



PANIC

Butte is a gritty city on the continental divide in western Montana. Amidst the beauty of the Rockies, the town is surrounded by strip mines, and while not exactly impoverished, there is nothing about Butte that hints at the enormous wealth buried in its mountains. The hill for which the city is named has been called the richest hill on earth, and it just might be: \$48 billion of minerals have been extracted from it over the past century and a half. Gold and silver abound (the state motto is *Oro y Plata*), but the true source of wealth in that hill is copper.



In its heyday 100 years ago, 300 million pounds of copper were moved through Butte's 600 miles of tunnels annually, mostly under the watch of two men, William Clark and his rival Marcus Daly, who controlled Anaconda Copper, the largest mining company in the world. Anaconda, in turn, was part of the Amalgamated Copper Company, the monopolistic trust run out of New York by Henry Rogers and William Rockefeller of Standard Oil and J. Pierpont Morgan.

On a spring day in 1889, a Brooklyn-born son of German immigrants by the name of Fritz Augustus Heinze arrived in Butte to seek his fortune prospecting. He made a deal with an important mine owner to prospect his land in return for paying royalties on the ore extracted above a certain grade. But Heinze was clever: he mixed in enough low-grade with high-grade ore to avoid paying royalties, and earned a fair amount of money before he was run out of town by the displeased mine owner. Heinze went to Canada, where he wangled a

land grant from the government to build a railroad in British Columbia. When the Canadian Pacific Railroad learned of this threat to their monopoly, they bought him out for \$1.2 million. Flush with cash, Heinze returned to Butte and bought an unproductive mine. A month later, he found the richest vein of copper in the hill.

The apex law was an obscure piece of the mining code that allowed the owner of a vein near the surface to follow that vein underground, even if it crossed into other properties. Heinze found that a surveying error left a small parcel on Butte Hill, only 75 x 10 feet, unclaimed, which he promptly secured, and then invoked the apex clause to claim further mineral rights under the properties of the Amalgamated Copper Company. Before doing so, Heinze made sure that all of the judges in the county were in his pay. After 133 lawsuits between Heinze and the Amalgamated, in which Heinze consistently prevailed in local courts, he decided to settle, and in 1906, he sold all his claims to the Amalgamated for more than \$10 million.

*"The richest hill
on earth."*



*"The story of F.
Augustus
Heinze would
be amazing
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The story of F. Augustus Heinze would be amazing enough were we to stop here: the son of immigrants moving west, taking on one of the largest corporations in the world controlled by the most powerful businessmen in the world, and walking away with over \$10 million (real money in 1906!). But F. Augustus Heinze was destined not only to accrue one of the great fortunes in American history, he was also to be the catalyst for one of the greatest financial disasters of the century. That disaster has eerie similarities to our current financial mess, and its subsequent repercussions may presage the changes we can expect in our future.

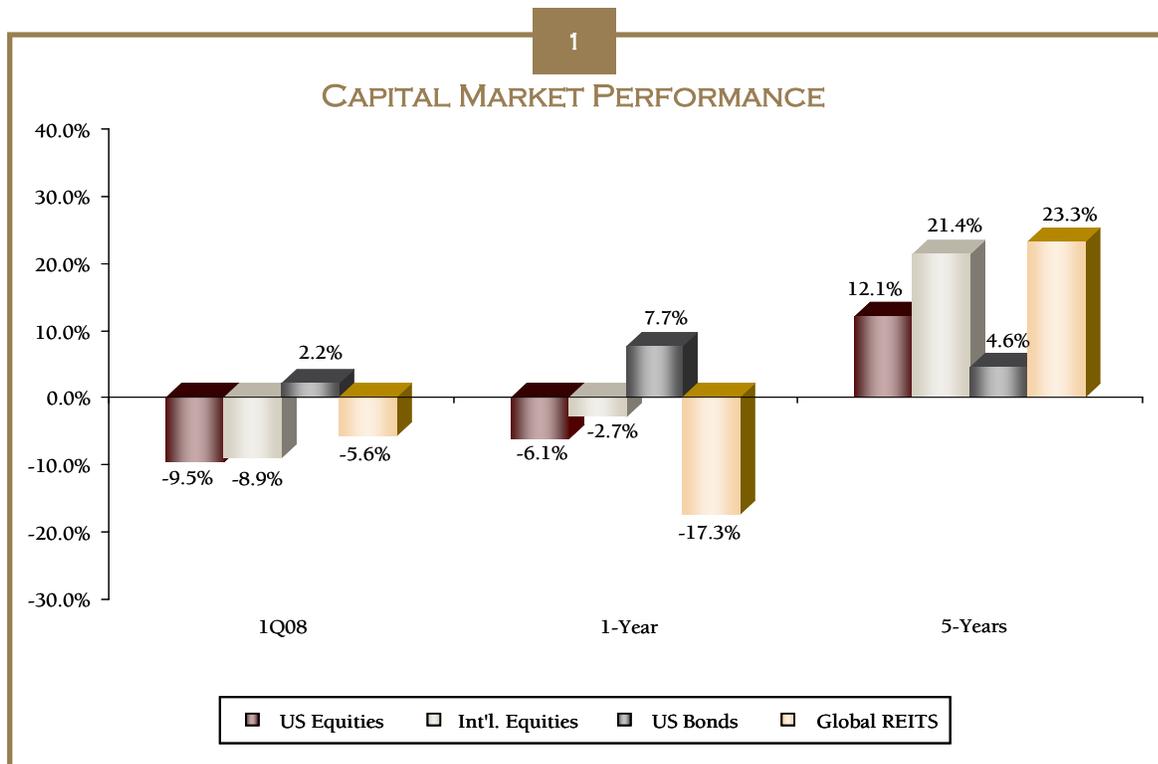
"It was a rocky start."

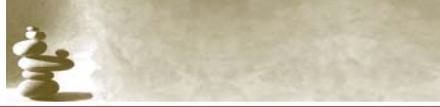
It was a rocky start for most financial assets in the first quarter of 2008. The US stock market lost nearly 10%, its worst quarter since the great bear market in 2002, and most developed equity markets saw similar declines. Volatility spiked higher, as prices moved more than 1% on one out of every three days last quarter. There were no geo-

graphic themes to note. The best market was Morocco, up 34% in the first three months, but Turkey was off 39%. Much of Asia was crushed, with China and India down about 25% and Vietnam (they have a stock market?) down 44%, but Taiwan and Pakistan each added about 10%.

The best performing asset class last quarter was commodities. Coal rose 52%, platinum gained more than a third, copper, aluminum and silver all added about 25%. Cocoa jumped 20%, but breakfast might be cheaper, as coffee fell 3% and pork bellies dropped 17%.

Commodities have certainly soared the past few years (see Chart 2), more broad-based, more persistent and of a greater magnitude than previous booms. A "confluence of mutually reinforcing demand and supply factors," as the IMF puts it, has fueled this move. On the demand side, rapid



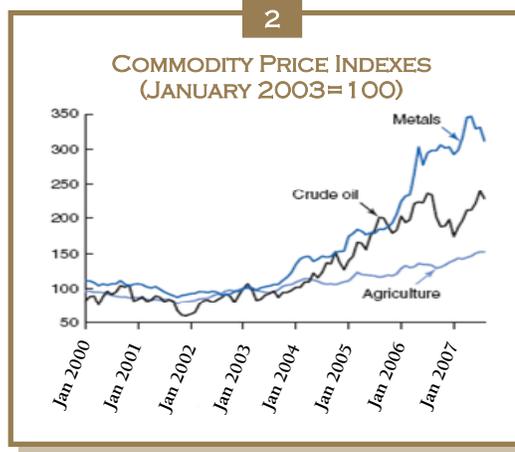


economic expansion in emerging economies requires raw materials for industrial production growth and to meet greater energy needs, while higher incomes lead to the consumption of more (and less-calorie efficient) foods. Supply is not especially elastic to meet changing demands, as it takes years to bring to market new sources of oil and minerals, and agricultural goods are often subject to exogenous factors such as weather.

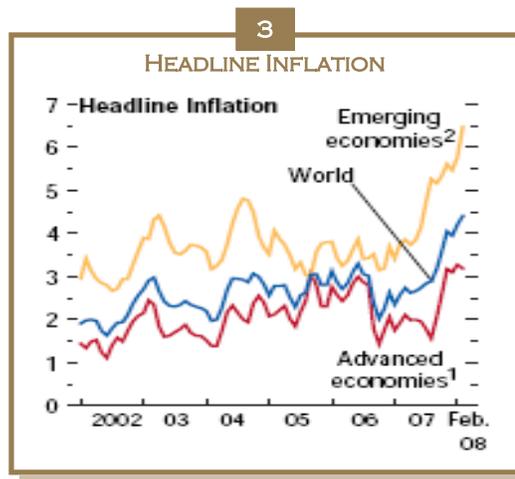
In addition to demand and supply forces, there have been increasing linkages among markets, for example, the rising price of food coinciding with the higher price of energy via the promotion of biofuels programs. Thus pressures in one market bleed over to another. Financial conditions, especially a weak US dollar and low real interest rates, have also been supportive of higher commodity prices. Previous commodity booms saw similar conditions; for example, there was strong global growth and a weak dollar in the early 1970s. But in the current period all these factors have been mutually reinforcing for longer and to a greater extent than we have seen before.

The early 1970s is an instructive period. In addition to strong global growth and a weakening dollar, there was the collapse of an established monetary system (known as Bretton Woods) and a huge accumulation of foreign reserves by Japan and Western Europe. Then, central banks turned rising wages and commodity prices into general inflation by adopting loose monetary policies. A similar picture may be playing out in much of the developing world today. Many emerging countries have chosen to peg their currencies to the dollar, thereby adopting the Fed's monetary stimulus in the face of rising wages and commodity prices. It is no surprise then that inflation is rising rapidly in these economies (see Chart 3), translating into higher import prices for us (rising 14.8% from a year ago, a record pace—see Chart 4).

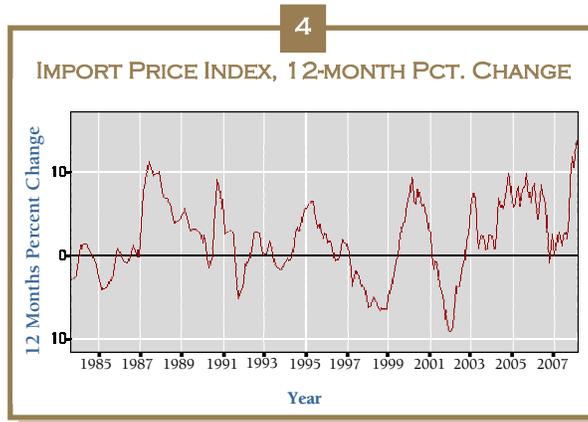
Bretton Woods established the global monetary regime following World War Two. The dollar replaced the British pound sterling as the gold-backed currency to which all others were linked. By the late 1960s, with the rise of export-led economies in Japan and Germany, large dol-



Source: World Bank



Source: IMF WEO April 2008



Source Courtesy: BLS

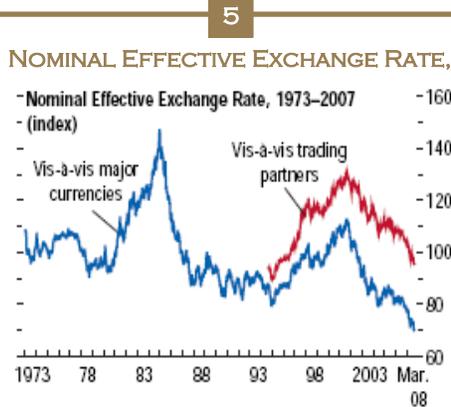
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lar reserves were being accumulated overseas which were recycled back into dollars to maintain the currency peg. At the same time, US inflation began rising, as a costly war and Great Society welfare programs demanded more dollars. The regime fell apart under pressure, the dollar collapsed and inflation soared.

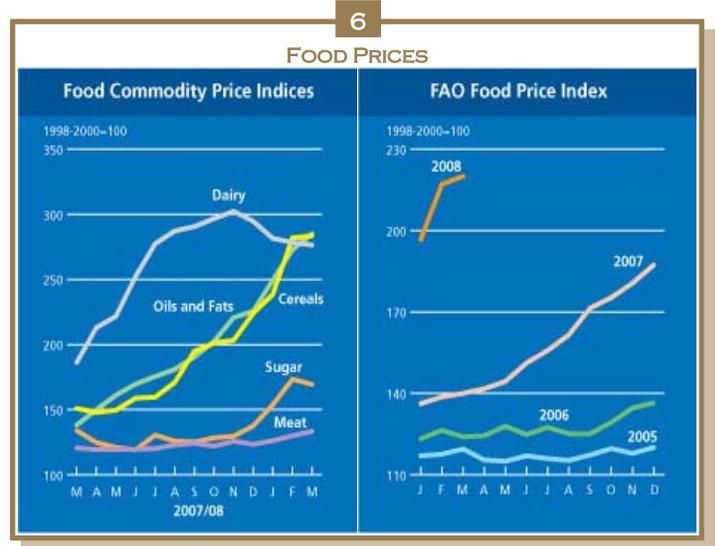
Today there are grumblings from export-led emerging economies about the efficacy of the dollar-based system. The Kuwaiti finance minister last month talked openly about the Gulf states de-linking from the dollar, and the growing sovereign wealth funds are more quietly, but almost certainly, moving away from the dollar. The dollar has already declined sharply against the major currencies, but much less so versus many of our trading partners with pegged currencies (see Chart 5). The dollar adjustment from here is more likely to be against these currencies.

“For much of the world, it may be a matter of survival.”



Graph Courtesy: Goldman Sachs

Inflation may be a nuisance to investors, or even a long-term destroyer of wealth as we saw in the 1970s, but for much of the world, it may be a matter of survival. Food prices have nearly doubled in the past two years (see Chart 6), riots and civil unrest in direct response to food availability have spread across at least 15 countries, and around 50 nations have restricted exports and imposed price caps on agricultural goods, only exacerbating the problem (see Chart 7).



Source: UN FAO



Courtesy: Financial Times

Important to remember, although little solace to those facing starvation, are two salient observations: first, commodity prices decline in real terms over time; secondly, rising commodity prices is not inflation. Inflation is an increase in the *general* level of prices, and is caused by monetary policies. Central banks in the 1970s chose to respond to the spike in energy prices with monetary stimuli, thus creating inflation. Absent monetary stimulus, a rise in commodity prices is a *deflationary* shock. The developed world has yet to see much in-

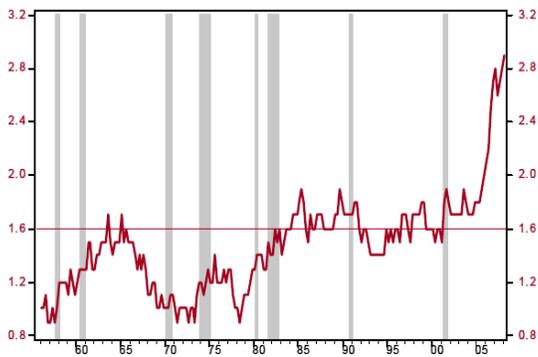


flationary pressures in the core indices, and we won't unless central banks pursue stimulative monetary policies. Of course, in the face of slowing economies, rising debt and financial turmoil, the pressures mount on monetary authorities to relax their vigilance, which means investors ought to increase theirs.

Economists are debating whether the US is in or about to be in a recession (we should see a consensus in a year or so), but most sectors that touch the US consumer, from auto sales to restaurants, are struggling. The residential housing industry wishes it was struggling, for that would be an improvement: every metric is the worst it has been in years, many since records have been kept. Prices nationally are on average off 10-15%, and both sales and starts are down more than 50% from their 2006 peaks. Foreclosures have doubled in the past year, from 1.6% to over 3.2%, easily the highest on record. The vacancy rate, the percentage of homes for sale that are currently vacant, has also nearly doubled in the past year, a record from more than 50 years of data (see Chart 8). The vacancy rate has had pretty good predictive power for pricing, so the bottom of the housing market is probably not upon us.

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HOMEOWNER VACANCY RATE: UNITED

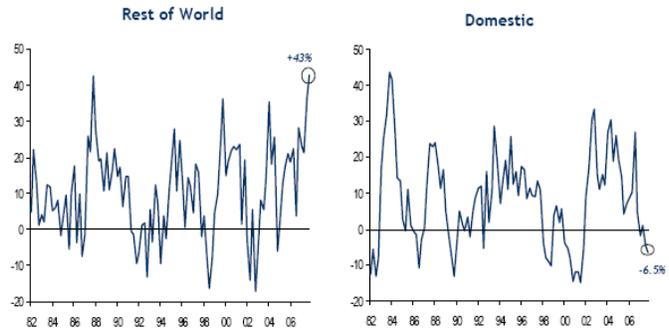


Source: Department of Commerce, Courtesy: Merrill Lynch

Corporate profits are feeling the squeeze of a slowing economy. Profits fell in the last two quarters of 2007, making 2007 the weakest year of profit growth (at 2.6%) since 2001. But there has been a stark dichotomy among industries: those

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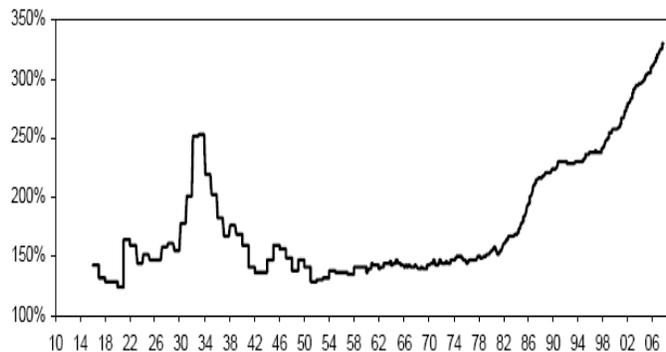
CORPORATE PROFITS WITH IVA & CC ADJUSTMENTS
(YEAR/YEAR % CHANGE)



Source: Department of Commerce, Courtesy: Merrill Lynch

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TOTAL DEBT AS % OF GDP



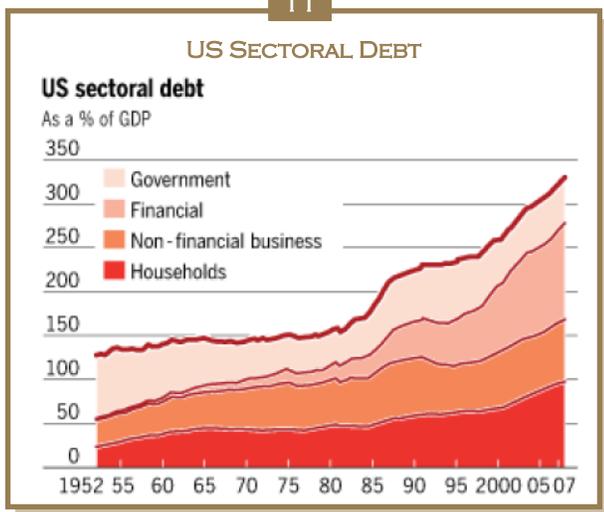
Courtesy: Bridgewater Associates

exposed to the US consumer and those that are not. Domestic industries saw profits fall 6.5%, but those tied to foreign markets enjoyed profit growth of 43%(!), the fastest pace in over 25 years (see Chart 9). Should demand weaken abroad, and growth is slowing in most countries, this source of profit strength may abate.

Debt is the root of our current challenges. As a percentage of GDP, debt has averaged about 150% for most of the past 100 years, spiking to 250% in the 1930s (as GDP contracted) and then decreasing before beginning to rise in the 1980s (see Chart 10). Businesses and governments (federal, state and local) have increased their debt loads proportionally with the economy over this period, but the surge in borrow-



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Courtesy: Financial Times

rates have enabled economic growth to be greater than it otherwise would be over this period. If these trends are ever slowed or reversed, then sustainable economic growth will be less than we've recently experienced. This would make the efforts of servicing and reducing our debt even more challenging.

As individuals, we can reduce our spending relative to income, or sell assets, or simply default. At the macro level, reduced spending may cause an economic contraction, but we can't all sell assets simultaneously: someone needs to be a buyer.

It is likely that government will fill that role by socializing private debt. The Federal Reserve facilitated the bailout of Bear Stearns by guaranteeing to absorb a portion of the firm's losses, opened the discount window to non-regulated banks and agreed to accept non-government collateral for borrowing by these banks. The Federal Home Loan Bank system has lent billions of dollars to non-bank lenders, such as Countrywide. Government has assumed the liabilities of the financial sector and households.

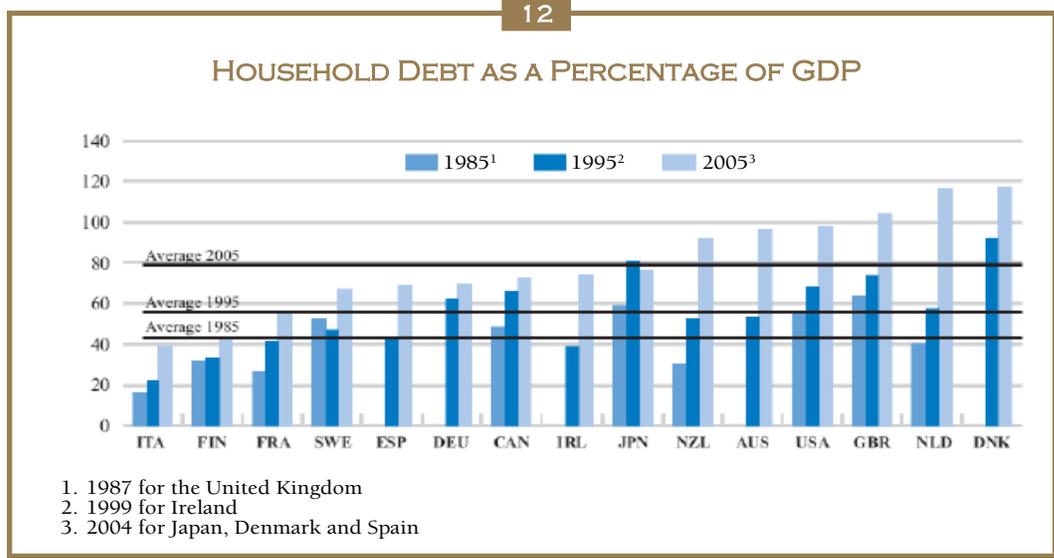
These extraordinary actions were necessary because the credit markets were in seizure. In February, banks failed to provide li-

"It is likely that government will fill that role by socializing private debt."

ing, especially over the past ten years, comes from households and the financial industry (see Chart 11). The rise in household debt accumulation is acute in the US, but it is also a global phenomenon, as debt loads have increased in virtually every country (see Chart 12).

Despite the rise in overall debt, interest expense has been falling for the past 25 years as the decline in interest rates offsets (and enables) higher debt loads. The rise in debt and the fall in

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Source: OECD



quidity to the +\$300 billion auction-rate securities market, forcing creditworthy borrowers to pay exorbitant rates. For example, the Port Authority of NY/NJ paid 20% to borrow funds at one of its weekly auctions, and the next day the Metropolitan Museum of Art had to pay 15%. It was not a change in the creditworthiness of these prime institutions that forced them to pay these usurious rates; rather, banks were unable, or unwilling, to provide liquidity sufficient for a functioning market.

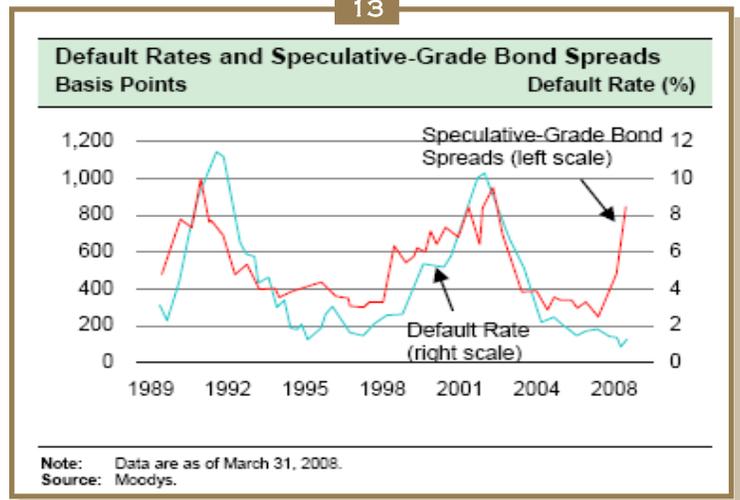
Another example of market failure was found in the \$14 trillion municipal bond market. Interest from municipal bonds is tax-exempt at the federal and state levels, so their yields should be less than Treasuries, which are taxable at the federal rate. Yet last quarter, municipal bonds reached a yield more than 130% of Treasuries (two-year municipal yields hit 170% of Treasuries). Clearly, this is not rational, and is a sign of a very dysfunctional financial market.

But the efforts by the Fed and others have been successful in stemming systemic failure, and some of the risk premia we saw build across asset classes in the first quarter have receded. Banks have raised \$200 billion of new capital, severely diluting existing shareholders, but solidifying their balance sheets. We have likely seen the worst of the financial crisis, although there is a long slog between their current battered state and a healthy condition.

We have yet to see real damage in the economy, or anywhere near what the markets have anticipated. Credit spreads have widened to near-recession levels, but default rates remain at near-record lows (see Chart 13). The next challenge for the financial system will be when (not if) defaults rise. Expect some form of government relief should mortgage defaults become too burdensome for the system.

Banking panics of the 19th century were generally caused when inflated asset prices, used as collateral for loans, began to correct. Banks placed margin calls, which forced selling, causing prices to drop further and so on. Loan defaults would rise and depositors, fearing for the safety of their money, would withdraw their deposits. Since banks extend credit to each other, a run

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Courtesy: Morgan Stanley

on one bank was often followed (quickly) by runs on other banks. Between 1814 and 1914, the United States saw thirteen such banking panics. The last one very nearly caused a world economic collapse.

In April 1906, as F. Augustus Heinze was collecting his \$10 million settlement from the Amalgamated Copper trust, a powerful earthquake struck San Francisco, causing nearly \$500 million of damages, around 1.5% of the US GDP. Insurance companies, mostly from Lloyd's in London, liquidated securities to ship gold to the US to settle claims. These gold shipments amounted to 14% of the entire gold stock in London, and in order to halt the flow of gold out of the country, the Bank of England raised interest rates. US banks raised rates in tandem, and in March 1907, stock prices fell 10% in two weeks. That summer, the Bank of England banned gold loans, and 10% of the gold in the United States flowed back to London. By the end of September, stocks had fallen 25% amidst a rise in bankruptcies and a sharp decline in business activity.

Heinze returned to New York in 1906. He combined some small copper holdings into a new firm, United Copper, and sold shares in the company on the curb (literally, on the curb outside the New York Stock Exchange). He used his shares as collateral to buy the Mercantile Bank from the prominent financier Charles Morse, and to buy his brother Otto a seat on the NYSE.

Copper stocks fell more than 40% in 1907 amidst the general economic downturn. On 12 Octo-



ber, United Copper fell from \$45 to \$37 and Otto figured there was a large short position in the stock. After conferring with his brother, on the 14th Otto called in the loans and bought stock and the price jumped to \$60. But they miscalculated the size of the shorts, bought too many shares, and on the next day United Copper plunged to \$10 as banks dumped their holdings. For failing to pay for all the shares he bought, Otto's firm was kicked off the exchange that day, and Mercantile Bank saw a run on half its deposits. The State Savings Bank of Butte, also owned by Heinze, and the largest bank in the state, failed as depositors learned that their money had been lent to Mercantile in New York.

"This is the place to stop the trouble."

The contagion spread on Monday 21 October to the Knickerbocker Trust, the third largest bank in New York, when it was learned that its president, Charles Barney, was associated with Heinze. Pierpont Morgan asked his deputy Henry Davison and Benjamin Strong of Bankers' Trust to examine Knickerbocker's books; they reported to him the bank was not solvent, so Morgan refused it help, and on the 22nd Knickerbocker failed. Banks stopped lending to each other, the call rate for loans on the NYSE went to 70%, and another run began on the prominent Trust Company of America. Morgan asked Strong again to review the books, but this time he concluded it was solvent. Morgan received the news with George Baker of First National Bank and James Stillman of National City Bank (both precursors to today's Citigroup), and announced, "this is the place to stop the trouble." Morgan moved \$3 million to Trust Company that day.

But the trouble didn't stop there, as that day Westinghouse Electric was placed in receivership and the mayor of New York, George McClellan, told Morgan that New York City could not meet payroll. On Thursday, 24 October, the president of the NYSE, Ransom Thomas, told Morgan that the call rate was now 100% and the exchange would have to close. At 2pm that day, Morgan called all the bank presidents to his office and told them they have ten minutes to come up with \$25 million; it was delivered to the NYSE at 230pm. That helped,



but New York City was about to default, so Morgan told Baker and Stillman that the three of them would underwrite a \$30 million loan to the city. The following Saturday, 2 November, Trust Company reported it needed another \$25 million. Morgan called the all the trust bank presidents to his residence, locked them in his library (literally) with the instructions to come up with the money (they did). At the same time, a major brokerage firm, Moore & Schley, told Morgan they had no cash and would fail on Monday. But Moore & Schley owned a large block of stock of the Tennessee Coal & Iron Company, so Pierpont Morgan called Elbert Gary, president and founder (with Andrew Carnegie, Charles Schwab and Morgan) of U.S. Steel and arranged a sale of TC&I to U.S. Steel, thus saving Moore & Schley.

There were 43 bank failures in October and November 1907. That year, commodity prices fell 21%, bankruptcies increased 47% and the unemployment rate rose from 2.8% to 8%. The following year, the Aldrich-Vreeland Act created the National Monetary Commission, which in 1911 proposed reversing nearly a hundred years of federal policy by creating a national reserve bank. In December 1913, Congress passed the Federal Reserve Act to establish a government lender of last resort and oversight of the banking industry.



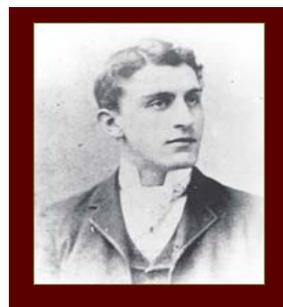
This whole thing started when one person wanted to squeeze the shorts in his small company; in isolation, an inconsequential event. But the interrelationships throughout the financial system caused this insignificant stock trade nearly to bring down the global economy.

Of course, context is critical. The economy had been weakened by insurance losses from the San Francisco earthquake and the subsequent attempts by the Bank of England to stem the flow of gold out of the country. The high degree of leverage in the financial system and the interconnectedness among the banks were important ingredients in the panic. Only the heroic efforts of J. P. Morgan saved the nation from utter economic collapse. All this sparked by F. Augustus Heinze.

Alone, subprime mortgages don't amount to much, perhaps only \$100 billion of losses. But combined with large levels of leverage, opaque disclosures and the tight intertwining of credit relationships, the failure of a minor bank creates such systemic risk that a rescue has to be arranged (by J. Pierpont Morgan, poetically, with government guarantees).

Our financial panic passed on 17 March with the Bear Stearns rescue, but the full scope of the deleveraging process has yet to be felt in the broader economy. The near-death experience in 1907 led banks to embrace regulation, and tighter and broader regulation is likely ahead of us as well. The phenomenal growth of the financial industry over the past two decades was fueled by credit demand, securitization and leverage. Our economies have become dependent on these trends, and how we perform in a period of lower credit demand and less leverage will be a major challenge.

As for F. Augustus Heinze, his fortune was wiped out in the Panic of 1907. He died, penniless, from cirrhosis of the liver at the age of 44, in 1914, just as the Federal Reserve System was established. 🍀



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MAY 2008

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