth.

John Maynard Keynes would advocate during the Great Depression of the 1930s that in times severe stress, the government should step in and alleviate the burden through cutting interest rates a increasing its own spending on areas such as infrastructure to keep the economy going and minimi the downturn.[9]

A few decades later, the chairman of the U.S. Federal Reserve, Ben Bernanke, earned himself th moniker "Helicopter Ben" when in a speech at the National Economists Club in Washington, D.C., November 2002 he argued that a government that owned the physical means of making money cou always outfox deflation by simply issuing more money.

> U.S. dollars have value only to the extent that they are strictly limited in supply. But the U.S. government has a technology, called a printing press . . . that allows it to produce as many U.S. dollars as it wishes at essentially no cost . . . [and] reduce the value of a dollar in terms of goods and services. . . . [Sufficient] injections of money will ultimately always reverse a deflation.

It was a new recasting of Milton Friedman's famous "helicopter drop" of money, but the speech coul have been written by Octavian. The brevity of our memory coupled with misplaced pride makes hard to imagine that anyone could have appreciated the tools of monetary and fiscal policy in th distant past. But nearly two millennia before either Bernanke or Friedman spoke or wrote a wor Octavian was grasping toward the same techniques that others advocate today for repairing a brok economy. The military power he wielded, coupled with his vast inheritance from Julius Caesar and th legendary riches of the conquered kingdom of Egypt (designated now as his personal property), ga him the ability to retool an economy in a way that today's politicians and central bankers can on envy.