IS CHINA'S HOUSING MARKET HEADING TOWARD A U.S.-STYLE CRASH?

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I. INTRODUCTION

This article aims to determine whether China is heading toward a U.S.-style market crash in its housing market. Rather than attempting to maintain any suspense, I will disclose in this introductory paragraph that my conclusion is, "Who knows?" China and the United States have dramatically different histories, cultures, governments, economies, and legal systems. Anyone who claims to have a definitive answer to this question is overly confident.[1]

My more modest goals in this article are to examine the available evidence and see which way it seems to point. Part II lists and describes several different ways in which the American housing market failed. Part III follows by evaluating the consequences of these failures for the U.S. housing market. Next, Part IV demonstrates some of the key respects in which the Chinese market differs from the market in the United States. This central portion of the article emphasizes just how difficult it is to make predictions about what might happen in one nation's housing market based on the experiences of another nation that differs in so many significant ways. Finally, Part V provides a description of some of the worrisome similarities between the Chinese and American housing markets. To the extent the previous Part may have comforted the reader into believing that the Chinese market is unlikely to experience a downturn anytime soon, this last discussion will create some apprehension by highlighting some of the ways in which China might, in fact, be heading down the same path as the United States.

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1. "It is wrong to blame anyone for failing to forecast accurately in an unpredictable world. However, it seems fair to blame professionals for believing they can succeed in an impossible task. Claims for correct intuitions in an unpredictable situation are self-delusional at best, sometimes worse. In the absence of valid cues, intuitive 'hits' are due either to luck or to lies." DANIEL KAHNEMAN, THINKING, FAST AND SLOW 241 (2011).

II. FAILURES IN THE AMERICAN HOUSING MARKET

The American housing market has struggled in numerous ways during the past several years. This Part illustrates some of the recent failures within the U.S. housing market. Different commentators might choose other features indicative of problems in this market or might disagree with some of my selections. Moreover, some of the failures discussed below overlap with one another—in fact, one might view each of these separate failures as little more than different components of a single, larger failure of the overall market. My goal here is not to provide a comprehensive overview of the American housing market and its problems. I aim instead to illustrate and discuss briefly some of the key difficulties that the American market has recently confronted.

A. Failure Number One: American Homeowners Spent More While Saving Less

Historically, purchasing a home has provided the American buyer with an opportunity for forced savings.[2] Most home buyers are highly leveraged when they acquire a home. The typical buyer—particularly the typical first-time buyer—purchases a home that is at the high end of what she can afford, intending to pay it off over a period of thirty years. As the term of the loan progresses, the buyer's income usually increases, the value of the home usually increases, and the loan balance decreases. This means that the home becomes more and more affordable to the buyer over the lifetime of the loan: the mortgage payment remains fixed and is likely to seem much smaller to the buyer at the end of the term than it did at the beginning.[3]

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2. *See, e.g.*, Linda Stern, *Buy a House, and Other Forced Savings*, REUTERS (Feb. 22, 2012, 3:47 PM), http://www.reuters.com/article/2012/02/22/us-column-personal-finance-idUSTRE81L1X320120222 ("If you buy a home on a 30-year fixed mortgage and make your payments every month, at the end of 30 years you own a house you can sell. If you rent instead, at the end of 30 years all you'll have is another rental contract.").

3. If the note carries an adjustable rate, the monthly payment may adjust regularly, but this adjustment reflects only changes in the prevailing interest rate. Rates can increase or decrease, of course, and most notes include limits on how large these rate changes can be, both per adjustment and in total over the life of the loan. If the interest is initially set at a teaser rate that is below the market rate, then the interest the borrower must pay is much more likely to increase than decrease, at least at first. *See generally Standard and Negotiated Notes*, EFANNIEMAE.COM, https://www.efanniemae.com/sf/formsdocs/documents/notes/ (last visited Dec. 2, 2012) (linking to the Federal National Mortgage Association's form fixed-rate notes and adjustable-rate notes for various states). If the borrower's income increases over time, then a fixed payment that might have seemed quite high in the first year of the loan term will seem more affordable as the loan ages.

At the same time, the owner is building up equity in the home in two different ways. First, home prices in the United States have historically increased, often at a rate that far exceeds the inflation rate.[4] Second, the buyer is paying off the principal amount of the note, and at a rate that increases over time.[5] A buyer who puts down $25,000 on a $125,000 home and pays off the remaining $100,000 over thirty years, for example, may end up with $300,000 in equity when the note is fully paid: the $25,000 downpayment, the $100,000 of principal that was amortized over thirty years, and perhaps $175,000 in appreciation.

Importantly, it is hard to tap this equity, or it has been hard to do so historically. The owner still needs to live somewhere. This means that she is less likely to sell her home than other appreciating assets she may own, and if she does sell her home, she will have to buy or rent a replacement dwelling. As long as this owner stays put or substitutes another dwelling of roughly equal value, she owns and continues to live in an asset that is now valued at $300,000 and that is difficult to dissipate.

To be sure, the buyer who bought her home at the age of thirty may find, at the age of sixty, that she no longer needs such a large place and may trade down to a less costly dwelling. Or she may sell her home and choose to rent, with the net sale proceeds available to pay future living expenses. This example illustrates the forced-savings nature of acquiring one's home. The buyer pays off the note over a prolonged period and gradually accumulates equity that is difficult to tap until she decides to sell the home, often much later, when she needs the money and no longer requires quite so valuable a home.

To the extent the monthly payment also includes additional charges such as property taxes or insurance, those components of the payment may also increase over time. However, these components of the monthly payment are usually much smaller than payments of interest and principal.

4. "Median home values adjusted for inflation nearly quadrupled over the 60-year period since the first housing census in 1940." *Historical Census of Housing Tables – Home Values*, U.S. CENSUS BUREAU – CENSUS OF HOUSING, http://www.census.gov/hhes/www/housing/census/historic/values.html (last visited Dec. 2, 2012) (presenting state-by-state values for home prices every ten years between 1940 and 2000, both adjusted and unadjusted for inflation).

5. If the note is a fully self-amortizing, fixed-rate note, early note payments consist primarily of interest, reflecting the large amount of interest that is initially due on the still-large outstanding principal balance. As the borrower chips away at this balance over time, the interest component of the monthly payment drops off ever more rapidly, while the principal component increases by a corresponding amount. *See* GRANT S. NELSON ET AL., REAL ESTATE TRANSFER, FINANCE, AND DEVELOPMENT: CASES AND MATERIALS 99–105 (8th ed. 2009).

Beginning in the 1980s, however, home equity loans, home equity lines of credit, and refinancings became more popular.[6] These devices allowed the owner to pull money out of this illiquid asset whenever she so desired, undercutting the forced-savings benefit of the investment. Rather than disposing of the dwelling, the owner could borrow additional funds from a lender and mortgage the appreciated home to the lender as security for the repayment of this additional debt.[7]

In many cases, these loans were secured by second mortgages that carried a higher interest rate than the typical first mortgage loan, reflecting their higher risk to the lender.[8] The owner borrowed this additional money and increased her total monthly debt repayment obligation, now having to pay interest and repay principal on both mortgage loans. In other cases, the homeowner would completely refinance the first mortgage loan—paying it off with new funds that she borrowed, often at a lower rate—but would take money out of the deal. In other words, the principal amount of the refinanced loan would exceed the amount that had been outstanding on the original loan prior to the refinancing.

Either way, the borrower is withdrawing money from a piggy bank that had previously been viewed as untouchable. If the borrower invests this money in a vehicle that provides a return in excess of the interest rate on the loan (factoring in all tax consequences of the loan and the investment), then this investment may be profitable overall. But in the majority of instances, the borrower is presumably spending this money rather than investing it. The end result is that the borrower receives cash back at the time of the refinancing. She can use this cash for other purposes, but the forced-savings effect of the home purchase is reduced, and the owner finishes the transaction with less equity in her home.

At the same time that these types of loans were becoming more popular, savings rates in the United States plummeted, reaching the low single digits and occasionally crossing into negative territory.[9] Americans were spending nearly

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6. *See generally* Paul Bennett et al., *Structural Change in the Mortgage Market and the Propensity to Refinance*, 33 J. MONEY, CREDIT & BANKING 955, 973–74 (2001) (arguing that homeowners have become more willing to refinance as the process of refinancing has become more efficient and less costly).

7. *See, e.g.*, *What You Should Know About Home Equity Lines of Credit*, FED. RES. BD., 7, http://www.federalreserve.gov/pubs/equity/equity_english.htm (last visited Dec. 2, 2012) (discussing features of these loans, pointing out some of the pitfalls to the borrower, and noting, "If you are unable to make the [final] payment, you could lose your home.").

8. *See, e.g.*, NELSON ET AL., *supra* note 5, at 110–11 (discussing the procedure for foreclosing first and second mortgages).

9. The savings rate in the United States bottomed out at –2.3% in 2009 and has recovered somewhat since then. David Wilson, *U.S. Savings Rate Falls to Depression-Era Levels: Chart of Day*, BLOOMBERG NEWS (Jan. 6, 2010, 11:00 PM), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aexjnfkHISt0. These figures are adjusted for depreciation and changes in the value of business inventories; the

everything they earned, and sometimes more than they earned, which increased the need to borrow against this previously untouchable asset. Spending increased, savings decreased, and homeowners began to tap the equity in their homes in increasing amounts.

None of this discussion is meant to suggest that there is a correct or optimal rate of savings or spending. In fact, there is much debate and discussion among both American and Chinese citizens as to the relative benefits of saving and spending.[10] Rather, the point worth noting here is that American homeowners began to save less and less, in some cases reaching the point at which they had to consume some of their prior savings—such as the equity they had amassed in their homes—in order to maintain their desired living standard. Consumers were searching for new ways in which to fund continued purchases, and many people began to borrow against homes that, in previous years, would have served as their retirement nest eggs.

B. Failure Number Two: Lenders Lowered Their Lending Standards

In the apocryphal residential lending scenario, a buyer purchases a home for 20% down and borrows the remaining 80% of the purchase price, with the loan to be repaid at a fixed interest rate over a period of thirty years. A mortgage lender will lend to this borrower only after confirming the borrower's job status and credit history and only after assuring itself that the borrower will be able to make the monthly payment based on her current income and other debt. The lender that approves this loan is comfortable with the arrangement because the borrower whose finances have just been vetted has a steady income that is

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unadjusted figures are only slightly rosier, showing a savings rate that bottomed out at approximately 1.2%. *Personal Savings Rate (PSAVERT)*, ECON. RESEARCH – FED. RES. BANK ST. LOUIS, http://research.stlouisfed.org/fred2/series/PSAVERT?rid=54&soid=18 (last visited Dec. 2, 2012).

10. *See, e.g.*, Juann H. Hung & Rong Qian, *Why Is China's Saving Rate So High? A Comparative Study of Cross-Country Panel Data* 24–28, 33 (Cong. Budget Office, Working Paper Series, Nov. 2010), *available at* http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/119xx/doc11958/2010-07-chinasavingrate.pdf (attributing China's high savings rate to a low population of citizens over age sixty-five, low urbanization, strong economic growth, a weak social safety net, and, to a lesser degree, currency undervaluation, while also suggesting that these effects will moderate as income increases and the population ages); *cf.* Chong-En Bai & Qiong Zhang, *Do Chinese Really Save Too Much? Aspects from Total Factor Productivity Growth in China Since 1952*, at 18–19 (Stanford Univ. Shorenstein Asia-Pacific Research Ctr., Working Paper, Dec. 6, 2011), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1969132 (arguing that even thrifty Chinese undersaved during the 1953–2005 study period, although this trait reversed itself somewhat during the later years of this period).

adequate to meet her monthly repayment obligation and a history of meeting other similar obligations. While the future is always impossible to predict, most of the lender's risk is present in the early years of the loan. This is true because, as just demonstrated, homes tend to increase in value over time even as the borrower is reducing the amount of principal outstanding.

Mortgage originators, however, became considerably more aggressive recently. Investors were seeking to purchase huge quantities of securities backed by mortgages, and issuers were desperate to purchase residential mortgages that they could securitize. Only a subset of all borrowers could meet the high credit standards just described, and, as these high-quality borrowers became scarce, originators started to make riskier loans. Despite the rising level of risk these later loans displayed, the originators could sell these mortgages to issuers that were eager to acquire loans and securitize them.[11]

These new loans were riskier in a variety of ways. In some cases, borrowers could qualify only by accepting an artificially low teaser rate on an adjustable-rate mortgage. Their income placed them in a position in which they could afford their monthly payments for the first year, although they would likely struggle thereafter when the monthly payment increased dramatically at the first adjustment date. Originators began to offer low-downpayment loans, in which borrowers who were not in a position to put down 20% initially could borrow a greater percentage of the acquisition price than the traditional 80%. These loans were soon followed by no-downpayment loans, in which the home purchaser borrowed the entire price, and occasionally even more than the price.[12]

Originators began to offer interest-only loans, in which the borrower paid interest but did not amortize any of the principal. This reduced the monthly payment even further, allowing still more applicants to qualify, while concomitantly reducing the forced savings feature of home ownership. Originators also began to offer no-documentation loans, in which the traditional review of the borrower's credit and income status was replaced by a simple statement that the borrower could make the monthly payment. In short, mortgage products became more varied, more complex, and more risky, while credit

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11. *See* Atif Mian & Amir Sufi, *The Consequences of Mortgage Credit Expansion: Evidence from the 2007 Mortgage Default Crisis* 1–5, 20–30 (Nat'l Bureau of Econ. Research, Working Paper No. 13936, 2008), *available at* http://www.nber.org/papers/w13936 (arguing that the increase in quick secondary market sales by home mortgage loan originators led to a spike in home prices followed by a sharp increase in defaults).

12. *See, e.g.*, Andrey Pavlov & Susan Wachter, *Subprime Lending and Real Estate Prices*, 39 REAL ESTATE ECON. 1, 1 (2011) (discussing the prevalence of aggressive lending instruments such as these after 2003).

decisions became more perfunctory.[13] Under intense pressure to lend and enjoying considerable financial benefits for doing so, mortgage originators peddled a greater array of complex products that neither they nor their borrowers fully understood and extended loans to borrowers who were increasingly overleveraged and thus less likely to be able to repay them.

C. Failure Number Three: Lenders and Other Participants in the Secondary Mortgage Market Became Sloppy

Mortgage transactions involve the execution and recording of numerous legal documents. A considerable amount of money is at stake in each transaction, and lenders have historically been careful that the appropriate documents are properly executed and, when necessary, recorded, to maximize their likelihood of being repaid. Attorneys or other closing agents typically preside over closings and ensure that the note is properly executed, that the mortgage is correctly executed and acknowledged before being recorded, and that other ancillary documents are handled properly.

When the loan is subsequently sold—as many were during the 1990s and early 2000s—it is hornbook law that the note should be endorsed and physically delivered to the assignee, that the original lender needs to execute and acknowledge an assignment of mortgage in favor of the assignee, and that the parties need to notify the borrower of the assignment.[14] Historically, these steps were taken at the time of the assignment, which is frequently the first step in the process of securitizing a package of loans.[15] Perhaps some lenders and assignees were sloppy even when the market was performing well, but the lower frequency of defaults meant that fewer oversights ever came to light.

As the mortgage market became more heated in the ways described above, parties became sloppier. In some cases, this may have reflected nothing more than haste arising from the desire to close as many loans as possible as rapidly as possible. But the failure to execute the proper documents in the proper way can have legal consequences, as parties to loans have subsequently learned.[16]

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13. For a thorough discussion of how the lending process has changed in recent years as a result of the increase in mortgage securitization, see David Reiss, *Subprime Standardization: How Rating Agencies Allow Predatory Lending to Flourish in the Secondary Mortgage Market*, 33 FLA. ST. U. L. REV. 985, 992–97 (2006) (comparing traditional loans from local savings and loan institutions with more modern loans from global finance companies).

14. *See* NELSON ET AL., *supra* note 5, at 483–92, 518–22 (discussing the proper way to document the transfer of the mortgagee's interest).

15. *See generally id.* (addressing timing issues and the securitization process).

16. *See, e.g.*, *In re* Foreclosure Cases, No. 1:07CV2282, 2007 WL 3232430, at *3 n.3 (N.D. Ohio Oct. 31, 2007) ("The institutions seem to adopt the attitude that since they have

Lenders are reviewing their loan portfolios and wondering not just why some risky loans were made in the first place, but whether the loans they hold were documented properly. Assignees of the mortgagee that seek to foreclose on defaulted loans are discovering that they sometimes lack the legal documents they need to proceed. In some cases, they may be unable to locate the borrower's note or the note may not have been endorsed to their order. In other cases, there may not be an unbroken chain of recorded mortgage assignments from the original lender to the current assignee. Some lenders made use of the services of MERS, the Mortgage Electronic Registration System, with only an incomplete understanding of how the assignee would have to interact with MERS if the mortgage ever needed to be foreclosed.[17]

Moreover, the current holder of the loan or its servicing agent may never have obtained the authority it now needs and desires to negotiate with a defaulted borrower to restructure the loan.[18] This often means that the borrower who lacks the funds to continue to make timely monthly payments cannot readily negotiate modifications to the payment schedule and thus has little option other than to wait for the lender to exercise its remedies.[19] And in many cases, the borrower may have been just as careless as these other parties. She may realize for the first time that she cannot meet her repayment obligations and probably never could have, and also may recognize that she entered into a loan transaction that she did not completely understand. Perhaps the product was more complex than she

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been doing this for so long, unchallenged, this practice equates with legal compliance. Finally put to the test, their weak legal arguments compel the Court to stop them at the gate.").

17. For a thorough discussion of MERS and the remedial issues it raises, see Christopher L. Peterson, *Two Faces: Demystifying the Mortgage Electronic Registration System's Land Title Theory*, 53 WM. & MARY L. REV. 111 (2011) (discussing the MERS business model, the longer term effects of MERS on land title, and whether the MERS approach to mortgage loan transfers meets common law requirements).

18. *See, e.g.*, Adam J. Levitin, *Purchasing Mortgage-Backed Securities Does Not Give the Government the Ability to Modify Mortgages Backing the Securities* 1 (2008), *available at* http://www.law.georgetown.edu/faculty/levitin/documents/MBSModificationIssues_000.pdf (observing that pooling and servicing agreements "frequently place restrictions on servicers' ability to modify mortgages. Sometimes the modification is forbidden outright, sometimes only certain types of modifications are permitted, and sometimes the total number of loans that can be modified is capped.").

19. *See, e.g.*, Tomasz Piskorski, Amit Sreu & Vikrant Vig, *Securitization and Distressed Loan Renegotiation: Evidence from the Subprime Mortgage Crisis* 1–2, 10–12, 30–32 (Chi. Booth Sch. of Bus., Research Paper No. 09-02, Apr. 15, 2010), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1321646## (concluding that seriously delinquent loans that are securitized are significantly more likely to be foreclosed than seriously delinquent loans that are held by a bank and suggesting that constraints found in pooling and servicing agreements partially explain this phenomenon).

comprehended. Or perhaps she assumed that she could refinance when the low teaser rate on her adjustable-rate loan adjusted upward after the first year or two, only to discover that the plummeting value of her home is now lower than her outstanding loan balance.

D. Failure Number Four: There Was Little Oversight by Government Regulators

Observers of different political stripes disagree over how much the government should regulate the mortgage market. One side believes strongly in the workings of the free market and opines that problems such as the one facing the American housing market will work themselves out over time. This group argues that the government should stay out of the mortgage market and let this market operate with little intervention. In this view, government regulation amounts to meddling that is more likely to exacerbate problems than to solve them.[20]

A second group believes that some of the activities that led to the mortgage crisis need to be reined in by government action. This side responds that a knowledgeable group of lenders cannot be permitted to take advantage of a less sophisticated group of borrowers and that certain types of predatory behavior need to be constrained. To this group, the issue is not unimpaired free markets but rather the protection of vulnerable consumers. In this opposing view, lenders' primary goal is to maximize their profits, and they have little concern with the societal impact of their actions.[21]

Whatever one's views, it is clear that at least some of the problems that arose during the past several years resulted in market sectors in which there was little regulation. These problems could hardly have been caused or worsened by government action, because the government did not act in these areas. Government oversight might not have helped and might even have made some problems worse. But it is incontrovertible that many problems arose in areas of the market in which there was little or no regulation or oversight. This is

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20. *See, e.g.*, Patric H. Hendershott & Kevin Villani, *The Subprime Lending Debacle: Competitive Private Markets Are the Solution, Not the Problem* 3, 11–15 (Cato Inst., Policy Analysis No. 679, June 20, 2011), *available at* http://www.cato.org/publications/policy-analysis/subprime-lending-debacle-competitive-private-markets-are-solution-not-problem (arguing that government intervention in the mortgage market led to the making of riskier loans).

21. *See, e.g.*, KATHLEEN C. ENGEL & PATRICIA A. MCCOY, THE SUBPRIME VIRUS: RECKLESS CREDIT, REGULATORY FAILURE, AND NEXT STEPS 227–52 (2011) (proposing numerous consumer-protection solutions and noting the moral hazard risks of bailing out large financial institutions).

particularly true in the secondary mortgage market, in which consumer-protection issues are less evident and there is correspondingly less regulation.

While loan transactions are constrained to some degree by consumer-protection measures such as truth-in-lending laws, secondary market transactions operate with little government supervision. Mortgage originators typically use form notes and mortgages promulgated by the Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC) that tend to treat borrowers relatively well.[22] Even those lenders that have no immediate plans to transfer their loans may want to preserve this option for the future and thus use these popular standardized forms.

Mortgage lenders regularly transfer their notes and mortgages to third parties, often as the first step in the securitization process. This process is far less uniform than the lending process. It does not involve direct consumer participation and is subject to far less regulation. Moreover, underwriters later undertook the sale of synthetic obligations that were further removed from the initial consumer transaction, more difficult to understand, and less subject to government supervision.[23]

There is nothing inherently wrong with the creation and sale of new securities, and many such transactions help the fluid workings of the home mortgage market by lowering interest rates and assisting investors seeking to diversify their investments. But there is considerable evidence that many participants in these new transactions either did not understand them or disguised the risks some securities presented.[24] Moreover, to the extent that credit rating agencies were supposed to provide independent risk assessments of these new derivatives, they failed to do so, perhaps because of the conflicts they faced in rating securities to be sold by their own clients.[25] The secondary market in American home mortgages thus has been characterized by an absence of standardized agreements, a lack of understanding of particular agreements by the parties to them, and the underassessment of risk by ratings agencies. Government oversight in these areas was notably lacking and might have helped.

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22. *See supra* note 3.

23. Michael Lewis describes the synthetic subprime mortgage bond-backed collateralized debt obligation as "a security so opaque and complex that it would remain forever misunderstood by investors and rating agencies." MICHAEL LEWIS, THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE 72 (2010).

24. *See, e.g.*, ENGEL & MCCOY, *supra* note 21, at 21–25 (describing various types of predatory lending).

25. *Cf.* Reiss, *supra* note 13, at 1056–59 (arguing that the leading credit rating agencies are both pro-investor and pro-issuer, at the expense of the public interest).

E. Failure Number Five: Some Purchasers Began to Treat Homes as Investment Commodities Rather Than Just Residences

When Americans own homes, there are two components to their investment. First, owners are acquiring a dwelling. They are paying for the legal right to occupy real estate for as long as they own the property. Second, they are investing in the property. If it costs less to occupy this owned real estate than it would to rent comparable space, or if the home appreciates, then the purchaser has made a wise investment. This second investment component also encompasses the forced savings qualities discussed above, in that any gain from the investment likely appears in the form of appreciation of an illiquid real asset.

As home prices shot up during the 1990s and early 2000s, particularly in some parts of the United States, some home purchasers focused inordinately on the second of these components, which probably helped to lead home ownership rates to an all-time high of 69.2% in 2004.[26] Many of these investors were purchasing more home than they reasonably needed for dwelling purposes, in the belief that the investment component of the home would make it worthwhile to do so. Others invested in second and third homes, often focusing more on future appreciation than on rental income (which, with the inflated purchase prices of that time, ordinarily could not cover the carrying costs for the property). These purchasers were focusing primarily on the potential appreciation of this asset, with the occupancy value relegated to a distant secondary position.

In this sense, residential property became little different from internet stocks a few years earlier, or tulip bulbs in Holland in the 1630s. People overbought residential property because they feared missing a short-lived investment opportunity that might prove to be more attractive than any other they might see again. Many investors profited along the way, purchasing appreciating property on the way up and selling it even further up. But as with other bubbles, those holding overpriced property when the music stopped suffered the most. It is possible that over a period of several decades, these investments will be understood to have appreciated at a reasonable average rate. But for those who bought just before the peak and sold or wished to sell after the crash, it will be many years before their investment will pay off, assuming they are willing and able to carry the property that long.

If home prices had reflected just the first component—the occupancy value of the home—then it is unlikely that prices would have spiked and then plummeted to the degree they did. Prices are unlikely to accelerate too rapidly when purchasers are merely comparing the cost of owning a home to the cost of renting an alternative residence. But when prospective purchasers begin to include the second component, representing potential profit from their investment,

26. *Housing Vacancies and Homeownership*, U.S. CENSUS BUREAU, Table 14, http://www.census.gov/housing/hvs/data/histtabs.html (last visited Dec. 2, 2012).

prices are more likely to begin accelerating rapidly, as they did. Consumers are no longer looking only at the occupancy value of a dwelling but also are comparing this purchase to alternative investments. Once this snowball began rolling down the mountain and growing in size, some purchasers were destined to be crushed by it.

F. Failure Number Six: There Was a Shortage of Alternative Investments That Would Produce Comparable Returns

During the past few years, investors in the West desperately sought investments with high returns. With so much money available for investment, returns naturally dropped. Safe investments, such as savings accounts and money market funds, offered no effective return after inflation.[27] Investors moved into higher-risk alternatives, and the returns on these investments began to plummet as well. So those with assets to invest faced a problem: few investments offered returns that seemed to compensate them adequately for their risk.

The market responded by developing a wide range of alternative investments, as discussed above. Originators vastly expanded their offerings of derivatives backed directly or indirectly by the American home mortgage market. Some of these new investment products offered returns that were more attractive than many available alternatives. Cash was looking for a place to go, and originators met this demand with products that seemed to offer returns that more than compensated investors for the attendant risk.

Some of these products were riskier than they first appeared, as previously discussed. In other words, the return did not adequately offset the risk of the investment. But investors underestimated this risk for many of the reasons just discussed and thus found these products more attractive than they realistically should have. The lack of government oversight of some of these investment vehicles, also noted above, may have contributed to this misapprehension of risk. The market mispriced the investments, regulators remained on the sidelines, and investors looking for products purchased these investments.

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27. *See, e.g.*, *Track Economic Index Trend and Graph Financial Industry Rates*, BANKRATE.COM, http://www.bankrate.com/funnel/graph/default.aspx?cat=3&ids=22,-1&state=zz&d=1825&t=MSLine&eco=40 (last visited Dec. 2, 2012) (comparing interest rates on checking accounts with the Consumer Price Index and demonstrating that inflation has exceeded returns on these accounts since early 2008).

G. Failure Number Seven: Borrowers, Investors, and Issuers Did Not Adequately Recognize and Understand Market Risks

Several of the failures discussed above arose from misapprehensions of value, price, and risk, and to a large extent, the failure described here overlaps with several of the prior ones. Home purchasers who borrowed portions of the acquisition price—in many cases far more than the traditional 80%—assumed that the price they had paid for the asset adequately reflected the value of their purchase. Presumably, they thought they were not overpaying for their home, after factoring in both the value of the home as a residence and the future appreciation they deemed to be inevitable.[28] As homes appreciated and buyers refinanced, they would often borrow more than the amount outstanding on the earlier loan and use the excess for other purchases, assuming once again that prices would continue to rise. To the extent they even contemplated that prices might someday drop, a possibility many investors probably disregarded completely, they never guessed just how much home prices might actually fall. In many cases, a homeowner such as this now owes more on her home than the home is worth.

Similarly, investors underpriced risk. Some of these investors presumably failed to contemplate the possibility that the prices of homes, or investments backed by mortgages on homes, could ever drop. Others may have recognized this possibility but underestimated its likelihood. Either way, investors overestimated the value of their investment, which is another way of saying that they underestimated the return the investment properly should have offered by misperceiving the true magnitude of the risk.

This under-appreciation of actual risk appears to have permeated the market from top to bottom. Home purchasers assumed that home prices would increase, that interest rates would remain stable, and that they would be able to refinance their homes when the introductory teaser rates on their loans expired. They similarly assumed that they would maintain their employment and see their incomes increase over time.

Investors in securities backed by the home mortgage market implicitly made these same assumptions. They believed that the return they were receiving adequately compensated them for their risk and that the securities they were purchasing provided the highest risk-adjusted return of the available options. They also believed that some of the risks in these investments were being

28. To be more accurate, these homeowners and their lenders may have accurately assessed what their home was worth at a given time, based on comparable sales, but the entire market may have been overpriced. The appraised value of the home systemically factored in an overly optimistic assessment of future appreciation.

adequately mitigated by devices such as credit default swaps.[29]

Ratings agencies contributed to this problem. They rated securities ostensibly on the basis of their assessment of the risk. But as just discussed, they often did not adequately understand the securities they were rating. To the extent they did understand them, these agencies nonetheless misapprehended their risk and thus their value. And the conflicts presented by their business relationships with the issuers of the securities they were rating may have caused them to err on the side of underestimating investment risk.

The issuers of these securities also overstated their value. This is natural and to be expected, because part of their role is to sell the products they create. But this overstatement of value also arose from their failure to comprehend the true risks of these products. They seem to have arrogantly assumed that they understood the market better than they did and better than anyone else did. To some extent, this overconfidence may have reflected their reliance on mathematical models that appeared to factor in the many complexities of the economy but that in fact overlooked or underweighted certain risky features of the American housing market.[30]

H. Failure Number Eight: The Market Created Opportunities for Moral Hazard

"The tendency of an insured to relax his efforts to prevent the occurrence of the risk that he has insured against (moral hazard) makes insurance more expensive than it otherwise would be."[31] Markets that display elements of moral hazard create opportunities for investors to assume more risk than they otherwise would. These investors believe that if their risky investment pays off, they will reap a high return that reflects the investment's total risk, but if the investment fails, someone else will step in to bear all or part of the loss. In short, investors are wise to purchase investments that include an element of "heads I win, tails you lose."

This moral hazard feature appeared in at least two distinct sectors of the American real estate market. First, to the extent that they contemplated market risk at all, homeowners may have assumed that the government would take steps

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29. *See generally* ENGEL & MCCOY, *supra* note 21, at 219–23 (discussing the intended functioning of credit default swaps, along with their risks).

30. For an eerily predictive mid-1990s precursor to the more recent housing crisis, see ROGER LOWENSTEIN, WHEN GENIUS FAILED: THE RISE AND FALL OF LONG-TERM CAPITAL MANAGEMENT 65–77 (2000) (discussing the Black-Scholes formula, which ultimately failed to predict risk accurately, thereby leading to the failure of Long-Term Capital Management).

31. RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 135 (8th ed. 2011).

to avoid a prolonged depression. Government actors would intervene to support prices, to keep interest rates low, to head off massive numbers of foreclosures, and to prevent an overall disruption in the market for homes and residential mortgage loans. In short, home purchasers probably believed at some level that they could purchase a home and enjoy all of the upside investment gain, but that if the market crashed, the government would act to mitigate some of the negative effects they would otherwise suffer.

Second, the financial market probably assumed that the government would intervene to avert a market crash. This intervention could take any number of forms. But most notably, the government ultimately would not allow FNMA and FHLMC to fail. Although these entities are technically separate from the government, they are widely perceived as government-backed, and the investment community appeared to believe that investments in FNMA and FHLMC would not become valueless.[32] Again, investors would enjoy all gains from these investments, while the government would soften the impact of any significant losses.[33]

The second of these assumptions has proved to be more accurate than the first so far. The U.S. government prevented the failure of at least some major financial institutions, including FNMA, FHLMC, and Merrill Lynch, although it allowed others, such as Lehman Brothers, to fail. It also bailed out major business entities such as General Motors and Chrysler rather than face the unemployment and other types of social upheaval that might have resulted from their collapse.

The first assumption has not proved quite as true to date. Federal government efforts to support homeowners in default have been half-hearted and largely ineffective.[34] Note, though, that some states have long had antideficiency

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32. "Though obligations of Fannie Mae and Freddie Mac are not backed by the full faith and credit of the federal government, investors have indicated that they believe the government would provide any support necessary to keep these companies solvent because of their public sponsorship and mission." Michael Padhi, *Fannie Mae and Freddie Mac at Work in the Secondary Market*, FINANCIAL UPDATE (Fed. Reserve Bank of Atlanta), Jan.–Mar. 2001, at 2, *available at* http://www.frbatlanta.org/pubs/financialupdate/financial_update-vol_14_no_1-fannie_mae_and_freddie_mac.cfm?redirected=true.

33. *Cf.* Mian & Sufi, *supra* note 11, at 27–30 (arguing that moral hazard on the part of loan originators led to an increase in default rates).

34. For example, the Home Affordable Modification Program (HAMP) was designed to encourage mortgage servicers to enter into mortgage modifications with distressed homeowners. MAKING HOME AFFORDABLE, http://www.makinghomeaffordable.gov/Pages/default.aspx (last visited Dec. 2, 2012) (describing the program and helping consumers establish their eligibility); *see also Home Affordable Modification Program: A Proactive and Efficient Workout Solution to Help Borrowers Avoid Foreclosure Whenever Possible*, FREDDIEMAC, *available at* http://www.freddiemac.com/service/factsheets/pdf/mha_modification.pdf. However, only a limited number of eligible homeowners have participated, and the redefault rate has been extremely high. *See generally* Jean Braucher,

legislation that prohibits home mortgage lenders from collecting deficiency judgments from borrowers when the foreclosure value of their homes is inadequate to satisfy the outstanding debt.[35] Some local governments have sought recourse in the courts against lenders who allegedly engaged in abusive practices that worsened the market crash and thereby harmed these local communities.[36] And as noted previously, the courts have begun to scrutinize foreclosure actions for various types of abuse.[37]

These actions, viewed in combination, have offered homeowners in default some protection against the loss of their residences. They have also caused their lenders to worry that they will be unable to collect the full amounts of the debts they are owed. To the extent that earlier risky behavior by homeowners was promoted in part by a belief that the government would cushion any potential fall, these subsequent government activities demonstrate that these homeowner beliefs were justified to some degree.

III. THE CONSEQUENCES OF THESE FAILURES

The eight failures just described combined to have significant impacts on the American housing market. This Part discusses some of these consequences. Many of these impacts were predictable, though it is far easier to recognize the foreseeability of these consequences after they occurred. In fact, some worried observers predicted some of these outcomes for many years and were consistently wrong, until they were eventually right. Other experts minimized and marginalized these predictions as overly alarmist. These observers, of course, were right until they were eventually wrong.

Humpty Dumpty and the Foreclosure Crisis: Lessons from the Lackluster First Year of the Home Affordable Modification Program (HAMP), 52 ARIZ. L. REV. 727 (2010) (describing the HAMP program, its initial failures, and ways it could have been strengthened).

35. *See, e.g.*, CAL. CIV. PROC. CODE §§ 580(a)–(b) (West 2012); *see generally* Grant S. Nelson, *Confronting the Mortgage Meltdown: A Brief for the Federalization of State Mortgage Foreclosure Law*, 37 PEPP. L. REV. 583, 590, 631–33 (2010) (discussing varying state approaches to personal liability on home mortgage notes).

36. *See, e.g.*, Christopher Maag, *Cleveland Sues 21 Lenders Over Subprime Mortgages*, N.Y. TIMES, Jan. 12, 2008, at A9, *available at* http://www.nytimes.com/2008/01/12/us/12cleveland.html (describing a suit alleging that lenders "knowingly plung[ed] the city into a financial crisis by flooding the local housing market with subprime mortgage loans to people who could never repay"). This suit was later dismissed. Pat Galbincea, *Common Pleas Court Judge Rejects Most of Cleveland's Suit Against Banks over Subprime Loans*, CLEVELAND PLAIN DEALER (Dec. 8, 2011, 9:52 AM), http://blog.cleveland.com/metro/2011/12/post_543.html (describing causation problems that the judge found with the city's suit).

37. *See supra* note 16 and accompanying text.

Moreover, some of the consequences that are described below resulted not only from the failures just discussed, but also from others of these very consequences. This web of resulting features is interrelated, with the failures above causing the consequences below and some of the consequences in turn furthering the effects of other consequences. Stated most briefly, once the market began to turn, the effects escalated, with each bad result catalyzing further negative outcomes.

Any attempt to predict what will happen in a given market is challenging, and those who seek to foresee the future of the Chinese housing market face these same difficulties. But there are some fairly obvious parallels between the two housing markets, along with significant differences. Thus it is essential to examine the consequences of the failures of the American housing market before it becomes possible to discuss whether the Chinese market is heading down the same path.

A. Consequence Number One: Home Prices Rose Steeply and Then Crashed

Home prices rose steeply during the ten years preceding the recent crash, and this appreciation followed naturally from some of the features described above. At the same time, the absence of alternative assets producing satisfactory risk-adjusted returns led more and more investors to chase securities backed by home mortgage loans. While many residential owners were looking to borrow against their homes to fuel excessive spending on consumer goods, even more prospective lenders were looking to lend. Loan terms became increasingly pro-borrower, loans became riskier, and adjustable rate loans with low introductory rates became more common. Homeowners became highly leveraged, lenders became sloppy, and government regulators remained on the sidelines.

In addition, the Federal Reserve Board's desire to keep interest rates low further enticed borrowers into borrowing more. Borrowers and lenders both underestimated the risks of the home mortgage market, incorrectly assuming that the absence of recent problems implied that the current market was stable and sustainable moving ahead. At the same time, market participants appear to have apprehended the moral hazard features of the market and factored them into their investment decisions. They assumed, with some accuracy, that if the residential market ever faltered, large private lenders and entities such as FNMA would receive government support. They also may have assumed, less accurately, that the government would not allow widespread foreclosures to occur.

This ready availability of easy money increased the number of potential buyers and caused home prices to appreciate quickly,[38] and perhaps faster than they should have.[39] Buyers believed themselves to be wealthier than they truly were. They spent at levels that reflected this misperception of their actual wealth and saved less than they otherwise might have. Lenders lent as though the underlying assets really had appreciated as substantially as they appeared to have. This pattern could not be maintained indefinitely.

Prospective homebuyers who had been sitting on the sidelines watched these price increases with alarm. As they refrained from purchasing their first home or upgrading to a larger and more expensive home—and witnessed rapid price increases enjoyed by others—they viewed themselves as having missed an opportunity to receive an unprecedented investment return. Some jumped into the market along the way, assuming that prices would continue to increase and not wishing to miss out on future gains. These new homebuyers pushed the rate of home ownership even higher, causing prices to rise still further. These features were particularly evident in locales such as California, Arizona, Nevada, and Florida. Those who cashed out in time, of course, were able to earn sizable profits, but most people remained in the market. Their home was still their dwelling, and they believed the investment component of this acquisition would continue to provide beneficial returns.

B. Consequence Number Two: Homeowners Became Too Highly Leveraged

As a result of several of the failures described above, owners of residential real property ended up borrowing more money than their real estate could reasonably support. In some cases, they borrowed too much at the outset and thus could have foreseen that they were, or soon would be, overly leveraged. Lenders that were eager to lend began relaxing their traditional requirement of a 20% downpayment, accepting 10%, 5%, or even less. On some acquisitions and refinancing, lenders were willing to lend more than the purchase price or value of the home, presumably under the assumption that rapid appreciation in home values would soon restore balance to the loan. Those buyers who make a smaller

38. *See, e.g.*, Pavlov & Wachter, *supra* note 12, at 2–4, 15 (describing how the greater availability of aggressive lending products led to increases in housing demand and housing prices).

39. It is problematic, of course, to state what home prices "should" be. The price of a home reflects the market's judgment as to its value, and these loan features influenced the market and the prices of homes. But if prices rise at unprecedented rates and then drop suddenly, it is plausible to argue that the sharp upswing was a bubble fueled by something other than the inherent value of the underlying assets.

initial downpayment and thus borrow more are more likely to default.[40] Some of these lenders also planned to market the loans rapidly and thereby transfer this risk to another party. In other—less foreseeable—cases, loans that once were in balance became out of balance as prices dropped sharply once the crash had begun. In short, lenders lent too much in the belief that prices would continue to increase, only to be left with unexpectedly high risk when prices suddenly decreased.

Moreover, many borrowers were highly risky to begin with. Some should never have received credit at all, while others should not have received as much credit as they did. Lenders overlooked the risks that some of these borrowers posed because the lenders were enthusiastic about lending, the pool of high quality borrowers was inadequate to meet demand, and these somewhat shakier borrowers still seemed relatively low-risk because they were mortgaging an asset to the lender that appeared adequate to cover the value of the debt.

Borrowers and lenders seemed to be incapable of believing that the paradigm of continuously rising prices could ever shift. Prices had been appreciating for years, they had begun to appreciate even more rapidly, and any reversal seemed remote and far off in the future. Moral hazard may have factored into this overleveraging as well. Borrowers may have seen everyone else they knew entering into the same type of highly leveraged loans and may have assumed not only that a reversal was unlikely, but also that if a crash actually did occur, the consequences would be so disastrous that the federal government would have to backstop their losses. After all, the government could not allow millions of ordinary Americans to lose their homes.

A variation of this moral hazard problem is the belief, apparently held by some borrowers, that they are liable for their debts only up to the value of their homes. If their property ever becomes worth less than the debt, these borrowers believe, they can walk away from their homes and lose no more than their past investments in the property. Thus, they will enjoy the highly likely gain from their investment, while their losses are capped at their sunk costs, with any excess drop in property values borne by the lender or the taxpayers. This belief may accurately describe the situation of borrowers in those states that have antideficiency legislation. However, borrowers elsewhere seem to have believed, incorrectly, that they enjoyed similar protections.[41]

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40. *See* Richard K. Green et al., *Sunk Costs and Mortgage Default* 12–13 (Feb. 4, 2010), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1547812 (finding that initial loan-to-value ratio is an important predictor of default).

41. Even in settings in which the homeowner is legally or practically protected against liability for a deficiency, the homeowner often remains in possession and continues to make mortgage payments. This willingness to pay despite the lack of consequences for failing to do so might be attributable to shame, guilt, or unwarranted fear. *See generally* Brent T. White, *Underwater and Not Walking Away: Shame, Fear, and the Social*

C. Consequence Number Three: As Home Prices Dropped, It Became More Difficult to Refinance

Borrowers have numerous reasons for wanting to refinance. In some cases, interest rates have dropped enough that refinancing becomes worthwhile even after factoring in the transaction costs of doing so, such as points and closing costs. This type of interest-rate drop is relevant primarily to borrowers with fixed-rate notes, because the market rate now available to the borrower who refinances is lower than the interest rate set forth in the note.

In other cases, borrowers were enjoying the benefits of temporary teaser rates on adjustable-rate mortgages. For a period of a year or two, these borrowers were paying rates significantly lower than the prevailing rate, because banks were eager to persuade them to borrow. These banks either planned to discount the loans, which meant that the temporarily low interest rate would translate into a somewhat lower transfer price, or intended to retain the loans with the expectation that many of these borrowers would not refinance when the interest rate reset.

These borrowers, meanwhile, were paying less than they otherwise would have during the early portion of their loan. They probably assumed that if prevailing rates dropped as low as the teaser rate, they would be no worse off going forward, and the first rate adjustment would be inconsequential. If rates did not fall this far, these borrowers would then pay the same prevailing rate that they would have had to pay all along if they had not received the short-term incentive from the lender. Moreover, if they chose to refinance, these borrowers might once again be able to enjoy a teaser rate for some period of time.

These borrowers overlooked one possibility, however. They failed to recognize that if the value of their home dropped precipitously, and in particular if it dropped below the amount they might later seek to refinance, then all or most lenders would refuse to lend to them. Thus, when prices did plunge suddenly, some of these borrowers were entirely unable to refinance. Borrowers with fixed-rate loans could not refinance even though rates had dropped. As for borrowers with adjustable-rate loans, when their teaser rate ended, their monthly payment adjusted upward to an amount that they might not be able to afford to pay, and they were frozen in place. They could not sell, they could not refinance, and they could no longer meet their monthly payment obligation.

This problem was compounded by the fact that banks became more risk averse as the market fell. Fewer and fewer banks were willing to lend amounts

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Management of the Housing Crisis, 45 WAKE FOREST L. REV. 971 (2010). *But see* Annys Shin, *We Don't Believe in Living for Free,* WASH. POST, Mar. 3, 2012, at A1, *available at* http://www.washingtonpost.com/local/a-million-dollar-mortgage-goes-unpaid-for-years-while-couple-fights-foreclosure/2012/03/01/gIQAb4DBpR_story.html (quoting homeowner in default as saying, "When a bank does all it can to save itself, that's good business . . . . When a homeowner does the same thing, he's called a deadbeat.").

that were too close to the current value of the borrower's home, because the banks' faith in constantly appreciating prices had been shattered. Thus, even borrowers who were not underwater yet were viewed as too great a risk. This reluctance to lend increased the number of borrowers who could not refinance.

Lenders tightened up in other ways. They began to look more closely at prospective borrowers' employment status and payment history, qualities on which more and more borrowers were showing greater distress. Unemployment began to rise, ultimately peaking at 10% in October 2009.[42] Similarly, borrowers began defaulting on other obligations as their job statuses changed for the worse and their credit—particularly that available by borrowing even greater amounts secured by their home—dried up. These borrowers were losing their jobs and losing their ability to borrow against their homes while their debt continued to pile up.

D. Consequence Number Four: Mortgage-Backed Securities Began Dropping in Value

On the investment side of the home mortgage market, the prognosis became equally bleak. Before the crash in the real estate market, issuers had been selling securities backed by home mortgages as quickly as they could. Demand for these securities was intense, and issuers profited greatly by selling these securities. In fact, the pervasive desire to purchase these securities propelled many of the failures discussed above. Investors in a market that had been prospering up to that point were sitting on enormous pools of cash and sought to park some of it in a seemingly safe mortgage market, thereby driving the dollar volume of home mortgages up and the overall quality of this debt down. Returns appeared to be reasonably high, and investors believed the risks to be quite low.

Once home prices began to drop, some homeowners became unable or unwilling to make their monthly loan payments. In some cases, they simply did not have the money, while in others, they saw no reason to continue.[43] Homeowners who had assumed they would be able to refinance when their monthly payments reset found that they were wrong, and their payments spiked upward just as their ability to pay began to fall. The default rate increased dramatically, the foreclosure rate soon followed, and securities backed by home

42. *Databases, Tables & Calculators by Subject: Labor Force Statistics from the Current Population Survey (Unemployment Rate)*, U.S. DEP'T LAB., BUREAU LAB. STAT., http://data.bls.gov/timeseries/LNS14000000 (last visited Dec. 2, 2012) (indicating that the unemployment rate more than doubled in less than two years).

43. *See* White, *supra* note 41, at 973–79 (describing recent national and local trends in mortgage defaults and estimating that between 2.5% and 3.5% of all homeowners had strategically defaulted by 2009).

mortgages suddenly proved to be riskier investments than their purchasers had initially acknowledged.

In some cases, these securities lost part of their value. The mortgages underlying these securities had dropped in value, but not to zero. Some borrowers, after all, were still paying on time, while others were paying slowly or partially but not stopping. Even those borrowers who defaulted and ultimately lost their homes still owned an asset that could cover part of the outstanding debt.[44] Thus, these mortgage-backed securities decreased in value but did not become worthless.

Other securities, however, lost a much greater percentage of their value. Issuers had devised various securities that allocated risk in different ways, and some borrowers, seeking higher returns than they could find elsewhere, purchased securities that were riskier than those backed by geographically diverse pools of home mortgages. For example, as mortgage defaults increased between 2005 and 2007, the value of certain types of mortgage-backed securities dropped considerably, "with some tranches losing up to 70 to 80% of their value in less than a year."[45]

These losses caused the market for securities backed by residential mortgages to dry up. Investors awoke to the risks they had been downplaying just as the market became softer and the negative consequences of these risks became more likely. As a result, the issuers that had been driving the home mortgage market and pressing originators to sell mortgages to them suddenly stopped issuing securities altogether. Originators quickly realized that issuers were no longer in a position to purchase the mortgages they had been originating, home prices were dropping, and borrowers' ability to repay their debts was slipping. The home mortgage market ground nearly to a halt.

E. Consequence Number Five: More Loans Became Undersecured, and the Rate of Delinquencies and Foreclosures Increased Rapidly

As home prices dropped, more and more owners found that the value of their homes had sunk below the amount of their outstanding debt. This phenomenon coincided with many homeowners losing their jobs or seeing their wages drop. Moreover, adjustable-rate loans with teaser rates stepped upward once the introductory rate expired.

The underwater nature of a typical mortgage loan resulted in part from the fact that the value of the home had dropped. Even if the debt had remained unchanged, the property value might have fallen below this amount. It also

44. *See* Mian & Sufi, *supra* note 11, at 27 (observing that recovery rates on foreclosures generally range between 40% and 70%).

45. *Id.* at 1.

resulted in part from the fact that the amount of debt increased as homeowners began defaulting. In some cases, for instance, after the monthly payment amount reset at a higher number, the owner might be unable to make these higher payments. Once an owner failed to make her full monthly payment, this default triggered numerous costly consequences. The note gives the lender the right to add overdue interest, applicable late fees, and attorneys' fees to the outstanding principal amount, and these additional sums began to incur further interest.[46] Thus, the value of the home might be falling even as the amount of the outstanding debt increased.

Many borrowers continued to make their payments even though their homes were worth less than the debt. Some simply did not want to lose their homes, others feared for their credit rating, and still others viewed default as morally wrong. For whatever combination of these reasons, some homeowners continued to make their payments.[47]

Another group of owners defaulted because they saw no point in continuing to make payments on an asset that was now worth less than the amount they still owed on it. They did not see any reason to send good money after bad and decided to cap their losses at the amounts they had already spent by walking away from their homes. Those who lived in states with antideficiency legislation had, in effect, borrowed on a nonrecourse basis and assumed that they would face no further liability. Those who lived in other states should have recognized that they remained liable for any deficiency remaining after the home was sold at foreclosure, which does not necessarily mean that the lender would go to the expense of pursuing a deficiency judgment. Still other owners defaulted because they had no choice, even if the value of the home still exceeded the amount of their outstanding debt. Perhaps their incomes had dropped at the same time that their monthly payments increased, and they simply did not have the financial capacity to make their monthly payments.[48]

As the market continued to suffer, the number of delinquencies increased. More and more loans became delinquent and then seriously delinquent, and lenders initiated foreclosure proceedings on increasing numbers of residential properties. Even as of January 2012, with the market beginning to recover, 7.58% of all mortgage loans on one- to four-unit residential properties in the United States were delinquent, and 4.38% of all such loans were in foreclosure. "Seriously delinquent" loans, including all loans that were in foreclosure or at

46. *See, e.g.*, *Fannie Mae Standard Multistate Fixed Rate Note*, EFANNIEMAE.COM, ¶¶ 2, 6, https://www.efanniemae.com/sf/formsdocs/documents/notes/pdf/3200.pdf (last visited Dec. 2, 2012) (providing for various late charges for overdue payments).

47. *See* White, *supra* note 41, at 986–1007 (discussing the various reasons why many underwater homeowners continue to make their loan payments).

48. *See generally id.* (same).

least ninety days overdue, constituted 7.73% of all loans.[49] Again, this consequence and the ones discussed previously are difficult to separate: each failure discussed in the previous Part increased the likelihood of these consequences occurring, and the consequences discussed in this Part fed upon each other.

IV. WAYS IN WHICH THE CHINESE MARKET DIFFERS SIGNIFICANTLY FROM THE AMERICAN MARKET

There are significant differences between the Chinese and American housing markets, and any attempt to draw parallels between the two nations cannot overlook these distinctions. Before one can attempt to predict the degree to which the Chinese market might follow the recent path of the American market, it is essential to note these differences. The two nations have considerably different histories, cultures, governments, economies, and legal systems, and it would be overly simplistic to compare the behavior of their housing markets in recent years without accounting for these huge divergences. This Part describes and discusses several of the more significant differences between the Chinese and American housing markets in an effort to help determine the degree to which China might be following a path similar to that of the United States.[50]

A. Distinction Number One: Chinese Families Display Extremely High Savings Rates and Extremely Low Rates of Consumption

China has a very high savings rate, which some observers estimate to be as high as 40%.[51] One recent publication suggests that the average savings rate

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49. Press Release, NDS, Mortgage Bankers Ass'n, Delinquencies and Foreclosures Decline in Latest MBA National Delinquency Survey (Feb. 16, 2012), http://www.mortgagebankers.org/NewsandMedia/PressCenter/79827.htm. More than half the mortgage loans in foreclosure in the United States are secured by real property located in just five states. *Id.* Fannie Mae, which uses different definitions and calculates the rates somewhat differently, offered numbers that were slightly less worrisome. *Monthly Summary*, FANNIEMAE (Jan. 2012), http://www.fanniemae.com/resources/file/ir/pdf/monthly-summary/013112.pdf.

50. Many of my conclusions about Chinese business practices are based on my field research in China, where I interviewed dozens of real estate professionals to understand how these experts are actually behaving. For a detailed discussion of my research methods, see GREGORY M. STEIN, MODERN CHINESE REAL ESTATE LAW: PROPERTY DEVELOPMENT IN AN EVOLVING LEGAL SYSTEM 7–12 (2012).

51. For a general discussion of Chinese savings patterns, see *id.* at 90–91.

for urban households in 2009 was 29%.[52] To put these numbers in perspective, the personal savings rate in the United States has not been in double digits since May 1985.[53] These types of international comparisons can be misleading. Americans enjoy a more robust social safety net than Chinese and can fall back on sources of income that may not be reflected in the savings rate. These include future social security benefits, pre-tax savings accounts such as 401(k) plans and Individual Retirement Accounts, capital gains on investments, and, at least until recently, home appreciation.[54] However difficult these comparisons might be, it is evident that China's citizens are saving tremendous amounts, although this trend may be beginning to change as the generation that has transitioned from a purer form of Communism ages.

One reason for this high savings rate is that, until recently, there were few consumer goods on which Chinese citizens could spend their income. Family structure also plays a role. Chinese parents typically are limited to having only one child. This keeps the costs of raising a family low relative to nations in which families are larger, although it bears noting that some Chinese adults are supporting their own aging parents as well. China does not boast the same type of comprehensive social security system that Western nations generally have, and China's wage earners may be planning ahead for their retirement years. China's citizens, meanwhile, have grown much wealthier during the past two decades. With increasing wealth, more reasons to conserve their funds, and less on which to spend, the typical Chinese family is saving a huge amount.

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52. Marcos Chamon, Kai Liu & Eswar Prasad, *The Puzzle of China's Rising Household Savings Rate*, VOX (Jan. 18, 2011), http://www.voxeu.org/article/puzzle-china-s-rising-household-saving-rate; *see also Economists Defend China's High Savings Rate*, CHINA DAILY, Jan. 7, 2009, 6:39PM, http://www.chinadaily.com.cn/bizchina/2009-01/07/content_7375620.htm (estimating that China's household savings rate is approximately 30% to 40% and noting how much lower the debt level of Chinese households is compared to that of households in Europe and the United States).

53. Fed. Res. Bank of St. Louis, *Personal Savings Rate (PSAVERT)*, ECON. RES., http://research.stlouisfed.org/fred2/series/PSAVERT?rid=54&soid=18 (last visited Dec. 2, 2012) (showing a savings rate of 10.3% in May 1985 and single-digit rates thereafter, with a low of 0.9% in October 2001).

54. *See, e.g.*, Milt Marquis, *What's Behind the Low U.S. Personal Saving Rate?*, FRBSF ECONOMIC LETTER (Fed. Res. Bank of S.F.), Mar. 29, 2002, at 1, *available at* http://www.frbsf.org/publications/economics/letter/2002/el2002-09.pdf (noting the difficulties of calculating an accurate savings rate for the United States).

B. Distinction Number Two: There Are Few Attractive Investments in China Other Than Real Estate

Newly wealthy Chinese families that wish to invest for the future have few attractive investment options. Bank savings accounts are available but pay a low interest rate of 0.35%.[55] The typical Chinese citizen quickly recognizes that she will gain little by placing her savings in a bank. The nation now has stock markets in Shenzhen and Shanghai, both of which are highly unpredictable, and many citizens are reluctant to gamble with their savings by purchasing publicly traded shares. The government still controls many of these supposedly public companies, and insider trading is common.[56] Given China's strict limits on buying and selling foreign currency, it is nearly impossible to invest overseas.[57]

That leaves real estate.[58] By 2010, 84.3% of Chinese owned their homes; the rate in the United States was 66.2% in 2000.[59] The lack of alternative investment opportunities also helps to explain the high rate of ownership of second homes, many of which are being held solely for investment purposes. By 2007, 15% of urban households owned more than one home.[60] This lack of alternatives helps to explain the recent success of the residential real estate market

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55. Bank of China currently pays 0.35% interest on renminbi demand deposits, with higher rates available for lump-sum deposits committed for fixed time periods. *RMB Deposit Rates 2012-07-06*, BANK OF CHINA, http://www.boc.cn/en/bocinfo/bi4/201207/t20120705_1887042.html (last visited Dec. 2, 2012). Historical interest rates and changes, including the current rates, are available at http://www.boc.cn/en/bocinfo/bi4/ (last visited Dec. 2, 2012).

56. *See* Dong Zhixin, *Regulator Warns on Stock Market Risk*, CHINA DAILY (Apr. 29, 2007), http://www.chinadaily.com.cn/china/2007-04/29/content_863620.htm (quoting a top Chinese securities regulator regarding illegal activity in China's two stock markets).

57. *See* Janet Ong, *China May Ease Rules on Investing Overseas*, INT'L HERALD TRIB., Sept. 22, 2004, *available at* http://www.iht.com/articles/2004/09/22/bloomberg/sxchina.php (noting that "China bans its citizens from buying stocks abroad to prevent an exodus of foreign reserves," while also observing that China must comply with World Trade Organization requirements and also must provide its citizens with adequate investment options).

58. *See, e.g.*, Dwight H. Perkins, *China's Land System: Past, Present, and Future*, *in* PROPERTY RIGHTS AND LAND POLICIES 70, 82 (Gregory K. Ingram & Yu-Hong Hong eds., 2009) ("Housing has afforded better returns than the banks, at least during the past decade, and has been less volatile than the stock market.").

59. Yanyun Man et al., *Housing Policy and Housing Markets: Trends, Patterns, and Affordability*, *in* CHINA'S HOUSING REFORM AND OUTCOMES 3, 6–7 (Joyce Yanyun Man ed., 2011). Even among the lowest income decile, the home ownership rate in China in 2010 was 79.3%. *Id.* at 7.

60. *See* Youqin Huang & Chengdong Yi, *Patterns of Second-Home Ownership in Chinese Cities*, *in* CHINA'S HOUSING REFORM AND OUTCOMES, *supra* note 59, at 89, 89.

in certain Chinese cities. Moreover, given the consistently positive trajectory of China's real estate markets since the late 1980s, most Chinese have never experienced a down market and may not believe that prices can ever drop significantly. Real estate may be their only viable investment, but they are perfectly satisfied with that lone option.

C. Distinction Number Three: The Demographics of the Chinese Population Differ Significantly From Those of the American Population

China has a huge and rapidly urbanizing population. Tens of millions of agricultural workers have moved to China's eastern cities, often without the requisite work permits, to take jobs in factories or in the construction industry. Some have left voluntarily in search of the greater wealth they perceive to be available in the cities, while others have been forced to leave as their agricultural land has been converted to more intensive urban uses. Dwellings, too, are growing larger, to meet the demands of a population that is rapidly becoming wealthier. Cities are increasing their amounts of green space, such as parks, to improve quality of life. With more people, more square footage per person, and more open space, cities are growing physically larger and taller. The demand for residential space, particularly in China's eastern cities, has been nearly insatiable for the past two decades.[61]

Moreover, the pre-1980s urban housing stock, which was already inadequate to house all of the residents of these cities at that time, was barely maintained from the 1950s through the 1980s. During the peak of the Communist era, housing was not viewed as a commodity, but rather as an input necessary for the maintenance of industrial and agricultural production.[62] As a result, housing was built poorly and did not age well. By the 1980s, with China's economic system evolving and its citizens growing more impatient, most of this older housing needed to be replaced or upgraded significantly.

And as noted above, China's middle class is increasing in size, with its members growing wealthier every year. Home ownership represents both a good

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61. *See generally* STEIN, *supra* note 50, at 72–74 (discussing changes in demand for urban residential space).

62. Jean Jinghan Chen & David Wills, *Pioneer Urban Housing Reform in China*, *in* THE IMPACT OF CHINA'S ECONOMIC REFORMS UPON LAND, PROPERTY AND CONSTRUCTION 122, 123 (Jean Jinghan Chen & David Wills eds., 1999) (noting, in 1999, that "[t]raditionally, housing in China has been viewed as a non-useful cost of production that must be borne to produce the truly valued output which consists of manufactured goods"); *see generally* CAO PEI, REAL ESTATE LAW IN CHINA 3 (1998) (observing, in 1998, that under Marxist doctrine, "land and property were not commodities, and therefore must not be the objects of private investment and trade").

investment and a symbol that one has entered, or at least begun to move toward, the middle class. Members of this new middle class want the security of home ownership and the confirmation of middle-class status that owning a home seems to provide. China's population is growing only slowly in light of the one-child policy, immigration to China is relatively modest, and the population is aging rapidly. But these demographic features have been overwhelmed since the late 1980s by increases in wealth, rapid urbanization, and fifty years of pent-up demand.

D. Distinction Number Four: The Residential Real Estate and Mortgage Markets Are Heavily Regulated and Controlled by the Government

The Chinese market for dwellings and for mortgage loans is heavily regulated, in sharp contrast with that of the United States.[63] The government justifiably appears to be nervous about the possibility that the current residential real estate surge will end abruptly. As just noted, many Chinese may assume that the recent boom years are typical and might be underestimating the longer-term risks of investing in an unsettled and rapidly developing real estate market. China's government, by contrast, seems aware that these assumptions are almost certainly inaccurate.

The government regularly adjusts interest rates, minimum downpayments, certain lending requirements, and the rates of various taxes to encourage or discourage development as market conditions dictate. For example, China's benchmark interest rate rose throughout 2006 and 2007, climbing to 7.47%, before dropping sharply to 5.31% during a five-month period, then inching back up to 6.56% in July 2011 and holding there for nearly a year before dropping once again.[64] Banks recently increased their minimum downpayments on

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63. *See, e.g.*, John E. Anderson, *The Path to Property Taxation*, *in* CHINA'S LOCAL PUBLIC FINANCE IN TRANSITION 145, 148 (Joyce Yanyun Man & Yu-Hung Hong eds., 2011) ("China's emerging real estate market is not a robust free market in which the invisible hand allocates resources. Rather, it is an emerging market situation where at present ambiguities in the definition and enforcement of property rights limit the full development of markets."); Yingjie Guo, *In Search of Wealth and Power: The Character of the Chinese State and Limits to Change*, *in* LAW, WEALTH AND POWER IN CHINA: COMMERCIAL LAW REFORMS IN CONTEXT 53, 69 (John Garrick ed., 2011) (describing ways in which the government participates in and benefits from market activities).

64. *China Interest Rate*, TRADING ECONOMICS, http://www.tradingeconomics.com/china/interest-rate.

residential units from 20% to 30%, with some banks requiring even larger initial payments.[65]

Similarly, China has enacted policies to discourage investment in dwellings that will not be owner-occupied. Interest rates are higher for second homes, to discourage the acquisition of multiple investment units. This policy seeks to make more dwelling units available more cheaply for first-time buyers who plan to occupy the apartments they purchase. Some units of government also have become more inclined to enforce legal requirements that might slow development.[66]

The government has taken other steps to slow the real estate market. It has increased existing transfer taxes and gains taxes and has imposed new ones. Buyers now pay a transfer tax equal to 1.5% of the purchase price. If a seller is transferring a unit within five years of initially acquiring it (increased recently from two years), the seller pays an additional transfer tax of 5%. To slow the market in high-end residential units, the government assesses the latter tax on units larger than 144 square meters even after the seller has owned the unit for five years, and these larger units pay the former tax at a rate of 3% rather than the standard 1.5%.[67]

Many of these policies were adopted before the recent global crisis. They were fairly successful overall and seem to have slowed the appreciation of residential units. Some absentee investors who had purchased units with the goal of quickly selling them at a profit probably have had to retain these units for longer than they intended. With the recent global recession, the government seems to fear that it may have overcorrected and has relaxed some of these policies.

Recall as well that most major Chinese banks are state-owned or state-controlled.[68] The government might pressure a lender to extend credit to a foundering state-owned enterprise (SOE). The state might wish to support this failing business, even though there is a strong likelihood that the borrower will default and never repay its debt, because these entities provide their employees with social benefits such as housing, health care, and education, in addition to the jobs themselves. If businesses such as these disintegrate, either the government must provide the lost benefits directly or the employee does without, which increases the risk of social instability. The government thus may choose to

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65. Gregory M. Stein, *Private and Public Construction in Modern China*, 12 SAN DIEGO INT'L L.J. 5, 37 (2010) (discussing this policy and others designed to slow the appreciation in residential unit values).

66. *Id.* at 36–37.

67. *Id.* at 36.

68. *See* Gregory M. Stein, *Mortgage Law in China: Comparing Theory and Practice*, 72 MO. L. REV. 1315, 1337–41 (2007) (focusing on how state control of the lending industry and the absence of the motivation to generate profits for private shareholders impact the operation of that industry).

support the SOE's employees indirectly by encouraging a government-controlled lender to extend a loan that is unlikely ever to be repaid. Although government behavior such as this is motivated by many factors, one effect is that the government is intervening in the residential housing market to slow the transition from employer-provided housing to a freer market.[69]

This decision may be a costly one. But the Chinese government nonetheless wants to avoid the social disorder that might follow if thousands of workers were to lose their jobs, their homes, their health care, and educational opportunities for their children all at once. Privately owned banks in the West are unlikely to make large loans to failing businesses, but a lender controlled by the Chinese government is a municipal agency at least as much as it is a business and is thus motivated by public policy goals and not just by the desire to make a profit. This represents a major difference between Chinese and Western lending institutions.

The government also wishes to encourage new development. In addition to supporting the housing industry for all the reasons discussed above, the government also wishes to attract foreign investment, tourism, and trade, and to prove to the world that it has become a major economic force. In much the way that it pursued the 2008 Beijing Olympics and the 2010 World Expo in Shanghai, the Chinese government seeks to build high-profile structures in its largest cities, even in cases in which the market is not yet demanding them. In short, the government is a major player in all aspects of the housing and mortgage markets.

E. Distinction Number Five: The Secondary Market in Chinese Residential Mortgages Is in Its Infancy

For most of the past two decades, China has not had a secondary market in residential mortgages. Several factors may help to explain why China has been slow to develop a secondary market. One concern that originators and potential issuers face is the fact that China's economy is largely cash-based, and there is a considerable amount of gray-market income. In addition to the income reported from official sources, all of which is presumably subject to taxation, many workers earn unofficial income from various sources. This additional income is usually in cash, is not always legal, and generally goes untaxed. As a result, prospective lenders may receive formal confirmation of official income and quiet reassurances as to supplementary income sources. Lenders, then, have only a vague sense of their borrowers' ability to repay their loans from their current

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69. *See* Gregory M. Stein, *Acquiring Land Use Rights in Today's China: A Snapshot from on the Ground*, 24 UCLA PAC. BASIN L.J. 1, 16–17 (2006) (discussing the relationship between state-owned enterprises and the Chinese real estate industry).

income, and secondary lenders would be correspondingly reluctant to acquire these rather uncertain investments.[70]

The uncertainty of residential lending standards probably explains in part why a secondary market in real estate loans has not yet developed in China.[71] In fact, some Chinese real estate experts are unfamiliar with the concept of a secondary mortgage market, while others seem to recognize the benefits of a process by which residential mortgage loans can be securitized. In addition, banks may see no reason to transfer residential loans, given the low rate of residential loan defaults in recent years. Moreover, banks with risky loans on their books from other sectors may prefer to retain their residential mortgage loans, which are viewed as safe and thus help the banks maintain the overall quality of their portfolios.

Nonetheless, the government appears to recognize the potential value of securitization and the ways in which the availability of securitization could ease overall access to credit and help smooth out regional disparities in the availability of funds.[72] The government has apparently implemented changes to tax and accounting policies that are designed to encourage the growth of a secondary mortgage market. Thus, China may soon witness the development of a secondary mortgage market. Recent experiences in the United States, however, may convince China that its domestic residential markets are prospering without any need for this Western import.

F. Distinction Number Six: China's Law of Property Differs Dramatically From That of the United States and Other Western Nations

The differences between the property law of China and the property law of the United States are substantial.[73] Most obviously, all land in China is owned by the government or by agricultural collectives. The government may grant land use rights for up to seventy years but must retain ownership of the underlying

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70. Of course, home prices have appreciated fairly consistently during the past two decades, which means that buyers who are unable to cover their costs should be able to sell their apartments quickly and at a profit and thus pay off their loans. If for some reason they cannot, their lenders presumably can foreclose with little risk of loss.

71. *See generally* Dale A. Whitman, *Chinese Mortgage Law: An American Perspective*, 15 COLUM. J. ASIAN L. 35, 57–58 (2001) (describing the beneficial features of a secondary mortgage market).

72. Zhou Xin & Koh Gui Qing, *China C. Banker Eyes Explosive Growth in Securitisation*, REUTERS, Apr. 27, 2011, *available at* http://www.reuters.com/article/2011/04/28/china-economy-securitisation-idUSL3E7FS09S20110428.

73. *See generally* STEIN, *supra* note 50, at 27–43 (comparing the Chinese land use right to analogous structures under the American common law system).

land.[74] This ownership structure is designed to harmonize Marxist doctrine with the private profit motive, thereby increasing the likelihood that investors will have an incentive to develop and operate real estate without undercutting the Communist Party's justification for maintaining control of the nation and one of its most important resources.[75]

The land use right exhibits attributes that are entirely alien to those who have been raised in Western legal systems. The initial holder of a granted land use right technically must develop the land within two years.[76] There are limits on the transferability of land use rights.[77] The new Property Rights Law makes it clear that registration of title is necessary to establish an owner's right to use land,[78] and it seems to be the case that the grantee must pay the acquisition price in full before title can be registered. In at least some parts of China, it appears that the purchaser may not use borrowed funds for the acquisition of a land use right. Moreover, the Property Rights Law makes it clear that the holder of the land use right also must own the improvements constructed on that land.[79]

While China's new Property Rights Law implies that a holder of a land use right may renew her right when the term expires, at least if the property is being used for residential purposes, the law is far from clear on this point.[80] Among other things, the law does not clearly state that the right is renewable, does not set forth the duration of any renewal term, does not clarify whether the holder will need to pay a fee to renew the right, and does not specify how any such fee is

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74. *Id.* at 27–28, 31.

75. This tension permeates modern Chinese property law. *See, e.g.*, XIANFA [CONSTITUTION] art. 6 (2004) (China) ("During the primary stage of socialism, the State adheres to the basic economic system with the public ownership remaining dominant and diverse sectors of the economy developing side by side, and to the distribution system with the distribution according to work remaining dominant and the coexistence of a variety of modes of distribution.").

76. Chengshi Fangdichan Guanli Fa [Law on the Administration of Urban Real Estate] (promulgated by the Standing Comm. Nat'l People's Cong., July 5, 1994, revised Aug. 30, 2007, effective Aug. 30, 2007), art. 26 (China).

77. *Id.*

78. Wuquan Fa [Property Rights Law] (promulgated by the Standing Comm. Nat'l People's Cong., Mar. 16, 2007, effective Oct. 1, 2007) arts. 9–39 (China); *see also* Tudi Guanli Fa [Land Administration Law] (promulgated by the Standing Comm. Nat'l People's Cong., June 25, 1986, revised Dec. 29, 1988, Aug. 29, 1998 & Aug. 28, 2004, effective Aug. 28, 2004), art. 12 (China) ("Any change to be lawfully made in land ownership, in the right to the use of land or in the purpose of use of land shall be registered."); Chengshi Fangdichan Guanli Fa [Law on the Administration of Urban Real Estate], art. 36 (requiring registration of the ownership of real estate when it is transferred or mortgaged).

79. Wuquan Fa [Property Rights Law], arts. 142, 146, 147, 182; *see also* Chengshi Fangdichan Guanli Fa [Law on the Administration of Urban Real Estate], art. 32 (containing similar limitations).

80. Wuquan Fa [Property Rights Law], art. 149.

to be calculated. Since most land use rights in China are less than twenty years old, China has had few occasions to address these open questions. Thus, security of tenure in China is considerably lower than in the United States.

There are other substantial differences between the two nations' systems. China controls the use of land to a far greater extent than American jurisdictions do, and there is far less opportunity for public input in China.[81] The Chinese government also retains a far more muscular ability to facilitate redevelopment by relocating existing residents of a neighborhood, demolishing their former homes, and transferring the newly cleared land to a private developer.[82] And the sharp legal division between collective-owned agricultural land and government-owned urban land has created numerous problems, not the least of which is the dramatically reduced ability of rural residents to profit from the recent real estate boom.[83] China needs to find and clear developable land quickly, and the government often is able to obtain that land at fire-sale prices from agricultural cooperatives that do not possess the legal right to profit from the sale of their valuable resource.

This Part has addressed many of the distinctions between the Chinese and American lending industries. There are legal differences as well. The ability of Chinese developers to mortgage an unimproved land use right to secure a loan of the funds used to purchase that land is legally unsettled. Construction mortgages are permitted but are structured somewhat differently from American construction loans. And contractors are often paid more slowly than in the United States, forcing them into the role of reluctant lenders.[84]

The method by which home purchasers finance their acquisitions differs significantly in China, and in a way that is highly unfavorable to the purchaser. Demand for new residential units has been intense, with prospective purchasers sometimes pitching tents and waiting overnight for the right to buy an unbuilt apartment off the developer's plans.[85] The market has favored sellers, and sellers have capitalized.

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81. STEIN, *supra* note 50, at 53–57 (discussing site selection, government planning, public input, population dispersal, and the government's use of incentives in China).

82. *Id.* at 61–68.

83. *Id.* at 68–72 (noting that land use rights can be granted only on state-owned land, which means that agricultural-collective land first must be requisitioned by the government at a price reflecting its value for agricultural purposes, following which land use rights may be granted on the land to private parties at prices reflecting its new value for development purposes).

84. *See generally id.* at 79–85 (discussing various features of construction financing in China).

85. *See, e.g.*, Michael Schuman, *Bubble Trouble: Why Real Estate Is China's Biggest Headache*, TIME, Nov. 16, 2009, http://www.time.com/time/world/article/0,8599,1939768,00.html (describing prospective purchasers who brought chairs and folding beds so they could camp outside a sales office for two days).

The so-called presale process that has emerged is structured so that the developer contracts to sell the apartment before it is built and collects a large downpayment at the outset plus progress payments during construction. The buyer must come up with most or all of the purchase price for the new unit before she can occupy it while also bearing all of the costs of maintaining her current dwelling. Most buyers pay for these new units with borrowed funds, and lenders, which typically must advance a significant portion of the purchase price to their borrowers, cannot yet legally obtain a mortgage interest in the new housing unit because the purchaser does not own it yet. While the new Property Rights Law clarifies that dwelling units are legally mortgageable,[86] the timing quirks of the Chinese market raise obvious practical concerns.[87]

The government has stepped in to limit presales because of the timing problems they create for buyers and their lenders. For example, developers may not presell units until a building is 25% completed. And in the infrequent cases in which a developer has defaulted and been unable to complete its project despite receiving the unit purchasers' significant cash advances, the government has invited a replacement developer to complete the project. The replacement developer had to contribute additional funds and then negotiate with the unit buyers to share this additional cost. The unit buyers presumably were willing to pay the extra premium to obtain apartments in which they had already invested so much, and most of these units subsequently appreciated further.[88]

There is nothing inherently improper about the presale structure, although individual buyers need to recognize that they are serving as lenders to their sellers. However, this structure differs significantly from that typically seen in purchases of new homes in the United States. When a prospective buyer negotiates to purchase a new home in the United States, he typically signs a contract and remits a downpayment of 10% or less, which is commonly held in escrow. The buyer pays nothing further until the home is completed, at which point he pays the balance of the purchase price, receives a deed from the seller, usually borrows money from a lender, and delivers a note and mortgage to that lender to evidence and secure repayment of the loan. This structure presents considerably less risk to the American buyer than most Chinese buyers face. And the significant differences between the American and Chinese approaches to sales of new homes make direct comparisons between these two markets difficult and potentially misleading.

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86. Wuquan Fa [Property Rights Law], art. 180 (China).

87. *See generally* STEIN, *supra* note 50, at 103–17 (discussing China's residential presale system, the problems it can create, and possible solutions to these problems).

88. *Id.* at 113–15.

V. WAYS IN WHICH THE CHINESE MARKET SHOWS WORRISOME SIMILARITIES TO THE AMERICAN MARKET

The previous Part should provide considerable comfort to the reader concerned that the Chinese market resembles the American market and therefore may be headed for a crash much like that the American market has endured in recent years. By highlighting the tremendous distinctions in the legal, business, and social structures of the two nations, that Part aimed to show that China is not necessarily destined to follow the same path. This Part is more sobering and aims to demonstrate several similarities between the housing markets of the two nations. These similarities do not necessarily prove that China will imminently suffer a housing crash, of course. Rather, they serve to remind the reader that despite the many significant differences described in the previous Part, there also are some worrisome common features of these two large markets.

A. Similarity Number One: Dwelling Units Are Viewed in Both Nations as Investment Commodities and Not Just as Places to Live

This article has demonstrated how, in the United States, homeowners began to focus more intently on the investment attributes of home ownership and not purely on the fact that a home is a place to live. A family that lives in a rental unit has to pay a certain amount in rent and related expenses. If that tenant is considering the unit only as a dwelling and is disregarding the investment component of home ownership, she should largely be indifferent between renting and buying. Whichever option she selects, she is looking at the full costs of obtaining a place to live but nothing more. For those residents who have accumulated the assets, employment record, and credit history to qualify for a loan, there should be little difference between renting and buying. Under this assumption, the decision whether to rent or buy should primarily reflect personal preference and the resident's predictions as to how long she expects to remain in the dwelling.

But in recent years, home prices in both the United States (until recently) and China have appreciated more rapidly than this artificial model would suggest. Prospective purchasers have been willing to pay more for a home than the rental value would otherwise justify, in the belief that they will be more than compensated when they sell their house at a profit. In other words, it costs more to live in an owned home than in a rented home, because the price of the owned home factors in not just the occupancy value of the dwelling but also its anticipated appreciation.

In some parts of the United States, this second factor—future appreciation—overwhelmed the rental value of the unit. Prices rose rapidly, which meant that residents who wished to own had to spend far more of their income on housing than they would have paid had they rented. To the extent a purchaser willingly paid this premium, it represented the investment component of her purchase. If she paid $800,000 for a home that, in the current rental market, should have sold for only $500,000, she was effectively investing the extra $300,000 in her home in the belief that her excess investment would earn a competitive return when she sold the house. And as the U.S. market continued to heat up, the investment component became a larger and larger share of the purchase price, particularly in some locations. In short, people no longer saw purchasing a home only as an alternative to renting. They also saw it as a desirable investment. And as prices continued to increase, they worried about missing an opportunity that they came to see as unprecedented and unlikely to recur.

The Chinese market has displayed similar characteristics, though for somewhat different reasons. In the United States, housing began to seem like a desirable investment when compared to alternative investments. The returns provided by other vehicles, such as bonds or shares of stock, seemed paltry in comparison, and the risks of residential real estate investments appeared to be low, particularly as the bull market persisted. By contrast, in China, there have been no viable alternative investments so far. China's two stock markets are new and are viewed by potential investors with considerable skepticism. Foreign investment opportunities are quite limited given China's strict controls on foreign currency. If American investors bought housing units because they seemed like a worthwhile investment compared to the alternatives, Chinese investors bought housing units because there were no alternatives.

Another distinction between the two markets also bears noting. In the United States, the residential real estate market was stimulated in large part by loan originators eager to extend credit. These originators had willing customers waiting to buy home loans as quickly as possible so that they could package them and sell them to investors. Investors wanted to invest, which caused originators to originate, which encouraged borrowers to borrow money to buy real estate.

In China, by contrast, this phenomenon is largely absent. Rather, real estate purchasers themselves have catalyzed the market. Tens of millions of people lived in substandard urban housing that had not been renovated in decades. Tens of millions more people have migrated from rural areas to cities seeking higher paying manufacturing and construction jobs, and these internal migrants need places to live. Incomes and living standards have increased at unprecedented rates, giving ordinary citizens the ability to buy larger, higher quality dwellings. Demand for housing is high, but this is because the prospective purchasers want more, larger, and better housing, not because lenders and investors are driving the market. Home prices in China, like those in the United States until the recent pullback, increased because purchasers in both nations viewed homes as very attractive investments. But the Chinese market has been driven primarily by a desire on the buyers' part for the units themselves and not by a desire on the part of investors seeking to invest in mortgage-backed securities. In China, the home is the commodity, while in the United States, the loan was the commodity and the home was more like an ingredient necessary to create the loan.

B. Similarity Number Two: Home Prices Have Risen Beyond the Point at Which Buyers Can Cover the Costs of Their Homes From Their Wages

In the United States, home prices continued to rise sharply right up until the recent recession during a time when income was relatively flat. This necessarily meant that, for most families, home ownership was becoming less and less affordable. Purchasers began to borrow larger and larger shares of their acquisition costs, often at temporarily reduced interest rates. They appeared to believe that the worst that could happen to them would be that they would have to refinance in a year or two or sell the home at a profit to pay off the debt. Many owners appear to have discounted the possibility that prices would drop or that opportunities to borrow would vanish. When those features ultimately exhibited themselves, many borrowers could not cover their newly increased monthly costs and could not refinance. Many of these borrowers have lost their homes or will do so in the near future.

In China, too, home prices exceed the apparent abilities of their owners to pay for them. Although average incomes in prosperous markets such as Shanghai are far lower than those in comparable American cities,[89] home prices in these markets nonetheless run into hundreds of dollars per square foot, which is comparable to the price in many of the more expensive American locations.[90] If Americans, with their higher incomes, were unable to maintain their homes when their wages dropped and their monthly payments concurrently spiked, how can Chinese purchasers, with high housing costs and lower incomes, be expected to fare any better?

Just as was true in the discussion above, the parallels between the two nations' housing markets are not quite as strong as they initially appear. First, as previously noted, the savings rate is much higher in China than in the United

89. "The per capita household disposable income of urban residents [in Shanghai] . . . [was] 23,623 yuan [approximately $3,750]." *A General Survey of Shanghai*, OFF. SHANGHAI CHRONS., http://www.shtong.gov.cn/node2/node82288/node82289/node82299/userobject1ai111106.html (last visited Dec. 2, 2012) (official government website; figures appear to be from 2007).

90. "Shanghai's average new home price fell 10.5 percent to 19,331 yuan per square meter." *Shanghai Average New Home Price Falls 10.5% on Week, UWin Says*, BLOOMBERG BUSINESSWEEK, Oct. 31, 2011, http://www.businessweek.com/news/2011-10-31/shanghai-average-new-home-price-falls-10-5-on-week-uwin-says.html. This equates to approximately $286 per square foot, which is higher than all but four of the major U.S. metropolitan areas available for analysis by Zillow. *Real Estate Market Reports, Median Sale Price Per Square Foot*, ZILLOW, http://www.zillow.com/local-info/#metric=mt%3D36%26dt%3D1%26tp%3D5%26rt%3D14%26r%3D102001%252C394913%252C394806%252C394463%26el%3D0 (last visited Dec. 2, 2012) (showing October 2012 prices for the metropolitan areas of Honolulu at $410 per square foot, San Jose at $369 per square foot, Santa Cruz at $316 per square foot, and San Francisco at $304 per square foot).

States. Chinese citizens, simply put, have more money in the bank and, in some cases, squirreled away in other locations such as Hong Kong. This means that they are better situated to weather at least a moderate recession by drawing on the large pools of savings that their American counterparts lack.

Second, Chinese home purchases are often multigenerational affairs. The fortyish couple that buys an apartment may be receiving financial assistance from four parents. These two pairs of parents may have only one child each on which to focus their attention and their resources. They also may recognize with both fear and hope that these two children will one day be supporting them, given the fraying of China's already incomplete social safety net. In some cases, these parents may have already moved in with their children. The home purchase, in these settings, is an investment that was made by, will be enjoyed by, and can be supported by three generations of one family.

Third, Chinese workers are likely to have considerable unreported income. Many Chinese, particularly those who work in the public sector or in state-owned industries, have modest reported incomes from their official employers but also moonlight on the side. Their pay from these additional jobs is often in cash. There is a considerable underground economy and substantial illegal income. Given the greater cash orientation of the Chinese economy as compared to the American economy, it is easier to hide income, particularly from the taxman.

This discussion is not meant to suggest that Chinese homebuyers are not overextended, and surely some of them are. This is probably particularly true in costly urban areas, where midcareer earners anxious not to miss out on the real estate boom may have acquired costly apartments that leave them vulnerable to sudden drops in prices. But the combination of high savings, access to family resources, and considerable off-record income, all perhaps to a greater degree than is common in the United States, will mitigate the negative effects of any such depreciation.

It is important to note that China also faces demographic trends that are likely to affect the real estate market in the coming years. Two factors bear particular notice. First, the population is aging. The combination of a successful one-child policy and improved health care means that more people are living longer and fewer people are being born to support them. In the coming years, a workforce that is growing only slowly will need to support a rapidly growing population of retirees. This demographic trend is likely to have an impact on family size and family formation.

Second, the gender ratio of new babies born in China is approximately 1.24 males for every one female. Putting aside whatever social problems this gender imbalance is likely to create, the economic reality is that family formation will be lower in the future than the size of the population might otherwise imply.

There simply are not enough women of marriageable age in China, a fact that will ripple throughout the Chinese economy, including its housing market.[91]

C. Similarity Number Three: Chinese and American Citizens Both Appear to Underestimate the Risks of the Real Estate Market

In China today and in the United States until recently, the typical home purchaser seems to have underestimated market risk. In part this is because recent experience gave them no reason for concern. Prices had been stable or increasing for all of recent memory, and purchasers discounted the possibility of reversals.[92] This is particularly true in the United States, where the home mortgage is a well-established legal device and the few people in the population who have lived through sustained drops in home prices are fairly elderly. It is a bit harder to explain in China, in which many adults personally recall days when there was no private market in real estate and when the economic future seemed bleak, and all people have parents or grandparents who lived through extremely difficult economic times. Perhaps worries about the past repeating itself have just been outweighed by optimism about the future and the forward momentum of a huge market.

In both nations, there seems to be a pervasive lack of understanding of risk. In addition to typical market perils, such as price drops or supply gluts, there are also more subtle legal and economic concerns. In the United States, it is quite apparent that many homeowners borrowed money on terms that they did not understand and with no comprehension of the gambles they were taking. In some cases, the persons marketing loan products to them may not have understood these risks either, while in others, they may have intentionally downplayed them.

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91. *See, e.g.*, Shang-Jin Wei & Xiaobo Zhang, *The Competitive Saving Motive: Evidence from Rising Sex Ratios and Savings Rates in China* 3–6 (Nat'l Bureau of Econ. Research, Working Paper No. 15093, 2009) (establishing a link between the rising sex ratio imbalance in China, growing accumulations of wealth as families with sons compete to increase their savings, and higher costs for housing, and demonstrating that there are 30 million men and boys under the age of twenty-five in China who mathematically will never be able to find female partners in China); *see also* Floyd Norris, *Why Do Chinese Save? Boys Want to Marry,* N.Y. TIMES ECONOMIX BLOG (June 22, 2009 3:01 PM), http://economix.blogs.nytimes.com/2009/06/22/why-do-chinese-save-boys-want-to-marry/ ("In other words, parents want their sons to marry, and they figure that girls are more likely to want to marry rich boys.").

92. "Another aspect of overconfidence is that people tend to make judgments in uncertain situations by looking for familiar patterns and assuming that future patterns will resemble past ones, often without sufficient consideration of the reasons for the pattern or the probability of the pattern repeating itself." ROBERT J. SHILLER, IRRATIONAL EXUBERANCE 153–54 (2d ed. 2005).

In China, there are risks and costs inherent in the presale system that pervades the market in new residential units. At best, buyers are paying more than they may recognize, by bearing part of their sellers' construction costs. If the interest charges they are subsidizing were added to the purchase price, they might recognize the true cost of their unit. Moreover, if a developer defaults under a presale structure, it is entirely possible that the buyer—who has already paid all or most of the purchase price of a unit that he may never actually own—might come up short. Although the recent appreciating market has prevented this problem from arising to any significant degree, a sudden recession could lead to bankruptcies by developers and many unhappy home purchasers with little practical recourse.

And in both nations, lending institutions may be lending too aggressively to borrowers who will be unable to repay their debts if the market reverses suddenly. In the United States, this is more than a guess, of course, and during the past few years, millions of overextended home purchasers have slipped into default. In China, it remains to be seen whether there will be a recession, how sharp it will be, and how government-controlled lenders will respond. Moreover, the extra savings, extra family resources, and considerable unreported income of Chinese families might be enough to keep some of these borrowers from losing their homes. Even this cushion, though, has its limits.

D. Similarity Number Four: Both Countries Are Exhibiting Features of Moral Hazard

In both the United States and China, there is an underlying belief that if the economy becomes sufficiently disrupted, the government will step in to support it. In fact, recent events in the United States have proved that this belief is partially true.[93] The Chinese government, by contrast, has not yet had to decide just how much support it will offer the housing market if a recession hits.

There certainly are reasons to believe that China will intervene in a recessionary market to a greater degree than the United States has. In the United States, a recession may cause the current party to lose its hold on power and may prove politically beneficial to the opposing party. In China, by contrast, the one-party system has bet its entire survival on the success of the current economic scheme, and a sustained downturn could lead to far greater systemic change. China's citizens seem to be acting as though they believe their government will not desert them during a recession. The government has helped nurture China's emerging market economy during the past quarter-century, and China's millions

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93. *See supra* notes 32–37 and accompanying text.

of new investors are behaving as though they expect the government to be there for them in the future if necessary.

VI. CONCLUSION

In the Introduction, I asked whether China will follow the United States into a housing recession, and then I tipped my hand by responding that no one can possibly know. Just as American economists have predicted ten of the last three U.S. recessions, many in China and, especially, elsewhere have argued for years that the Chinese economy, including its housing market, cannot sustain itself at its current pace. This conclusion seems self-evident and, so far, it has been mostly wrong. Predictions are always risky, and predictions about a rapidly evolving nation with a distinctive legal system that has a short track record are riskier than most.

The Chinese government has the ability to weather an economic storm if one arrives. It is sitting on enormous reserves of foreign currency. Many of the benefits of its huge trade imbalance with the West are accruing to state-owned enterprises, state-controlled lenders, and private businesses that are controlled at least in part by government entities. China and its citizens have banked much of what they have earned during recent decades, and these savings are available both to individuals and to the government if there is an economic crisis. Moreover, the Chinese government still owns much of the land that it nationalized after 1949. It has been able to pay for infrastructure and encourage development that it desires by selling off this national resource in a controlled manner since the late 1980s, but it still possesses huge and valuable land reserves.

Some of the Chinese people paid a tremendous price after 1949, when the new Chinese government seized much of the nation's land and offered little or no compensation in return. For nearly forty years, the government mismanaged this important natural resource, to the detriment of the Chinese people. But today's and tomorrow's Chinese are likely to benefit from this nest egg, which is available to the Chinese government if needed. The Chinese people know this and seem to be acting with a confidence that reflects this knowledge. China's past generations may have suffered greatly from an enormous forced reallocation of wealth, but the descendants of these victims may benefit at least as greatly in the coming years.

The discussion of moral hazard above also helps to explain how China has managed to maintain its real estate market so far and may continue to do so in the future. The belief by many Chinese that the government will not allow conditions to deteriorate too far, whatever its accuracy, may be helping to sustain the Chinese real estate market. Confidence that the government will provide any necessary support may have helped to smooth out modest short-term blips. Moreover, actions that the government has actually taken—such as tinkering with interest rates, minimum downpayments, tax rates, and lender reserve requirements—may have reassured investors that the government will intervene even more when conditions warrant.

A similar belief was partially misplaced in the United States. But the Chinese government has far greater reasons to intervene in significant ways than its American counterpart had and also has a far greater ability to do so. The Chinese government's legitimacy initially stemmed from its Communist roots. But since the 1980s, the government has departed from Communist principles, thus calling into question its very reason for existence. The recent accord between the Chinese people and their government seems to be that the people will support the government as long as the government continues to deliver steady economic growth.

The government knows this well and is unlikely to allow economic conditions to deteriorate. If a recession does arrive, the government recognizes that a failure to support the Chinese economy and the new investments of China's citizens could lead to its own demise. To a far greater degree than the American government, the Chinese government knows that if it does not act in an economic emergency, its days may be numbered. The Chinese people also know this, and their confidence that the government will support the economy during a crisis appears well grounded. Whether these actions will be enough to avert major economic problems is impossible to predict.