doing on any particular day, albeit a small one. Perhaps it is not the amount of money at stake but its apparent objectivity that focuses attention on portfolio value as a gauge of well-being. It is hard to calculate with precision how policy choices on climate change affect my overall welfare; it is easy to look up how my 401(k) did the day a tax cut was announced.

And given the faith of some in the omniscience of financial markets, the conflation of "markets" and "democracy" is unlikely to end soon.[58] Electronic markets that allow speculators to bet on the outcomes of elections have a very good record at predicting their outcomes. Wall Streeters have bet on elections for at least a century, and apparently the probabilities that their betting reveals are fairly accurate. A columnist for the *Wall Street Journal* suggested that deregulating Web-based election markets would allow a more accurate advance read on electoral outcomes.[59] Given the effort, expense, and unreliability of actual elections, can a call by editorialists to turn over the selection of government officials to Wall Street be far behind?[60]

Mortgage bubble

A home truth that forms the basis of much public policy is that a house is a person's most prized asset, and that paying the mortgage takes precedence over almost all other outlays, with the possible exception of medical expenses. A second truth, based on decades of experience, is that, with rare local exceptions, home prices always go up. Mortgage securitization—a financial practice designed to make home ownership more affordable and accessible—has upended both of these truths by creating a bubble in housing prices unprecedented in American history. The bubble created trillions of dollars in paper wealth and fueled an economic expansion through its effects on household consumption. Millions of jobs were created in construction, real estate, finance, and home improvement. And then, very quickly, it burst, with consequences felt from neighborhoods in California and Detroit, to Wall Street, to villages in Norway that had invested in mortgage derivatives. Several players helped inflate the mortgage bubble.

Buyers, sellers, and appraisers At base, the "true" value of a house is uncertain. Unlike securities, homes are illiquid and have no underlying income stream, so the standard models of valuing capital assets do not work well. Houses are fundamentally worth what someone will pay for them. Thus, industry practice was to rely on appraisers to state a value based on what comparable houses had sold for recently. Given this slack, appraisers naturally face pressure from sellers and brokers to sign off on high valuations. Each gets paid only if a deal gets done, and appraisers—who rely on repeat business—have reason to maintain cordial relations with their clients. Notably, once a buyer has agreed to a price, all the pressure militates for higher valuations, not lower ones.[61] In light of the inherent uncertainty around fair valuation, even the stated sale price might not be the "real" price. In some markets, sellers and buyers are known to collaborate with real estate agents in inflating valuations through the practice of the "cash-back transaction," in which a buyer without sufficient savings pays 10% above fair value for the house, which the seller returns under the table for the buyer to use as a down payment—thereby further inflating prices in the neighborhood.[62]

Wall Street Local banks might be vigilant about inflated valuations in their town, but local banks are not where most mortgages end up anymore. As we have described previously, most mortgages are pooled with other mortgages and then divided into bonds to free up lenders to make more loans—a long-standing practice that created a stable, if boring, business for government-created companies like Fannie Mae and Freddie Mac. But Wall Street banks found ways to make mortgage-backed bonds more exciting by lowering the standards for borrowers and by creating exotic derivatives that were increasingly removed from the underlying assets (that is, homes). Subprime mortgages were generally those that did not meet the "standard" criteria of Fannie Mae and Freddie Mac: the borrowers had problematic credit histories, low down payments, less rigorous documentation of their assets and income, or the property they were buying did not conform in its size or configuration. With this added risk came higher interest rates.

The most infamous product created by banks was the collateralized debt obligation (CDO). CDOs buy chunks of dozens of mortgage-backed bonds, which in turn hold thousands of individual mortgages that may or may not be subprime. The CDO then issues several tranches of securities, each with different levels of risk and different payouts. As with other underwriting jobs, banks receive a fee for underwriting a CDO, perhaps equal to 1–1.5% of the size of the issue (which will typically be in the $1 billion range). CDO managers—free-standing businesses that handle the flow of funds in and out of the CDO—also receive a management fee, perhaps 0.1% per year. The market for CDOs was initially large because their top tranches were seen as safe, thanks to their certification by independent ratings agencies, and relatively remunerative compared to other "safe" instruments.[63]

The high fees available for underwriting mortgage-backed bonds and CDOs, coupled with the global demand for them, encouraged Wall Street firms to maintain a steady deal flow from originators (e.g. Countrywide Financial). But the competition for deal flow resulted in a contagion of declining standards among banks. At some point, everyone that needed one already had a mortgage. Thus, as the number of creditable borrowers went down, banks began to accept shakier subprime mortgages for a higher fee, which encouraged the finance companies that supplied the banks to issue shakier mortgages, which encouraged the brokers that supplied the finance companies to accept lower standards from applicants.

Brokers The advent of subprime mortgages changed the nature of the bubble, as even the creditworthy began taking out subprime loans. High-interest subprime loans made up 29% of the total loans originated in 2006, and were spread all across the country, even in wealthy communities in which credit scores are typically high. The prevalence of subprime loans was due in part to a compensation structure that rewarded brokers for putting borrowers in loans at higher rates than they qualified for. The higher the interest rate that buyers agree to, the higher the premium paid to brokers by finance companies. In most states, brokers were not legally obligated to put borrowers in the best mortgage available to them, inducing a "buyer beware" marketplace in which ethical standards could be somewhat relaxed. The rapaciousness of brokers was in some cases encouraged by the credulity of borrowers: a survey by the Mortgage Bankers Association found that half of borrowers could not recall the terms of mortgages they had taken out within the previous twelve months. Even for the biggest purchase of their lives, individuals in the midst of an ever-rising housing market were prone to making poorly informed—or intentionally misinformed—financial deals. Still other buyers seemed to be treating their mortgage as a quick bridge loan, to be refinanced at a better rate later.[64]

In later years of the bubble, subprime lenders began approving loans based on just a credit score, with no verified income and no verified assets. At the time, the assumption based on recent historical precedent was that house prices would go up enough to allow refinancing, so that even "under-qualified" borrowers could be fobbed off on the next lender. By 2006, 44% of subprime borrowers did not fully document their income and assets, up from 17% earlier in the decade.[65] In some cases, brokers themselves fraudulently filled in details on loan applications without the knowledge of the borrowers. But the loans were approved, and the brokers got their commissions; the mortgage companies got their cut; the Wall Street bank got its fee for underwriting the bond; and the rating agency got its fee for evaluating it.

Rating agencies Evaluating the riskiness of packages of mortgages and CDOs fell to three main bond rating agencies: Standard & Poor's, Fitch, and Moody's. Bond rating agencies grade bonds according to their risk of default, using variations on a system that grades bonds from AAA (the lowest risk, comparable to Treasury bonds) to C. Many investors cannot buy bonds that do not have an "investment grade" rating from one of these three Federally recognized agencies. Thus, bonds are typically designed to achieve such a rating, or else they are not marketable. There is an intrinsic conflict of interest in the industry: issuers, not investors, are the ones that pay the agencies, and the agencies only get paid if the bond gets the desired rating. Thus, the rating process can seem more like a negotiation than a test, and issuers can engage in "ratings shopping" among the three agencies to ensure that at least one gives them the desired rating.

The explosive growth in securitization, which we described in Chapter 4, was a substantial source of new business for ratings agencies. No longer limited to boring corporate and municipal bonds, the rating agencies were evaluating the exotic cutting edge in financial instruments, which provided a large inflow of new fees. Thus, Moody's went public in 2000, and its profits surged 900% thanks to the expansive frontier of new business. It was also a source of potential strain. Given the flow of deals on Wall Street, an analyst at a ratings agency might have a day to evaluate a mortgage-backed bond based on a giant spreadsheet with information about several thousand underlying mortgages and borrowers. From this information, and a statistical model for predicting the risks of individual loans based on what other home borrowers had done in the past, analysts were charged with assessing the risk of the aggregated securities. The task, essentially, was to make an educated guess about how likely home buyers were to make their payments on time, or to pay off early, or to default at various points in time. That was the source of risk in mortgage bonds.

The underlying model of mortgage-buyer behavior was based, inevitably, on what buyers had done in the past. Buyer behavior, however, changed during the bubble. The best predictor of default was no longer the size of people's first mortgage, nor their credit scores, but the size of their first and second loans combined. Creditworthy borrowers with adequate incomes were defaulting on mortgages, which was unprecedented. According to a Moody's analyst, "It seems there was a shift in mentality; people are treating homes as investment assets." In other words, like investors, home buyers found it sensible to abandon properties on which they owed more than it was worth, just as one would not exercise a stock option that was underwater. Yet this is just the kind of thing that homeowners had never done before. As a Moody's managing director put it, to rely on their old model of buyer behavior was "like observing 100 years of weather in Antarctica to forecast the weather in Hawaii."[66] Philosopher David Hume's problem of induction had come to the financial markets: the laws of nature had changed, making the future unpredictable from the past. As a result, masses of bonds were rapidly downgraded from AAA to junk.[67]

Speculators and fraudsters The ready availability of mortgages with little money down, and a contagion of declining loan standards in a market where house values had nowhere to go but up, opened the doors to rampant speculation and fraud. According to the National Association of Realtors, 28% of buyers in 2005 were investors, and far more in some "hot" markets like Naples, Florida. Buyers were literally treating houses like investments that they were buying to flip, like a day trader betting on an IPO. Some buyers even bought properties on eBay, where thousands of residences were listed for sale and many were bought, sight unseen, by prospective mini-Trumps who aimed to pass them on like penny stocks to the greater fool.[68]

With compliant brokers, eager sellers, appraisers paid by the deal, and loan standards that no longer required documentation of income or assets, mortgage fraud was easy. In some neighborhoods, fraud accounted for perhaps half of the foreclosures; in the meantime, the houses' overstated values briefly inflated the value of their neighbors. Harried mortgage issuers were faced with demands for rapid turnaround on loans, perhaps allocating fifteen minutes between receiving closing documents by fax and releasing the funds to the borrower. In a newly fast-paced business, mortgage companies relied on free-standing brokers as "external loan officers," expecting them to fulfill the functions of a bank loan officer. But traditional bank loan officers were employees of the bank, expecting to be around long enough to be held accountable for their work. If buyers missed payments within the first three months, bankers were likely to get a talking-to. Brokers, on the other hand, were undoubtedly on to another line of work, in online gold farming, or wind-power sales.[69]

Regulators If the housing bubble was obvious to those paying attention, then why didn't policymakers intervene to deflate it? One possible reason is that rising prices helped prop up the economy. Because the US has sophisticated means to get cash out of homes through refinancing and equity lines of credit, American homeowners became unusually prone to the "wealth effect," that is, spending in a fashion commensurate with their overall wealth rather than just their current income. The wealth effect is why Americans don't save—or at least didn't save prior to 2008. As the cliché has it, owners were treating their homes as an ATM, making up for income shortfalls to fund their expenditures. Of those with mortgages 45% refinanced them between 2001 and 2004, and one-third of these borrowed more than the amount refinanced (that is, extracted equity) for home improvement or to pay off other debts, according to the Fed's 2004 Survey of Consumer Finances. The amount of money involved grew quite large: Alan Greenspan and James Kennedy estimated that home equity withdrawals went as high as $840 billion per year from 2004 to 2006, equal to about 9% of the nation's disposable income. Of that, as much as $300 billion went toward personal consumption. It was hard to find an organized constituency that opposed rising home prices and easy credit; certainly, the 70% of households that owned their homes (or "owned" their homes) were not likely to reward politicians that brought the party to an end.[70]

Entire industries were being stoked by the mortgage bubble: From 2003 to 2006, it is estimated that almost one-quarter of the new jobs added were in housing-related industries, including construction, home improvement, and real estate-related occupations. The *New York Times* estimated near the top of the bubble that there were 400,000 mortgage brokers working in 50,000 firms, and their trade association reports that there were 1.2 million real estate agents. There were about as many real estate agents in the US as employees in the Computer and Electronic

Product Manufacturing industry, and twice as many mortgage brokers as those working in Apparel Manufacturing.[71]

Even as the housing market began to cool, households did not substantially increase their savings rate, and consumer spending continued apace. Many consumers had been trained to expect that they could refinance the mortgage or take out a line of credit to fund major expenses, just as the Economic Report of the President promised.[72] And in spite of the signs of impending difficulties, foreign investors continued to provide funding due to the attractive rates paid by mortgage-backed securities and their derivatives. From Abu Dhabi and China, to Germany and Norway, bonds backed by US mortgages continued to find eager buyers. After all, Americans don't default on their mortgages, and those three conservative bond rating agencies had certified them as safe.[73]

Mortgage meltdown

It couldn't last forever. It was clear that, even as house prices increased dramatically, home equity (the value of the home minus the mortgage debt still owed) was not keeping up. Through multiple refinancings and equity lines of credit, homeowners were continuing to expand their mortgage debt, which rose at an even faster pace than house prices. Even those nearest to retirement no longer owned their homes outright. By early 2008, homeowners' share of their equity sank to the lowest level on record—less than half, on average, compared to 80% in 1945. And a trickle of foreclosures began to turn into a flood, signaling that a massive devaluation was underway. Once prices began to drop, it triggered a downward spiral in which homeowners that were unable to make their payments could not refinance, because the imputed value of their home had dropped, which put them into foreclosure, which in turn further lowered the prices of neighboring houses. Within a few months, foreclosure rates rapidly surged, particularly in the former industrial heartland of the Midwest and the "bubble states" of California, Florida, Nevada, and Arizona.[74]

The rising rate of foreclosures affected homeowners, neighborhoods, and the cities that relied on their taxes to provide services. Many foreclosures were concentrated in cities like Las Vegas or Miami, which had seen huge increases in housing values. But even Detroit, which already had the highest foreclosure rate in the nation, was further laid low by the mortgage meltdown. During the bubble, entrepreneurial brokers had targeted existing homeowners with advertisements for mortgage loans that would yield the brokers high fees—particularly if they were high-interest subprime loans. Many homeowners used the proceeds to fund costly home improvement projects intended to enhance the resale value of their homes. But once the foreclosures started, the prospects for resale were bleak, and a hard-hit city was hit hard once again. As a Detroit real estate agent put it, "Nobody's going to want to buy into a neighborhood with 20% foreclosures. You end up with no neighborhood."[75]

Early estimates of the costs of the meltdown ranged from $400 billion to perhaps $4 trillion in lost real estate wealth. Cascading declines in home values could in turn cost nearly $1 trillion in lost property taxes for state and local governments.[76] Even Norwegian villagers lost municipal services due to turbulence in the American mortgage market. The 18,000 citizens of Narvik found that a multi-million dollar loan backed by their future energy revenues had been invested in Citigroup CDOs that had lost tens of millions in value, forcing cutbacks in budgets and employment.[77] It was like a financial version of the butterfly effect: Detroit homeowners' fates were linked to the London Interbank Offered Rate, while childcare for Norwegian villagers depended on the mortgage payments of Florida real estate speculators.

Beyond the financial effects, the mortgage bubble had transformed the *meaning* of homeownership. Trained to think like investors through their disintermediated mortgages, many individuals now regarded their homes as just another class of asset in their portfolio. They had received the message of the portfolio society: they were *investors*. The CEO of Bank of America said, "There's been a change in social attitudes toward default ... We're seeing people who are current on their credit cards but are defaulting on their mortgages." They are "homeowners in name only.

Because these people never put up much of their own money, they don't act like owners."[78]

This phenomenon was not limited to those with low income or poor credit. Credit scores no longer distinguished those who could be relied on to pay back their debts, as even those with high scores were willing to abandon a house with negative equity. According to one debt collector in India, "People are walking away from their homes and hanging onto their credit cards, because this is their lifeline".[79] Financially, this was not irrational: 10% of homeowners with a mortgage in early 2008 owed more on their house than it was worth, and this number was expected to go as high as one in four. As a result, millions were effectively trapped in their homes. If they had to relocate for their job, they faced a choice between coming up with funds to cover the shortfall between the sale price of the house and the amount remaining on their mortgage, or abandoning their home to foreclosure.[80] Given this choice, in many cases the smart money abandons the option.

When a home becomes an asset class, the presumed societal benefits of home ownership become more dubious. If, as Bush described it, renters are like visitors to a community, and owners are genuinely part of it, with a stake in its future, how are we to regard the situation of those whose mortgages are underwater? According to the *Wall Street Journal*, "These days, bankers and mortgage companies often find that by the time they get the keys back, embittered homeowners have stripped out appliances, punched holes in walls, dumped paint on carpets and, as a parting gift, locked their pets inside to wreak further havoc. Real-estate agents estimate that about half of foreclosed properties to be sold by mortgage companies nationwide have 'substantial' damage." Many banks found themselves in the strange position of offering cash payments to those they were about to evict to leave quietly without trashing the house.[81]

Political responses were complicated by the nature of the crisis. It's easy to blame rapacious brokers and Wall Street. Some critics blamed Fed chairman Alan Greenspan for failing to step in when he had a chance to police predatory lending practices. But the regulation of mortgage finance was a mad patchwork, and most major mortgage finance companies were concentrated in California, whose state legislature had lovingly nurtured the home-grown (and largely unregulated) industry. George Bush emphasized the virtues of home ownership and sought to lower the financial barriers to buying a house—normally a politically popular program (particularly for homeowners, who tend to vote Republican). But in retrospect, those barriers were there for a reason.[82] Within a few months of the start of the mortgage crisis, entire neighborhoods from southern California to Detroit were left dotted with empty houses in foreclosure, like a real estate rapture.

Some homeowners who were current on their payments blamed their neighbors for taking on too much debt—particularly those whose homes went into foreclosure, bringing down neighborhood property values. A Treasury department presentation on the crisis echoed this "blame the homeowner" approach, stating that "Homeowners who can afford their mortgage but walk away because they are underwater are merely speculators"—a remarkable sentiment from an organization that had recently put up billions to bail out Bear Stearns, which surely meets most definitions of a "speculator." On the other hand, through no fault of their own, millions of homeowners were seeing their most valuable asset plummet in value, and foreclosures in the neighborhood had spillover effects on blameless neighbors. Entire neighborhoods were at risk, which clearly required a thoughtful government response. But the Bush administration was loath to reward mere speculators, or to create a precedent for bailing out those that had been financially reckless (Bear Stearns, Fannie Mae, Freddie Mac, and AIG notwithstanding). How to distinguish the "worthy" borrowers who fell into hard times, and therefore merited help, from the unworthy speculators? The answer to this conundrum was a long time in coming. Going forward, Harvard law professor Elizabeth Warren proposed a "Financial Product Safety Commission" to help protect consumers from some of the dangers of the new finance, but it was clear that any such initiative would have to wait for a Democratic administration in 2009.[83]

The mortgage crisis calls to mind a parallel. In 1958 Chairman Mao sought to increase harvests in China with his "great sparrow campaign." Sparrows were seen to eat grain, and so grain harvests could be increased by mobilizing the population to kill as many of them as possible. The campaign was wildly successful, killing millions of sparrows. Unfortunately, it turned out that sparrows ate relatively little grain; rather, they were the primary natural predator of locusts, which do eat grain. Without sparrows, the locust population exploded and the grain harvests plummeted, creating a massive famine. Mortgage-backed securities originated from a financial program created by the government to make home ownership affordable and to make mortgages available to those that might not otherwise have access to them. But through a combination of lax regulation and Wall Street innovation, the spread of mortgage securitization had resulted in the largest number of people losing their homes in American history.

Aftermath of the bubbles

The successive bubbles in the stock market and in housing made it clear that the economic well-being of households faced unexpected perils in the new century. But if the workplace and the government could no longer be relied on to provide economic security after the era of corporate feudalism, where could individuals turn? The answer implied by the ownership society was that financial innovations would help households find a way to make it through the crisis. JG Wentworth began running a television advertising campaign featuring angry-looking people yelling out their windows: "It's my money, and I need it now!" The pitch was for "structured settlements" in which individuals who have been awarded an insurance payout signed it over to the firm in return for a lump-sum payment. Some similar innovations skated illegality—veteran's pensions, for instance, cannot legally be signed over to others, but dozens of firms with military-sounding names advertise openly in periodicals oriented toward veterans. Along the same lines, payday lenders have found that Social Security beneficiaries—retirees or the disabled—are a reliable source of income, and many have created programs in which monthly Social Security checks are deposited directly into accounts controlled by the lenders, who then allocate an allowance to the beneficiary. Effective annual interest rates as high as 400% have been reported for some of these products. And why not? An industry spokesman stated, "It certainly wouldn't be right for the business to discriminate against them for whatever the source of their income is." After all, David Bowie had issued bonds based on his future royalties—why not Social Security recipients? Similar pitches were made to lottery winners and others with a reliable stream of payments. In the meantime, credit card debt reached almost $1 trillion outstanding.[84] In the Book of Matthew, the Parable of the Talents ends: "For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath" (25: 29).

Finance had hit America like a tornado hits a trailer park, leaving disruption in its path from the workplace to the neighborhood to the voting booth. In the next chapter, I speculate on what comes next.