Lessons from the Global Financial Crisis for China

Lawrence J. Lau, Ph. D.
President and Ralph and Claire Landau Professor of Economics
The Chinese University of Hong Kong
and
Kwoh-Ting Li Professor in Economic Development, Emeritus, Stanford University

2010 Shanghai Forum
Fudan University
Shanghai, 29 May 2010

Phone: (852) 2609-8600; Fax: (852) 2603-5230
Email: LAWRENCELAU@CUHK.EDU.HK; WebPages: HTTP://WWW.CUHK.EDU.HK/VC

Outline

- Introduction
- What Caused the Global Financial Crisis of 2007-2009?
- What Lessons Can China Learn from the Crisis?
- Concluding Remarks

Introduction

- The Chinese economy has survived global financial crisis of 2007-9 reasonably unscathed as it did the East Asian currency crisis of 1997-8. It has achieved a real rate of growth of 8.7 percent in 2009 and 11.9 percent year-over-year in the first quarter of 2010. It will likewise survive the current financial crisis affecting some of the member countries of the European Union.
- What lessons can China learn from this global financial crisis?
- We shall begin by identifying the causes of the current global financial crisis and in so doing we can learn what mistakes and pitfalls to avoid as China continues to reform, liberalise and internationalise its economy.

What Caused the Global Financial Crisis of 2007-2009?

- The causes can be classified into four categories:
  - Easy money in the United States
  - Irrational exuberance unrestrained
  - Failures of regulation and supervision
  - Failures of institutional design

What Caused the Global Financial Crisis of 2007-2009? Easy Money

- The real rate of interest in the U.S. has been negative for quite some time. Low and often negative real rates of interest encouraged borrowing and the use of leverage and fed the bubble in asset prices, especially real estate prices, in the U.S. and elsewhere. The high rate of growth of money supply relative to the rate of growth of GDP coupled with the low rate of inflation of the prices of goods in the U.S. meant that the excess money balances would go into the asset (real estate and securities) markets, driving up the asset prices.
- The market risk premium before the outbreak of the global financial crisis was at an all time low as indicated by the very thin interest rate spread—less than 100 basis points--between junk bonds and U.S. Treasury securities of similar maturity in early 2007. This should not have been possible as no matter how clever a financial engineer may be, someone must ultimately wind up with the bad risks.

What Caused the Global Financial Crisis of 2007-2009? Irrational Exuberance

- Irrational exuberance is not uncommon--economic and financial bubbles do occur from time to time, driven by (initially) self-fulfilling price expectations and abetted by the heavy use of leverage. However, bubbles can and should be contained and restrained by the suitable and timely restriction of the use of leverage. If bubbles are left entirely to the market, they will of course eventually burst but they will have become much bigger and will do much greater damage to the economy.

What Caused the Global Financial Crisis of 2007-2009? Regulatory Failures

- Why were such serious regulatory failures, especially in the United States, possible?
- The first fundamental reason is the philosophical or quasi-religious inclination—there was a strong faith on the part of the regulators that whatever could go wrong "the market would take care of it." It turned out that the market, in the absence of proper regulatory oversight, could not take care of it.
- The second fundamental reason is a phenomenon known as regulatory capture—over time the regulatory agencies have been "captured" by those firms they are supposed to regulate, through lobbying and other efforts by the latter, and are thus frequently persuaded to relax regulatory requirements in favour of these firms.

Areas of Regulatory Failures

- Regulatory failures are manifested in many areas.
- The first area is the excessive leverage of financial firms (as well as some non-financial firms) and of the financial sector as a whole. Leverage is considered to be excessive when the assets-to-equity ratio is more than 12.5 to 1 for a financial firm (following the customary 8% capital requirement) and 5 to 1 to a for a non-financial firm (the norm for New York Stock Exchange-listed non-financial firms is no more than 2 to 1).

Areas of Regulatory Failures

- The second area is the failure to reduce information asymmetry in the financial markets. The regulatory agencies fail to demand full and complete disclosure of financial information and large financial transactions, especially off-exchange transactions, by publicly listed companies. They also fail to demand that large investors disclose major positions held on securities and other traded instruments by them, as is required for shares and contracts traded on public exchanges, resulting in severe information asymmetry which in turn affects the efficiency and fairness of the markets (unlevel playing field) and the proper governance of firms.
- The third area is the failure to control moral hazard on the part of the different market participants, which, as is well known, if not appropriately recognised, discouraged and restrained, can play havoc with the markets and institutions and increase the overall risk to the financial sector and the entire economy.

What Caused the Crisis of 2007-2009? Excessive Leverage

- Excessive leverage means the borrowing firm is more likely to fail because an ever so slightly temporary setback can turn the net worth of the firm negative and hence put the firm into bankruptcy.
- Moreover, excessive leverage encourages moral hazard (recklessness) on the part of the borrowing firm because when the firm fails, the owners/shareholders lose relatively little with the bulk of the losses borne by the creditors.
- Excessive leverage of a firm also magnifies the negative spillover effects of bankruptcy of the borrowing firm—not only does it have to shut down but its failure also impacts negatively all of its creditors, contractors and suppliers, firms that may otherwise be well managed but happens to do business with it.

What Caused the Crisis of 2007-2009? Excessive Leverage

- Furthermore, excessive leverage, if widespread, enables and magnifies the domino effect of insolvency and bankruptcy of a firm on the entire financial system through the resulting failures of the firm's creditors, contractors and suppliers. Their failures may in turn trigger additional failures if they are also excessively leveraged.
- Excessive leverage also enables the hedge funds to engage in predatory speculation on a large scale.

What Caused the 2007-2009 Crisis? Excessive Leverage

- Long Term Capital Management (LTCM), a hedge fund, failed in 1998 in part because of its high leverage—at the time it had capital of approximately US$4 billion but assets of approximately US$100 billion and even greater potential liabilities.
- Bear-Stearns and Lehman Brothers had leverages of between 30 and 50 to 1 when they failed.
- UBS reportedly had a total assets to stockholders’ equity ratio of 64 and Deutsche Bank and Barclays had a ratio of 53 at the end of 2007.
- In financial crisis after financial crisis, it has always been the high leverage that causes the domino effect on the rest of the economy. A badly managed but highly leveraged firm collapses, bringing down with it all of its creditors, contractors, suppliers, and counter-parties in its financial derivative transactions, in addition to its own shareholders.

What Caused the 2007-2009 Crisis? Excessive Leverage

- Excessive leverage also in turn increases the risk of other firms having such a firm as a "counter-party."
- Excessive leverage has large negative externalities and should therefore be prevented.
- The U.S. regulators (Securities and Exchange Commission) decided to relax the capital requirement on and allow the high leverage in the U.S. securities firms some time in the early 2000s at the request of the latter.

What Caused the 2007-2009 Crisis? Information Asymmetry

- Financial markets can be efficient only if there is no information asymmetry, that is, only when all market participants have access to the same information. When not all market participants have the same information, the market system is no longer efficient (or fair), and the playing field is not level.
- The markets can be efficient only if investors with large positions do not abuse their monopolistic or monopsonistic powers. And large investors should be required to disclose their positions and also when they trade (this rule already applies to investors in publicly listed companies).
- Regulatory agencies have a responsibility of assuring symmetry of information and full disclosure to ensure fairness of the public markets.

What Caused the 2007-2009 Crisis? Information Asymmetry & Balance-Sheets

- Information asymmetry is created when the financial balance sheets of a corporation fails to provide a true picture of the corporation's conditions, for example, when the corporation has significant off-balance sheet activities.
- Off-balance-sheet activities conducted by Enron Corporation were the principal cause of its failure. Enron ultimately had to recognise on its balance sheet all the losses incurred in its off-balance-sheet activities. The venerable auditing firm Arthur Andersen was also dragged down along with Enron. It was the largest corporate bankruptcy in the United States before the failure of Lehman Brothers.

What Caused the 2007-2009 Crisis? Information Asymmetry & Balance-Sheets

- By allowing off-balance-sheet activities, corporations are implicitly encouraged to take "hidden actions," and that increases moral hazard. Such hidden actions enable the firm to take on excessive leverage and circumvent regulations on capital adequacy without the knowledge of its board of directors, its shareholders, the public and even the regulatory agencies.
- However, neither the U.S. Securities and Exchange Commission nor the U.S. Congress learnt the lesson of Enron and have continued to allow publicly listed companies to engage in off-balance-sheet activities. The Sarbanes-Oxley Act of the United States, which was supposed to prevent a recurrence of failures such as Enron, fails to address this most important issue at all, despite its many costly and intrusive provisions on corporate governance and auditing.

What Caused the 2007-2009 Crisis? Off-Balance-Sheet Activities

- Many of the world's largest banks, Citicorp, HSBC, UBS, etc. suffered huge losses because of their off-balance-sheet activities in the form of "special investment vehicles (SIVs)" or "structured investment vehicles" and had to take these off-balance-sheet activities onto their balance sheets and write off hundreds of billions (US$) of bad assets.
- This is one of the principal reasons for the high actual as opposed to disclosed leverage of many financial firms in the 2007-2009 crisis.
- Even sovereign governments such as Greece engaged in off-balance-sheet activities with the help of some financial institutions. Had off-balance-sheet activities been outlawed, Greece might still be in trouble, but the problems would have come to the surface earlier and it would not be in such bad shape.

What Caused the 2007-2009 Crisis? Off-Balance-Sheet Activities

- The regulators did not learn their lessons and allowed the same mistakes to be repeated in an even bigger way.
- If publicly listed companies were forbidden to engage in off-balance-sheet activities, all of these losses could have been avoided, and the securitised sub-prime mortgage loans would not have found such a ready group of purchasers.
- Moreover, a great deal of the shadow banking activities, e.g., those involving the so-called auction-rate securities, had the implicit and explicit support of the major banks but were not regulated nor reflected as potential or contingent liabilities of the banks.

What Caused the 2007-2009 Crisis? Information Asymmetry and Disclosure

- In most public markets, disclosure of significant ownership interest is required by a single investor or a group of investors acting in concert (e.g., over 5 percent ownership of a publicly listed company). When one market player has a large enough market share to influence the market outcome, but fails to disclose it, the market outcome is neither efficient nor fair. This requirement, however, has not been extended to markets for certain forward and futures contracts and financial derivatives.

What Caused the 2007-2009 Crisis? Information Asymmetry and Disclosure

- There may be serious conflicts of interest if a market participant is simultaneously acting as a principal for its own account and as an agent for others, for example, when a financial institution promotes a security but at the same time sells it from its own portfolio without disclosing it. Such potential conflicts should be disclosed ahead of time.
- Off-exchange transactions are often not disclosed. For example, when the same financial derivative instrument is sold to different market participants at different prices at the same time (which can happen since the transactions are not executed on a public exchange), the market will fail to be efficient.

What Caused the 2007-2009 Crisis? Information Asymmetry and Disclosure

- One area that deserves some thought is the disclosure of exposure to counter-parties with whom the firm has transactions. There is a limit to how much a well-managed bank can lend to a single customer at any one time as a percentage of the bank's net worth, a cap on the degree of exposure to the customer. However, no similar limit exists on its exposure to a single counter-party. The bank should know its counter-party's total outstanding potential liabilities relative to the counter-party's net worth. There should be an explicit limit on the degree of exposure to individual counter-parties based on information on their credit-worthiness and aggregate exposure, beyond simple reliance on their credit ratings.

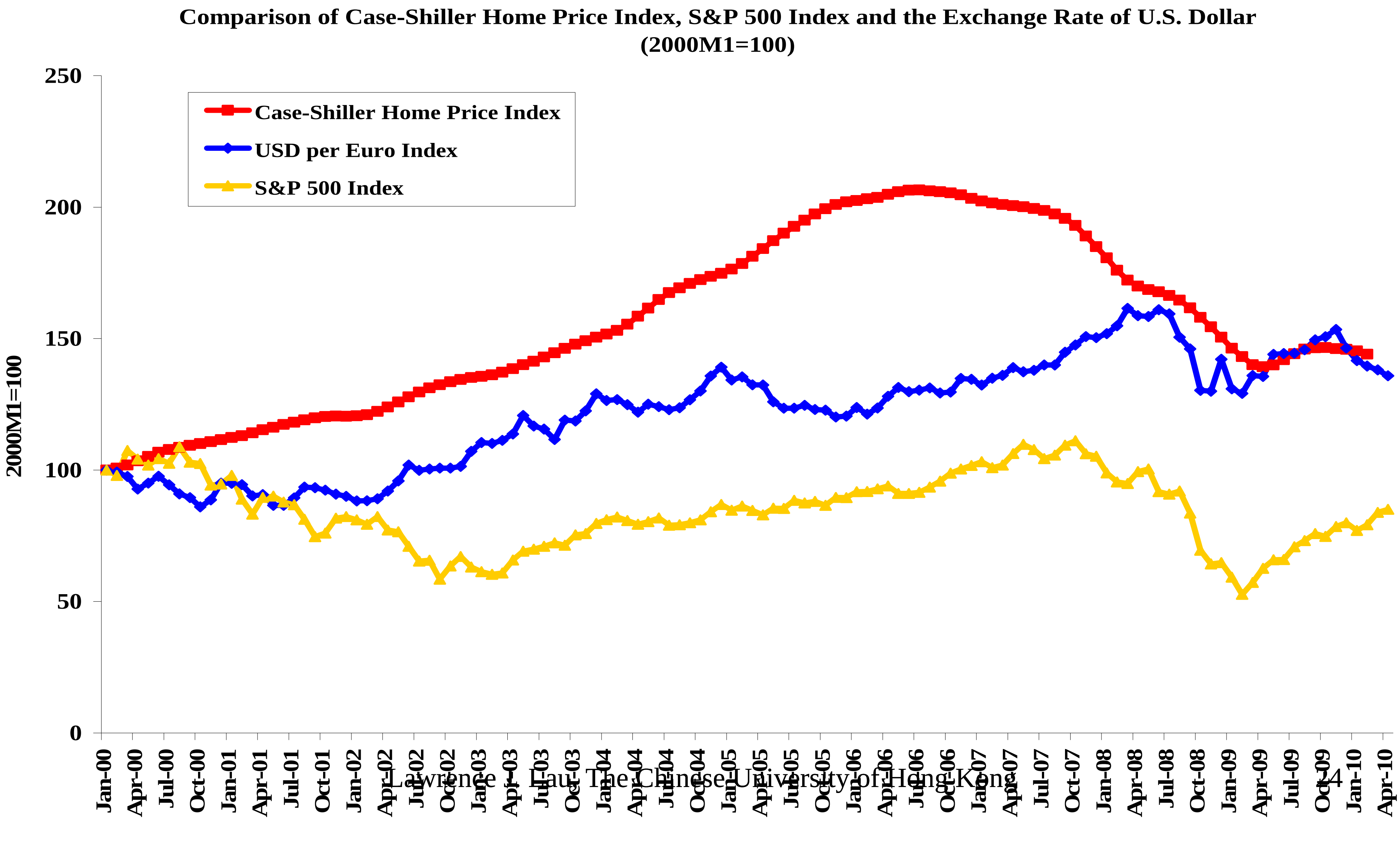
What Caused the 2007-2009 Crisis? Moral Hazard

- The regulators failed to recognize and hence to control moral hazard on the part of the different market participants in the financial sector, ranging from mortgage lenders, credit rating agencies, purchasers of credit default swaps, and senior managers of firms, especially financial firms and hedge funds, to name only a few. Each of these moral hazards will be discussed in turn.

What Caused the 2007-2009 Crisis? Moral Hazard and the Mortgage Lenders

- The sub-prime mortgage loan crisis in the U.S., which was the beginning of the 2007-2009 crisis, was possible in part because of the failure of the regulators to control moral hazard of the originating mortgage lenders.
- The originating lenders of sub-prime loans made residential mortgage loans to borrowers with no capacity for repayment of either interest or principal, based only on a vague hope of appreciation of the price of the property in the future.
- In the following chart, the Case-Shiller U.S. Home Price Index, which can be taken as a proxy for the speculative asset price inflation, is presented. The chart shows clearly that the U.S. Home Price Index began to rise in 2000 and managed to double by 2006 when it reached its peak and began its decline. The Index has begun to stabilise somewhat recently, in part because of improved credit conditions for the housing market. But it is not expected to rise again any time soon.

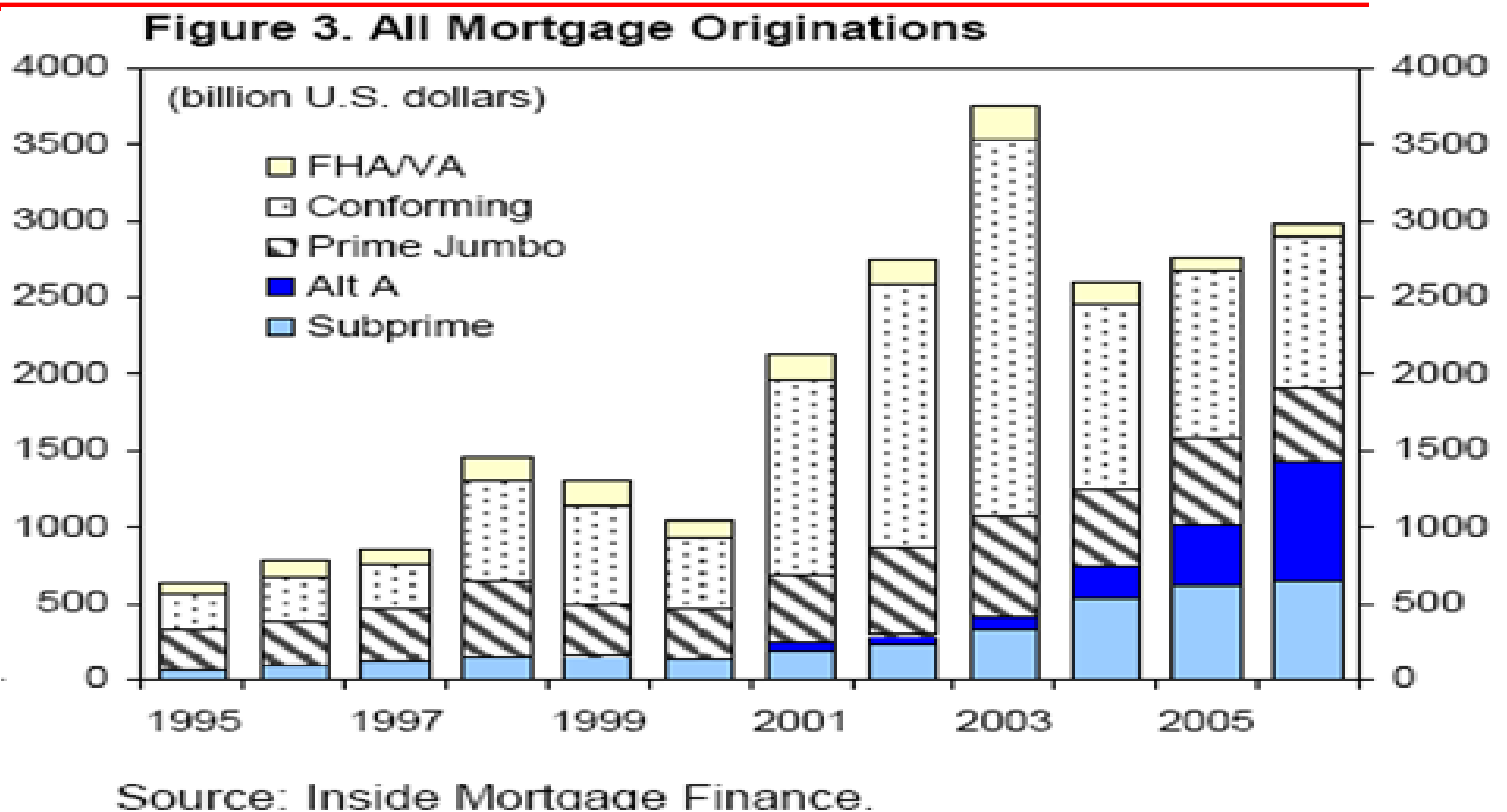
Case-Shiller U.S. Home Price Index, US$-Euro Exchange Rate & the S&P 500 Index



What Caused the 2007-2009 Crisis? Moral Hazard and the Mortgage Lenders

- The originating lenders were able to sell these mortgage loans off through securitisation with no residual liability. Thus, they had no incentive to make sure that the loans would perform—that the borrower was credit-worthy and had a means of repayment and that the collateral was worth its value. There was no attempt to check the borrower's credit worthiness or the property's real value, since the mortgage loans would be sold without recourse to the originating lender.
- The volume of substandard mortgage loans (including both Alt-A and sub-prime loans) began growing in 2000 and by 2006 accounted for almost half of all mortgage loans made in the United States (see the next slide).
- It was these loans that drove up the home prices successively in all segments of the market.

Growth in U.S. Mortgage Originations: from John Kiff and Paul Mills (2007)



What Caused the 2007-2009 Crisis? Moral Hazard and the Mortgage Lenders

- If the originating lending institution were required to retain some residual liability, e.g., a mandatory buy-back if the loan does not perform during the first three years of the life of the loan, or a holdback of 15 percent of the value of the mortgage loan for three years, contingent on loan performance, or a requirement to hold say 10 percent of the mortgage loan itself for the life of the loan, subordinated to the owners of the rest of the mortgage loan, it would have been much more careful and the sub-prime mortgage loan crisis could have been largely avoided. Provisions such as these have been introduced in the recently proposed reform of financial regulation in the United States.

What Caused the 2007-2009 Crisis? Moral Hazard and the Mortgage Lenders

- Securitisation without any residual liability encourages moral hazard on the part of the originating lenders. Ultimately the purchasers of these sub-prime mortgage loan-backed securities could only rely on the ratings given by the credit rating agencies on these securities. But the credit rating agencies also had no liabilities for mis-rating, but were compensated for providing ratings satisfactory to the issuers of these securities, creating yet another potential moral hazard.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Rating Agencies

- It does not help that the rating agencies did not fulfill their function of properly assessing the risk of the sub-prime mortgage loan-backed securities, or for that matter, other similar asset-backed securities.
- One of the problems is that a credit rating agency is nowadays paid by the firm it rates, but if the firm does not like the rating it receives, it does not have to pay. But credit rating agencies want and need to be paid, and may therefore compromise their judgment (thus moral hazard once again). The ratings can therefore sometimes be worse than worthless. They mislead potential investors and give them a false sense of security.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Rating Agencies

- In any case, credit rating agencies are probably not very useful ex ante; because if they are really good at discriminating between the good and the bad securities as to their true riskiness, they should be in the asset management business, investing real money for clients and making a great deal more money for themselves in the process and not in the credit rating business.
- Ratings are most typically used by asset managers to defend themselves when things turn sour—"The securities were rated AAA. What could I have done?"

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Rating Agencies

- In as early as 2007 the interest rate spread between junk bonds (and sub-prime mortgage loan backed securities) and U.S. Treasury was less than 100 basis points. This should not have been possible because no matter how clever one might be in financial engineering, someone had to wind up assuming the bad risks. The credit rating agencies might have contributed to this super-thin risk premium on junk bonds with their in-retrospect overly optimistic credit ratings.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Rating Agencies

- The credit rating agencies need to be regulated. In particular, the moral hazard can be greatly reduced if the firms being rated are not permitted to "shop" the rating, that is to have a choice whether to pay the firm doing the rating depending on the result.
- One may need to develop a penalty regime for credit rating agencies so that they will have to pay for their over-rating mistakes (just like the auditors for their auditing mistakes).

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Rating Agencies

- However, since credit rating agencies never have to put their money where their mouth is (they do not suffer any financial loss if their ratings prove wrong), so it is difficult to design an incentive system for them to improve the accuracy and hence usefulness of their ratings.
- Ultimately, it may be more useful to require the underwriters of a bond issue to retain 5 or 10 percent of the entire bond issue in their own portfolio for the duration of the maturity of the bonds. This way, they will have an incentive to do proper due diligence and they will no longer be underwriting "junk". This should give potential investors in the bonds much more confidence than a AAA credit rating.

What Caused the 2007-2009 Crisis? Moral Hazard and Excessive Leverage

- High leverage encourages moral hazard and high-risk-taking because it reduces the potential pain that may result from a loss. If a firm with net equity funds of $1 million operates with a debt-to-equity ratio of 50 to 1, a 10% return on assets (after interest payments) translates into a profit of $5 million and a 500% return on equity; but a -10% return, which means a loss of $5 million, will only result in a loss of $1 million to the shareholders of the firm (the firm will of course have negative net worth and be in bankruptcy).

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- It is well known that insurance is subject to moral hazard, that is, the insured may for other reasons trigger the insurance pay-off. For example, a person may set fire to his or her own house, or to someone else's house on which he or she has taken out fire insurance, to collect the insurance proceeds.
- Excessive insurance or over-insurance, that is, insuring a property for more than its true market value, is an open invitation to the insured to trigger the insurance pay-off, as the insured can benefit more from the insurance pay-off than from maintaining the status quo.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- The insurance companies have learned from bitter past experience that this may happen, and generally will insure only those who have an insurable interest, for example, they will only sell insurance to the actual owner of a house, or to the bank with the mortgage loan, but not to others, and often to offer only less-than-full market-value insurance (the insurance payoff is always with reference to the current market value). Less than full market-value insurance amounts to a form of co-payment and can discourage moral hazard because the insured can only recover from insurance proceeds less than the full market value and hence will have no incentive to burn down his or her own house to collect the insurance, and in addition will exercise due care for the house, for example.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- Credit default swaps (CDSs) are new financial instruments introduced in the late 1990s that are totally unregulated. In principle, they are insurance contracts on the bonds, the outstanding obligations, of a firm. The CDSs pay off in the event there is a default on the bonds by the issuing firm.
- As indicated above, a fundamental principle of insurance is that the insured must have an insurable interest. Otherwise it would encourage moral hazard. (And moreover, to discourage moral hazard, insurance should be less than full.)

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- Thus, for example, it is reasonable for someone who owns Lehman Brothers bonds, or who is a contractor or supplier owed money by Lehman Brothers, to purchase a CDS from American International Group (an insurance company) up to the amount outstanding. But it is not reasonable for anyone else with no direct exposure to Lehman Brothers, especially if this person has the power to influence whether Lehman Brothers would go into bankruptcy, to purchase CDSs on Lehman Brothers, or to purchase an amount of CDS greater than the actual financial exposure.
- However, the insurance companies that sold CDSs lost sight of the fact that they were selling insurance. They thought they were just taking bets, like Ladbrokes (but even Ladbrokes does not take a position on a bet itself). Indiscriminate sale of credit default swaps (CDSs) is the principal source of AIG's problems.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- It is like allowing many strangers to buy insurance on someone's house, creating an incentive for them to set fire to it and collect the insurance. Or a pirate buying insurance on someone else's ship from Lloyds and then sinking it to collect the insurance. This is the well known problem of moral hazard in insurance that every insurance company should know and avoid.
- But AIG sold many times more CDSs on Lehman Brothers than Lehman Brothers had bonds outstanding (reportedly much more than ten times). Many purchasers of such CDSs were simply gambling on a Lehman Brothers failure. It would have been better if these purchasers had no influence on whether Lehman Brothers would go under or not. Or if AIG does not take a position itself, merely squaring those who bet that Lehman Brothers would fail with those who bet Lehman Brothers would survive, letting the market determine the odds. But that is not the case. AIG took on the bets itself.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- Unfortunately, many of the purchasers of the CDSs had the power to help force Lehman Brothers under, for example, by massively shorting its stocks or bonds, so that Lehman Brothers would be effectively prevented from accessing the capital and credit markets.
- The total amount of CDSs outstanding has been estimated to be approximately US$50 trillion, relative to the total amount of the underlying bonds outstanding of only one-tenth of US$50 trillion. In other words, the insurance companies collectively sold US$50 trillion worth of insurance on bonds that are only worth US$5 trillion.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- A simple way to look at the problem of CDSs is to imagine everyone in the U.K. being allowed to buy fire insurance on Buckingham Palace, in addition to Her Majesty the Queen. There will be a strong incentive for those who have bought insurance and who do not have to live in Buckingham Palace to get together and try to burn it down, and collect the insurance. And the insurance company will then have to pay each insured individually the total value of Buckingham Palace, in addition to paying off Her Majesty, resulting in losses many times over the value of Buckingham Palace.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- In retrospect, even considered as insurance, the CDSs on Lehman Brothers were not priced correctly. The price of the CDSs did not reflect adequately the probability of its failure, given its high degree of leverage and potential liabilities, and moreover did not take into account adverse selection—people buy insurance only because they have reason to expect that there is a high probability that they will be able to collect the insurance.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- Furthermore, the insurance industry is normally regulated by the government to ensure that the insurance companies have adequate reserves to pay the claims if and when they arise. In the case of CDSs, adequate insurance reserves were never established. That is one reason why AIG is in so much trouble today.
- One reason why the CDSs were not regulated as insurance is because the U.S. Congress passed legislation in the late 1990s, declaring that CDSs were neither insurance nor gaming, thus effectively enabling CDSs to escape possible government regulatory supervision altogether.

What Caused the 2007-2009 Crisis? Moral Hazard and Credit Default Swaps

- In retrospect, the availability of CDSs on Lehman Brothers actually increased the probability of the failure of Lehman Brothers rather than decreased it, thus increasing rather than decreasing the overall riskiness of the financial sector and the economy.
- CDSs provide the instruments for a form of predatory speculation—hedge funds and other investors seek relatively weak firms, buy their CDSs and drive them into bankruptcy by selling short (often naked) their bonds and stocks.

What Caused the 2007-2009 Crisis? Moral Hazard and Asymmetric Incentive

- Stock options at corporations and "carry interest" at investment funds, which allow executives and asset managers to share the upside but not the downside, also create moral hazard and encourage corporate executives and asset managers to take excessive risks.
- Stock options, which provide only upside but no downside for the option grantees, are ideal for venture capital and for start-ups because these are inherently high-risk ventures but with really no down-side that is not already expected and will be shared by investors and executives alike. However, stock options may not be appropriate for mature enterprises because there may be a significant downside for the owners and shareholders of the firm which may not be shared by the executives granted the stock options.

What Caused the 2007-2009 Crisis? Moral Hazard and Asymmetric Incentive

- The high fees, including the so-called “carry interest,” charged by the managers of investment funds, have the effect of causing these asset managers to take excessive risk because they would share a significant proportion of the upside but not the downside.
- Typically the fee structure of investment funds (including hedge funds and private equity funds) is 2 and 20—2 percent of the value of assets under management and 20% of the returns above a certain threshold, but the carry interest can go all the way up to as high as 44 percent. This incentive scheme encourages risk-taking on the part of the asset managers because they stand to gain significantly if they make it big but lose very little if their investment strategies fail.
- To be fair, there are asset managers who cap the upside of their fees, thus reducing their own incentive to take excessive risks.

What Caused the 2007-2009 Crisis? Moral Hazard and Asymmetric Incentive

- Heads you win, tails I lose is neither effective nor efficient as a method of compensation for either corporate executives or asset managers—it greatly encourages moral hazard and reckless behaviour.
- Incentive compensation of senior executives should be based on long-term performance of the corporation, including the performance over a period after their retirement from the corporation, so that they will manage the company on the basis of longer-term considerations and that they will have an incentive to help choose their successors carefully.

What Caused the 2007-2009 Crisis? Moral Hazard and “Too Big to Fail”

- There was also a widespread belief, based on past experience, in the ability of Dr. Alan Greenspan, the former Chairman of the Federal Reserve Board—that whatever goes wrong, the Chairman would be able to fix it. (Complacency is also a form of moral hazard.)
- Implicit guarantee of banks and financial institutions considered “too big to fail” by governments encouraged moral hazard on the part of the large banks and financial institutions. They took excessive risks with the belief that they will not fail and will not be allowed to fail.
- The United States, the largest provider of international liquidity, is itself in crisis, but it is really “too big to fail.”

What Caused the Global Financial Crisis of 2007-2009? Institutional Failures

- The financial accounting standards
- The evaluation of the performance of firms and individuals
- The distinction between direct and indirect securitisation
- The nature of policy banks

What Caused the 2007-2009 Crisis? The Financial Accounting Standards

- The first major regulatory reform on financial accounting should be to prohibit off-balance-sheet activities of publicly listed corporations except under the most exceptional circumstances. All contingent liabilities and significant exposures should be fully disclosed.
- Mark-to-market rules create problems and confuse investors when valuation is done not with reference to open arms-length market transactions but through an untested model. As the value of financial derivatives, especially customised ones, rises as a proportion of total assets, their precise valuation will have a material impact on the balance sheet of the firm.

What Caused the 2007-2009 Crisis? The Financial Accounting Standards

- Mark-to-market rules create problems and confuse investors when valuation is done not with reference to open arms-length market transactions but through an untested model. As the value of financial derivatives, especially customised ones, rises as a proportion of total assets, their precise valuation will have a material impact on the balance sheet of the firm.
- Mark-to-market rules should be relaxed on long-term investment—for example, a long-term direct investment by IBM Corporation in Japan should not have to be written up and down based on the current end-of-quarter Yen-Dollar exchange rate. When market prices are volatile, marking long-term assets to reflect short-term price fluctuations misleads rather than informs the public investors. Moreover, they may lead to either false alarms or a false sense of security. (This is similar to the distinction between the accounting of hold-for-trade and hold-for-investment assets.)

What Caused the 2007-2009 Crisis? Performance Evaluation

- The performance evaluation of both firms and individual managers (including incentive compensation) has focused on short-term results and hence has led firms and managers to pursue quick short-term profits rather than invest for long-term sustainable earnings.
- Financial engineering can create quick short-term profits but often without any lasting real value in terms of GDP and employment.

What Caused the 2007-2009 Crisis? Direct and Indirect Securitisation

- There are two routes to securitisation of long-term loans--direct securitisation and indirect securitisation.
- Direct securitisation takes the form of long-term bonds issued to the public against a package of qualified long-term loans (assets) meeting certain specifications as collateral. The principals of and the interest paid on the loans are owned by the purchasers of these bonds. The bonds may be issued by a financial institution or guaranteed by a financial institution. In the case of many mortgage loans in the U.S., the issuing or guaranteeing financial institution is often either Fannie Mae or Freddie Mac, both quasi-sovereign financial institutions. The bondholders, in the absence of explicit guarantees, primarily look to the package of loans as the underlying security.

What Caused the 2007-2009 Crisis? Direct and Indirect Securitisation

- Indirect securitisation takes the forms of long-term bonds issued directly to the public by a bank whose primary business is to purchase qualified long-term loans meeting certain specifications (with the maturities of the bonds matching the maturity of the loans). The bank uses the proceeds from the bonds to purchase these qualified loans from originating lenders. The loans are owned by the financial institution. The borrowers pay the interest on the loans to the financial institution, sometimes through the originating lenders who may be retained as servicing agents for a fee, and the financial institution pays the bondholders, regardless of whether the borrowers have paid.

What Caused the 2007-2009 Crisis? Direct and Indirect Securitisation

- There are several advantages of indirect securitisation over direct securitisation.
- First, the bonds issued will have quasi-sovereign status if the financial institution is established as a state policy bank (which was originally the case for Fannie Mae and Freddie Mac) and will be able to carry a lower interest rate.
- Second, there is pooling of the risks of default on the mortgage loans under indirect securitisation, so that the risks are spread and shared by purchasers of successive issues of bonds of the bank, whereas under direct securitisation, there is no pooling across successive packages of loans. The actual risks and returns to purchasers of directly secured mortgage-loan backed securities can therefore vary from package to package.

What Caused the 2007-2009 Crisis? Direct and Indirect Securitisation

- Third, if the originating lenders are required to assume a residual liability of say either 5 or 10 percent of the principal of the mortgage loan they originated (which is good for controlling moral hazard), it is much easier to enforce with the bank as the purchaser of the mortgage loans rather than a group of bond investors.
- Fourth, in the event of a default by one or more borrowers on their mortgage loans, since the mortgage loans are owned directly by the bank, it is much easier to have a work-out between the borrower and the bank, through the servicing agent, under indirect securitisation. Under direct securitisation, it is much more difficult and costly for the current owners of the bonds to negotiate a work-out with the individual non-performing borrowers.
- While direct securitisation is not to be blamed for the crisis, it greatly complicates the resolution of and prolong the negative impacts of the crisis. Many non-performing mortgage loans remain to be worked out between the borrowers and the current owners of the mortgage loans.

What Caused the 2007-2009 Crisis? Nature of Policy Banks

- Policy banks should not be privatised either in whole or in part because private shareholders demand short-term profits which may not be consistent with the mandate and mission of the policy banks.
- The senior management of policy banks should also be compensated differently from those of private, for-profit, banks.
- If Fannie Mae and Freddie Mac were not publicly listed, it would not have been subject to the pressure of shareholders demanding a financial return, and might therefore have been more prudent in its expansion and might have helped avoid the crisis or at least reduced its intensity.

What Lessons Can China Learn from the Crisis? Appropriate Monetary Policy

- China should not pursue a permanent policy of easy money. China has kept its rates of interest, especially lending rates, positive in real terms most of the time. However, the rate of growth of money supply can be allowed to exceed the real rate of growth of the Chinese economy, because China is still in the process of undergoing "financial deepening". In plain words, the rapid growth in money supply is needed to support the rapid growth in financial, as opposed to real transactions in China.
- In an economy without a stock or security market, the total value of transactions, for a given level of real GDP, is lower than the total value of transactions in an economy in which there are the financial transactions of buying and selling stocks and securities in addition to the real transactions. As China undergoes financial deepening, the rate of growth of money supply will have to exceed the rate of growth of real GDP even as the rate of inflation of the prices of goods and services remains near zero.

What Lessons Can China Learn from the Crisis? Restrain Irrational Exuberance

- China should monitor asset markets and take appropriate measures to prevent asset price bubbles from becoming too large.
- Instruments include controlling the loan to equity ratios and loan ceilings in real estate markets and margin requirements in stock markets. Other instruments include the pricing, quantity and timing policies of land sales and the pace of initial public offerings as well as more opportunistic additional public offering through the use of “shelf registration.”
- The fundamental idea is to modify long-term price expectations. If additional supplies are expected to be forthcoming in the future the asset price bubble cannot become too big.

What Lessons Can China Learn from the Crisis? Regulation is Essential

- Markets do not and cannot function well automatically on their own. The incentives are too strong for firms, if left alone, to try to monopolise markets or to otherwise benefit themselves at the expense of other market participants (e.g., insider trading, front running). Excessive leverage cannot be left to self-regulation. Information asymmetry can be reduced only through regulatory measures (there is no reason for an investor to disclose information voluntarily to one's potential competitors in the financial markets). Moral hazard must also be explicitly discouraged and controlled.
- Strengthened financial regulation and supervision is essential to avoid a recurrence of another financial crisis of similar magnitude to the current global financial crisis.

What Lessons Can China Learn from the Crisis? Restrict Excessive Leverage

- Because of the negative externalities generated by excessive leverage, there is public interest in controlling the degree of leverage of firms, especially financial firms. Excessive leverage should therefore be tightly controlled. Capital adequacy should be monitored. A firm is only "too big to fail" if it is heavily leveraged. If it is not heavily leveraged, it can be simply allowed to fail (the shareholders will lose but another firm or investor can take over its functions).
- There must be restrictions on the degree of leverage in the economy, especially for the financial sector.

What Lessons Can China Learn from the Crisis? Reduce Information Asymmetry

- Off-balance sheet activities should not be allowed for publicly listed firms, including all financial firms. This will improve corporate governance, reduce leverage, and avoid negative surprises.
- “Shadow banking” should be prohibited in China at the current stage of its financial development. If and when it is introduced, it should be strictly regulated.

What Lessons Can China Learn from the Crisis? Reduce Information Asymmetry

- The introduction of the many new financial instruments has created additional problems for the regulators—instead of reducing and sharing risks, they concentrate and magnify risks and increase overall systemic risk.
- Many of these complex and non-standard financial instruments are priced and traded only privately (e.g., accumulator) and not on open public markets and exchanges.
- The counter-party risks as well as systemic risks were unknown.
- There is a crying need for simplification and standardization of financial derivatives and for them to be traded only on established and publicly regulated open exchanges. This assures some degree of transparency, fairer pricing, safeguard against market manipulation and reduced counter-party and systemic risks.

What Lessons Can China Learn from the Crisis? Control Moral Hazard

- Moral hazard should be controlled and discouraged by the regulators, so that any potential gain is accompanied by potential pain, reducing excessive risk-taking on the part of all market participants.
- This includes the regulation and supervision of mortgage lenders, credit rating agencies, insurance companies and their products and business practices as well as the degree of leverage of firms, including financial firms and hedge funds. The goal is to reduce the incentive to take "hidden actions" and/or excessive risks.

What Lessons Can China Learn from the Crisis? Control Moral Hazard

- If Credit Default Swaps (CDSs) were to be introduced in China at all, they should be sold to only bona fide owners of the underlying bonds. And once the original owners sell the bonds, they should not be allowed to keep the CDSs—they will either have to be sold, with the bonds, to the new buyer, or they should be returned to the insurance company for a refund, if any.

What Lessons Can China Learn from the Crisis? More Symmetric Incentives

- Incentive compensation of senior executives should be based on long-term performance of the corporation, including the performance over a period after their retirement from the corporation, so that they will manage the company on the basis of longer-term considerations and that they will have an incentive to help choose their successors carefully.
- Stock options which provide only short-term upside but no down-side should be used very sparingly. Instead, senior managers should be encouraged to own equity (through recourse loans if necessary) in the corporations where they work so as to align their interests with those of the corporations and their shareholders.

What Lessons Can China Learn from the Crisis? Do Not Allow "Too Big to Fail"

- No firm should be allowed to become too big to fail. For example, if a bank fails, the depositors should be protected insofar as there is deposit insurance. The secured creditors are compensated in whole or in part by the collateral they already hold. The other creditors presumably have bought the debt of the bank on their own free will, can take the losses. And the shareholders, who will be in the last position, may wind up with nothing. But there is no reason for the bank not to continue operating, under new management and ownership.
- It is the excessive leverage of the bank that may make it too big to fail—it may owe other banks and financial institutions too much money. If excessive leverage is curbed, and the diversified exposure requirement is strictly enforced, that is, a bank cannot be over-exposed to a given customer (with a group considered as a single customer), no bank should be able to become too big to fail.

What Lessons Can China Learn from the Crisis? Accounting Standards

- China should develop its own accounting standards and rules appropriate to its own circumstances, bearing in mind the importance of international harmonisation.
- Some thought should be given to the financial reporting of firms with significant overseas business. Chinese companies report their results in Renminbi. However, when the sales of a Chinese export firm reported in Renminbi declines, it is important to know whether it is due to a decline in overseas sales, or to an appreciation of the Renminbi, or both. It is possible for overseas sales to increase in real (quantity and foreign currency) terms but decrease in Renminbi terms. The true picture is valuable information for the shareholders and the public. Without the disclosure of this information, the accounts will fail to present the true situation of the firm. Current mark-to-market rules on foreign currency-denominated assets fail to take these complications into account.

What Lessons Can China Learn from the Crisis? Focus on Long Term

- Corporate management and public investors should be encouraged to focus on long-term rather than short-term performance. For example, incentive compensation should be based on long-term performance.
- Quarterly reporting should be made optional rather than mandatory for publicly listed companies--investors always have a choice to invest only in companies that report quarterly (or not report quarterly). The information content of quarterly reports is in general very low.

What Lessons Can China Learn from the Crisis? Institutional Arrangements

- Indirect securitisation is the preferred route to go for China.
- Policy banks should not be privatised, even in part, and in particular should not be publicly listed, so as to avoid shareholders pressure for quick returns and potential conflict between the interests of the shareholders and the policy bank's public policy mission.

Concluding Remarks

- As the Chinese economy continues its rapid growth and its “financial deepening,” it must continue to strengthen its regulatory and supervisory capacity to deal with new situations and new financial instruments. It must learn from the lessons of the past mistakes made by regulatory agencies both overseas and in China.
- The market system has many advantages but it must meet certain conditions in order for it to produce efficient outcomes. The market left to its own cannot ensure that these conditions are met. Regulatory and supervisory oversight continues to be important for China. The “visible hand” and the “invisible hand” must work together, hand in hand.