

INTRODUCTION

Today we face one of the greatest economic crises in recorded history. The extent of debt we have amassed is unprecedented. The magnitude and duration of systemic distortions under which this indebtedness has been built, coupled with its global nature, have created an enormous destructive force. This book draws out the major fault-lines in a system that began its leveraged crisis in 1944, the day the system of Bretton Woods was born. Since then, various events, political decisions, and circumstances contrived to create the perfect storm. *Eye of the Storm* describes the dynamics of our financial system and explains the roles of the major players involved. It examines the institutional failing of finance and how it can be fixed.

With the introduction of Modern Finance and its applications, risk management at financial institutions all but flew out the window. The relatively new ideas and theories of Modern Finance systematically took over, without any authority questioning their validity or assessing potential repercussions. The free-market mantra of Reaganomics was abused to prevent proper regulative oversight. A nontransparent and unchallenged Federal Reserve, under the aegis of Alan Greenspan, went further to guarantee the system outright, proclaiming the efficiency and self-regulating powers of the market. The Fed's monetary policy simultaneously supported and directly encouraged the expansion of credit—credit it lost all control of in the wake of the inventions of Modern Finance.

Consequently, for more than two decades, financial institutions leveraged themselves up with free money, unhindered and unregulated by authorities, employing tools that were barely understood by even those who applied them, and in so doing completely abandoned their central role as the allocator of capital and risk in our economy. The wholesale application of Modern Finance led to a systemic and pervasive dissociation from real economic risks within the financial system.

Largely because the U.S. has no balance of payment constraints, the credit boom continued for far longer than it should have, leaving the country with a monumental mountain of debt of more than \$50 trillion that its government wants to take on with a purse no larger than \$5 trillion. It's a battle of David and Goliath.

Despite extensive media and political analysis of the crisis and the desperate search for more effective policies, several critical points have been consistently overlooked. Only by understanding what contributed to the crisis can we begin to sort out how to emerge from it.

Let's begin with a historic line of perspective, distinguished by three general phases:

The last 60 years

... during which our global currency system built itself up to become a giant credit pump. In 1944, in the Bretton Woods Agreements

(a system of rules, institutions, and procedures to regulate the international monetary system), our currency structure was founded with the U.S. dollar as the global reserve currency. Since then the most popular economic model outside the U.S. has been to undervalue and peg a country's currency to the dollar and drive export growth. First, Japan, Germany, and other European countries rebuilt themselves after WWII, then the Asian Tigers emerged, and recently China took the limelight with the rest of the emerging markets in tow. This system allowed great balance of payment flexibility to the U.S. and was one of the main reasons behind the disinclination to save and the ascent of consumerism in the U.S.

With the consumption/credit culture at the center, the export/savings culture that was nurtured in the periphery of this global monetary system acted like a giant pump, channeling an increasing flow of capital through the system and back into U.S. asset markets. Rising asset prices in the U.S. were used as a collateral for credit. It was a virtuous wheel that turned and sped up the global economy, until China joined and jolted that system into high gear.

THE LAST 30 YEARS

... when the storm clouds started gathering. I would like to point to three significant events that worked together to catalyze the boom. The fall of Bretton Woods meant that the world ran a money system without any hard rules restricting money growth. In short order, during the 1980s, Modern Finance took over popular financial terminology and application. Modern Finance—a cluster of models and theories built around a core of simple assumptions—allows the mathematical capture of market dynamics.

Modern Finance spawned an array of new instruments and models to describe and manage risk. And third, in 1987, Alan Greenspan took office as chairman of the Federal Reserve, and he ushered in an era of monetary expansion with slack regulative oversight.

Despite conclusive empirical indications that Modern Finance needed to be applied with great caution and informed regulation, the markets plunged ahead, blessed by Greenspan and charged with an irrefutable belief that the system would somehow take care of itself.

THE LAST 7 YEARS

... when our global economy was thrust into overdrive. This time I can count four basic noteworthy events that conspired. First, in 1999, Glass-Steagall, the Banking Act of 1933 mandating the separation of commercial and investment banking, was overturned, allowing the banks free rein in financial services. Second in 2000, the markets corrected and signaled their previous overexpansion. The Fed opened the liquidity valves once again and encouraged a property boom. Third, new inventions brought in by Li (Li-Copula discussed in Chapter 14) allowed the widespread application in the bond markets of tools and instruments that had been the province of the equities markets. In the following seven years leading up to the crisis, global banks exploded their balance sheets, feeding an emerging market investment and production boom that was almost exclusively fuelled by mortgage refinancing and equity withdrawals, without which real GDP growth in the U.S. would have been barely positive. China alone invested \$6 trillion into infrastructure and production facilities in the first seven years of the millennium, it

alone built power capacity the size of Britain every year. Now, one will have to establish how large demand really is, without the credit. It is very likely that the periphery of our global economy (i.e. outside the U.S.) will fare much worse in the coming depression than the U.S. itself, despite its being the host and epicenter of the crisis, since most peripheral economic activity is capital intensive and tied to high exit costs. Cyclical adjustments are much harder in capital-intensive economies than they are in knowledge-based, relatively nimble service-orientated economies such as the U.S. and a few other developed economies.

The all-pervasive adoption of Modern Finance within the financial sector has changed the financial industry profoundly. Today's focus is primarily on derivatives, but more important is just how Modern Finance has changed the fundamentals of risk management, the measurement and perception of risk, and business models applied within the financial industry.

MODERN FINANCE

Our commercial banks, the core businesses in our financial system and the wheel that makes the world go round, were led astray by Modern Finance. To date there has been little discussion of the practices of banks and the activities they have become involved in, most of which they are entirely unsuited for. In particular, following the fall of Glass-Steagall in 1999, banks went all out and built quasi hedge fund businesses on top of their commercial lending books, often 10 times their size. They left behind their legacy and experience in what can be termed "relationship banking" and entered the newer world of investment banking and asset management. In the three years prior to 2007, the 400 largest banks globally doubled

their books to \$60 trillion, more than total world GDP. But not only are banks ill qualified as investors, they also (along with most of the financial industry) erred in applying the concepts of Modern Finance in entirely inappropriate ways and spearheaded a mass dissociation from real economic risks.

A key shortcoming of today's policies is the weak and timid dealing by governments with the major banks. Given the background and quality of their asset explosion during the past seven years, we can safely assume that any bank of substance today that had to keep up with the industry trend in the heyday is in reality now broke. Nothing short of swift, decisive, and authoritative action can fix this.

Resolute and effective action is now blocked two ways: First, not enough people seem to realize just how large the risks have become. Second, banks—which constitute the main problem—are holding governments hostage with "If you don't save me, I will take you down with me."

Politicians and their constituents alike (and globally) need to wake up to the fact that this crisis, the largest anyone has seen, will bring great economic destruction no matter what course we follow. Today, the U.S. alone has to deal with an economy more than \$50 trillion in debt, more than 350% of its GDP. This is by far the largest amount of debt we have ever experienced, including that of the Great Depression, before which debt to GDP in the U.S. stood at 160%. A large part of this debt is mortgage related. Since 1980, U.S. household debt doubled in relation to production from 50% of GDP to 100% in 2007. The financial sector made large leveraged bets on parts of this debt, as well as on other assets, and in the process quintupled its debt from 21% of GDP in 1980 to 115% in 2007. To merely return to

pre–Great Depression debt levels, the U.S. would have to write down (or pay back) more than \$25 trillion.

The preferred crisis-strategy so far is head-on bailing out. Under a new administration, government has entered a new round of “carving out bad assets” for what it hopes will be the last time. Government is now applying private-sector tactics in deploying hedge funds that are partially funded by private partners and leveraged up to 10 times. Unfortunately, a closer look at the structure reveals that the government takes up to 95% of the risk but shares 50% of the upside with some of the very names that are being bailed out. I would call that super-bailing.

Although carving out bad assets generally worked in the mini-crises during the leveraged boom of the past 60 years, things are different now. Throughout the boom, the leverage accelerator found traction every time monetary authorities opened the liquidity valves and thus swiftly reaccelerated the economy. The entire planet was driven by the U.S. liquidity train, peaking in an unprecedented globally synchronized boom in the seven years leading up to 2007. It must have been clear to at least some people that this could not go on forever, yet even today authorities, forever missing the point, continue to search for the next big thing to inflate in an effort to reignite economic growth.

The first question that must be answered is: How much leverage is prudent? Is debt in the amount of 350% of GDP sustainable, even expandable? As mentioned above, before the Great Depression the level of debt barely hit 160% of GDP, and currently any debt level of more than 200% of GDP is extremely rare and generally forces adjustment to any system exposed to such debt levels. At 350% debt to GDP interest

payments alone (at 5%) account for 17.5% of GDP. Yet today many seem to feel that the sophistication of the world’s largest economy, granted by the tools of Modern Finance and a highly productive economy, can bear much higher debt levels than has historically been the case.

This is, however, a great misconception—and it’s not simply a case of lack of regulation or capital reserves in our financial system. The all-pervasive application of Modern Finance in investment and risk management has, plain and simple, dissociated markets from real economic risks. And this dissociation has, over a long period of time, not only created a false sense of (mathematically calculated) security in the marketplace but also greatly affected the choices made. The all-time low of the VIX (the volatility index, and a direct measure for general risk in the world of Modern Finance) says absolutely nothing about where real economic risks are. All modern indicators for risk declined to all time lows while real risks went largely unnoticed and were allowed to fester and propagate for a long period of time.

The practice of measuring and managing risks with mathematical tools meant not having to focus on real risks, and at the same time also allowed large institutions to manage a monumental accumulation of assets. Most of those institutions, led by the commercial banks and enabled by the misapplied tools of Modern Finance, did not have the structural conditions or organizational experience to handle the task. They did have the commercial clout to find ample and cheap financing. Thus, more and more money came to be managed by the wrong people with the wrong models, and financial markets degraded into shuffling money around and strayed from their core function: the allocation of risk and capital.

Hence, the system's efficiency has not improved but in fact has deteriorated from the times before Modern Finance. What else could explain a complete collapse of prudent processes in the lending markets to go unnoticed for so long? It is not so far-fetched to assume that not only is today's debt level unsustainable, but the quality of this debt is likely much worse than anything we have seen or can learn from history.

THOUGHTS ON POLICY

Thus, we are left with an economy that was driven by countless ill-informed investment decisions. For that reason alone the strategy of inflating the monetary base rather than deflating the excessive debt seems ill advised. There is another obstacle to swift and bold action by government, however: the fear that the economy will implode if we allow assets to deflate, that the financial system will become bankrupt and incapacitated, and economic activity will screech to a halt.

That is not a reasonable position to support—particularly if we were to start dealing with the banks appropriately and stopped engaging in futile exercises of trying to value and shuffle assets around.

For the taxpayer, taking on that debt in the hope that the private sector knows what it is doing is giving a whole lot of credit to the wrong people. The taxpayer needs to take charge, save the crucial parts of the financial industry—the commercial banking books—with a limited budget, and organize an orderly liquidation and/or restructuring of all other assets, allowing the assets to deflate rather than the currency. Saving our financial system means applying the right “medicine” for each respective business area within finance. Parts of it will be liquidated

and others run under new contracts, which would essentially mean the restitution of some form of Glass-Steagall framework.

Concentrating on the commercial lending books of the banks has two advantages: It restructures and re-establishes the proper functioning of the core of our financial system, and it results in running acceptable fiscal budgets.

Total commercial banking assets in the U.S. are approximately \$6 trillion. If the government takes on half of that to reinstate the proper functioning of the basic banking system, the write-offs—i.e. ultimate costs—should not exceed \$500 billion. Here, Europe faces far more urgent choices, as its banks are even more excessively leveraged.

However painful, our overall debt must be brought back to sustainable levels. The choice of whether to deflate debt or to deflate the currency in which the debt is denominated also comes down to a matter of wealth distribution. A reduction in debt primarily affects the owners of assets whose value or price-tag stands in direct relation to that debt. The concentration of these assets has reached historic proportions. Moreover, the business model in financial markets links its wages and bonuses to these inflated asset values, exacerbating the inequalities in distribution of income and assets. Current policy action chooses not to allow credit to deflate, it chooses to inflate the monetary base, take on rotten assets, and devalue the dollar. Both monetary and fiscal policies are cementing the inequalities built up during the boom years.

It is clear that we will not escape without a serious and possibly protracted recession, in particular with current policies. It is also noted that almost everyone is an owner of assets, and thus is to some extent sympathetic to a bailout. Almost everyone is also a taxpayer, a parent, and a responsible

citizen; it is time to put aside the Asset Owner hat and put on the Parent, Taxpayer, Citizen hat.

Moreover, monetary policy and its silver bullet, the strategy of quantitative easing (QE), is unlikely to work, not this time. It is true that in past crises quantitative easing (the provision of liquidity) has worked well, and some blame the absence of it during the initial years of the Great Depression for the depth and length of that crisis.

All major financial crises since the Great Depression were peripheral affairs, often regional or industrial events that could easily be managed with a good dose of liquidity injection. This generally lifted everyone from any slowdown in growth—easily achieved in our global monetary system with the U.S. as the manager of the global reserve currency and its supersized ability and willingness to provide liquidity.

But today the center is bloated with credit and too sick to lift itself and the global economy one more time; the mountain of credit is too large, the distortions too grave. More credit is simply not a viable option. The periphery economies are dependent on the center, unable to do the necessary lifting themselves. Their economic policies have been driven for decades by the dynamics of Bretton Woods and the export model it encourages. These economies continue to rely to a very large extent, directly or indirectly, on the health of the U.S. economy. After an unprecedented synchronized boom we will now experience a synchronized bust. The entire planet is in the same boat. QE cannot work, because all QE will do is reinforce the dynamics of a competitive currency devaluation race to the bottom with the reserve currency, the dollar leading the charge.

In fact, the dollar has been losing value against the major currencies of Europe and

Japan since the fall of Bretton Woods. Since then, more and more emerging markets have repeated the successful post-war policies of Europe and Japan, attached themselves to the dollar at an undervalued exchange rate, and exported themselves out of poverty. The U.S. credit machine has fed a global investment, assets and property boom of unprecedented proportions. Now there is nothing left to feed. To simply print the dollars necessary to honor the accumulated debts is ultimately where the real danger of a collapse of our financial system resides: the destruction of our global paper currency system.

Ben Bernanke still feels that he knows what he is doing and trusts that he will be able to mop up all this liquidity when the engines are jump-started again. To some observers that might seem a rather theoretical concept as it relies on a strong recovery. Any weakish recovery or sideways movement of the economy would be immediately threatened by a reduction of liquidity or interest rate increases.

Given the inevitable reduction in credit in the system, a very weak environment scenario looks to have a high probability. Furthermore, it remains to be seen how financial regulation can reinstate the Fed's control over liquidity generation. Important however is the underlying (and false) assumption that all is well in our financial markets, and the liquidity created by the fed has been and continues to be allocated efficiently. To provide the system with ample liquidity is a good thing, but it would seem ill-advised to rely on monetary policy to fix the system and restart the economy. Even more so as fiscal policy continues to emphasise bailing out bad assets while investment spending remains little more than marginal. Are the first two years of this crisis not proof enough that monetary policy has lost its grip? It seems

obvious now that the issues are much deeper and more daunting than assumed under the paradigm of self-regulating markets. We are trying to reflate an overextended balloon without allowing the toxic air to escape, which essentially means that we will have to live on a landfill for years to come.

Furthermore, setting interest rates to zero is more harmful than helpful; zero interest rates indicate that things are bad, prompt market participants to assume a negative future, and lead to increased risk aversion, in effect reinforcing the deflationary dynamics in the marketplace. At zero interest rates the market loses its most important signaling mechanism. The aim to offer the banks as steep a yield curve as possible is understood but misguided. It is unlikely that they will be able to shovel themselves out of their mess in the current economic environment, no matter how steep the yield curve.

Monetary, fiscal and regulative policies must all be properly informed by the gravity of the situation and the structures in our financial institutions—the businesses that drive our monetary system. Modern Finance wreaked havoc on our system because it was not properly valued and appreciated.

It is high time we adopted a more realistic, effective, and sustainable relationship with the powerful tools of Modern Finance. Truly, it's the only choice we have.

The first part of the book (chapters 2 to 10) outlines some of the key players and fault lines in this financial crisis and describes the main concepts behind the dynamics at play. The second part (chapters 11 to 19) dives into the different markets and areas and demonstrates how the financial industry was affected and distorted. The third part (chapters 20 to 22) focuses on solutions.