



2008 US and Global Economic Outlook and Implications for Financial Markets

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Crucial questions about the global economy in 2008

- Will the US experience a soft landing or a hard landing (recession)?
- Will the current financial markets crisis (liquidity and credit crunch) get worse or better?
- Will the US Fed ease, how much and will this easing prevent a recession?
- Will the rest of the world decouple from the US slowdown/hard landing or recouple?
- Should we worry about global inflation or deflation?
- What is the risk of stagflation (negative growth and rising inflation)?
- What are the implications of the outlook for the various asset markets and asset prices?

Summary Answers

- The US will experience a hard landing (recession) that will be severe and protracted rather than mild
- The liquidity and credit crunch will get worse and the risk of a systemic financial crisis is rising
- The Fed easing will be “too little too late” and it will not prevent a recession
- The rest of the world will not decouple; it will rather recouple with the US hard landing leading to a global economic slowdown
- Existing inflationary pressures (from oil, energy, commodities) will fizzle out once you have a US recession and a global economic slowdown.
- True stagflation requires an exogenous – politically driven – negative supply side shock to oil prices (such as war with Iran).
- Risky assets (equities, credit spreads, housing, commodities, emerging market assets, the US dollar) will get hurt. Cash is king in 2008.

Vicious circle between US recession & a systemic financial crisis

- The US will experience a severe recession (at least four quarters starting in Q1 of 2008) that will be deeper and more protracted than the mild recessions of 1990-91 and 2001
- This recession will sharply increase financial losses (that will add up to more than \$1 trillion) and lead to an even more severe liquidity and credit crunch
- A systemic financial crisis cannot be ruled out
- The liquidity and credit crunch will in turn make the economic downturn more severe and protracted
- So the US will experience vicious circle of economic downturn and financial turmoil/losses/stress

Why a US recession?

- A US housing crisis/recession that is the worst housing bust in US history and is getting worse rather than bottoming out
- Financial losses spreading from sub-prime to near prime and prime mortgage, to commercial real estate, to auto loans and credit cards, to leveraged loans, and soon enough to corporate bonds and CDS
- A severe liquidity and credit crunch that is getting worse and spreading also globally
- Oil at \$100 a barrel
- Falling real investment (capital) spending by the corporate sector and, soon enough, in commercial real estate

Why a US recession?

- A growing weakness in the labor markets with little job and income generation
- Forward looking measure of aggregate supply (manufacturing ISM, excess inventories of unsold goods) signaling recession ahead
- A shopped-out consumer (whose spending is 70% of GDP) that is now faltering
- Net exports increase and government spending cannot compensate for the fall in housing, capex spending and private consumption
- **The US recession will formally start in Q1 of 2008**

1997-2006 biggest housing boom/bubble in US history

1997-2006: Housing boom and bubble (real home prices up by 100%) driven by:

- Low Fed Funds rate (easy monetary policy) after 2001
- Low long term interest rates given global excess of savings relative to investment
- Traditional US policy of subsidization and favorable tax treatment of housing
- Lack of regulation/supervision leading to reckless lending, not just in subprime
- Financial innovation/securitization leading to reckless lending practices and loose credit standards
- Deluded expectations of permanent home price appreciation

Massive bust of the housing bubble since 2006

- The US is now experiencing the worst housing recession in its history
- Housing starts have fallen sharply (more than 40%)
- But new home sales have fallen even more (over 50%)
- Thus rising glut of unsold new and existing homes that is now at unprecedented level. Glut will worsen in the year ahead
- Thus, downward pressure on prices already down 6% nominal or 10% real from peak
- Home prices need to fall 20% to 30% before they bottom out
- Housing starts need to fall another 25% to 900K or below before they bottom out and the gap between supply and demand is narrowed
- The US economy-wide recession will make the housing recession even deeper and longer.

Worst housing recession in US history

- Sharply rising delinquencies, defaults and foreclosures
- 20% (30%) fall in home prices will lead to a fall of \$4 (\$6) trillion in housing wealth/equity
- Subprime alone will cause up to 2.2 million foreclosures
- But a 30% fall in home prices means that 10 million households will have negative home equity, thus providing a large incentive for such households to default on their mortgages
- This will be the worst housing recession in US history

The coming consumer-led US recession

- Private consumption is over 70% of GDP
- Until 2006 US consumers used their homes as their ATM machine as home prices were rising leading to negative savings
- But now US consumers/households are shopped-out, saving-less, debt-burdened and at a tipping point while home prices are falling
- A private consumption faltering will trigger an economy wide recession
- Holiday retail sales were mediocre and falling in real terms relative to 2006. They will perform even worse in 2008

Negative shocks buffeting the US consumer

- Fall in housing wealth as home prices are falling (20% fall will lead to \$4 trillion home value losses; 30% fall will lead to \$6 trillion losses)
- Falling home equity withdrawal (HEW) now shrinking from a peak of \$700 b (AR) to below \$200 b
- High household debt ratios (136% of income) and rise in debt servicing costs as ARM mortgages are sharply resetting
- Severe credit crunch in mortgages now spreading to consumer credit (auto loans, credit cards, etc.)
- Oil at \$100 imposing an income levy on consumers

Negative shocks buffeting the US consumer

- Sharp fall in consumer confidence and polls showing that a majority of Americans expect a recession in the next 12 months
- Recent fall in stock markets (10% correction) leading to negative wealth effect
- Weakening of the labor market
- Mediocre real income growth with rising income and wealth inequality (Middle Class economic “malaise” and “squeeze”)

Can the Fed rescue the economy from a hard landing? No, as...

- The Fed has been behind the curve for a year now in its mistaken assessment of the risks of a recession
- Whatever the Fed does now is “too little too late”
- The economy suffers of problems of insolvency, not just illiquidity, that monetary policy cannot resolve
- After 2001 the Fed slashed rates from 6.5% to 1% and long rates fell 200bps
- We still got a recession then as we had then a glut of tech capital goods

Can the Fed rescue the economy from a hard landing? No, as...

- Today we have instead a glut of housing, consumer durables, autos and motor-vehicles
- When you have a glut capital spending becomes interest rate-insensitive. Easing money is like pushing on a string as it takes time to work out a glut and the related insolvencies
- There are limits to how much the Fed can ease rates now: inflation concerns, risk of free fall of the dollar, risk that foreigners will pull the plug on the external financing of the huge US current account deficit
- Fed easing will only put a floor on the depth and length of the recession. It will not prevent it. As in 2001 the Fed cannot prevent a recession

A severe liquidity and credit crunch will get worse

- This is a severe financial crisis
- A crisis of the Anglo-Saxon financial system (Martin Wolf)
- First crisis of financial globalization and securitization (Roubini)
- The credit crunch will get worse over time
- The financial losses spreading from sub-prime to near prime and prime mortgage, to commercial real estate, to auto loans and credit cards, to leveraged loans, and soon enough to corporate bonds and related CDS
- Financial losses in subprime alone may be as high as \$400 and total losses in the financial system may end up being over \$1 trillion
- This is not just a subprime mortgage problem. We have a subprime financial system
- Risk of a systemic financial crisis

Changing nature of systemic risk with financial innovation

- In the old times (1960s-1980s): banks held the credit risk of their lending on balance sheet. “Originate and hold” model
- Then when many bad loans/mortgage were made defaults would rise, a credit crunch would ensue and then a recession (S&L crisis in late 1980s/early 1990s)
- New model since 1980s: securitization (“originate and distribute” model). Banks not holding the credit risk but transferring to others.
- Argument made that systemic risk should become lower as credit risk is spread out of the banks to capital markets and investors, domestic and abroad, as you slice and dice the risk
- Problem: systemic risk turned out to be now as high as in the past: massive domestic and global financial contagion and now risk of a hard landing of the economy.
- **So what went wrong?**

What went wrong?

- It was not just a sub-prime mortgage mess
- Same reckless practices as in sub-prime occurred in near prime, prime, Alt-A, home equity loans, piggyback loans
- Reckless practices such as:
 - No down payment
 - No verification of income/assets/jobs (LIAR loans)
 - Interest rate only mortgages
 - Negative amortization
 - Teaser rates
 - Hybrid ARMs
- 60% of all mortgage origination in 2005-2007 had these toxic reckless characteristics

Why reckless lending?

Why reckless lending?

1. Regulators/supervisors were literally asleep at the wheel:
 - They were cheerleading every form of financial innovation
 - They allowed and supported reckless lending practices in mortgages
 - Laissez-faire ideology of free market fundamentalism
2. Securitization food chain led to wrong incentives and poor monitoring of lending

Securitization food chain led to wrong incentives & distortions

Securitization food chain: Everyone now gets a fee (not investment income) and does not hold the credit risk (wrong set of incentives as there is little incentive to monitor the quality of the loans):

- Mortgage broker maximizing its income by maximizing the volume of approved mortgage
- Mortgage appraiser having an incentive to inflate the value of the home
- Mortgage originator bank transforming the mortgages into RMBS and getting fat fees
- I-Bank turning RMBS into CDO tranches (and into CDOs of CDOs, and CDO cubed) and getting fat fees
- Credit Rating Agency rating or misrating RMBS and CDOs and being paid by the issuers. Conflict of interest

Securitization food chain led to failure of market discipline

- Finally no market discipline as final investors buying the toxic waste (RMBS, CDOs) were greedy and clueless about new, complex, exotic instruments that were illiquid, priced to model rather than to market and mis-rated by rating agencies.
- How can anyone rate and price correctly a CDO of CDOs of CDOs (CDO-cubed)?
- Problems in the securitization chain: information, asymmetries, adverse selection, moral hazard.

Similar problems and credit excesses outside of mortgages

- The US experienced a broad and massive credit boom/bubble beyond mortgages
- Indeed, similar problems and excesses in credit/lending practices did occur outside of mortgages in broader credit markets
 - Excessive credit and excessive leverage,
 - Reckless lending at dangerous terms/conditions
 - Poor risk management and wrong incentives to search for yield and take excessive risk
 - Underestimation of liquidity risk (for non-banks) in many other asset/credit financial intermediaries

Problems in broader credit markets

- Private Equity and LBOs done at extremely high debt to earning ratios (eight as opposed to three a few years ago) and financed with leveraged loans/CLOs
- Rise of conduits and SIVs (financed with ABCP) subject to severe liquidity and credit risk
- SIVs/conduits created off-balance sheet to avoid regulation and supervision of on-balance sheet items. But credit enhancements and liquidity lines made these de facto – if not de jure – part of the sponsoring banks.
- Severe credit and liquidity risk and unraveling of SIVs and ABCP financing rolled off
- Hedge funds and highly leveraged institutions (HLIs) that took much leverage and made risky investments
- Money market funds that invested in toxic RMBS/CDOs
- Investment banks/broker dealers with large and varied exposure to risky ABS instruments
- Banks' poor management of credit and liquidity risk and run on banks (Northern Rock in the UK)

Seizure of liquidity and credit when the crisis emerged in 2007 summer

- All these non-bank players (like banks) are subject to liquidity risk as they borrow short/liquid and invest/lend long/illiquid
- Then, when things blew up in summer of 2007 the uncertainty about size of the losses and who is holding the toxic waste led to panic and risk aversion and liquidity hoarding.
- Thus massive seizure of liquidity and credit in many markets: subprime, near-prime, RMBS, CDOs, CLOs, LBOs, SIVs, ABCP, money/interbank markets , etc.
- The most severe financial crunch of the last 20 years
- Contagion spread from the US to Europe and other capital markets as many of these toxic instruments were sold abroad. Financial contagion.

Why monetary policy is relatively ineffective to deal with the crunch

Monetary injections by central banks to address the liquidity/credit crunch are relatively ineffective (as persistently high Libor spreads suggest) because of:

- Existence of non-bank financial institutions (a “shadow banking system”)
- Insolvency rather than illiquidity alone
- Uncertainty rather than risk

A large “shadow banking system” that does not have access to LOLR

Growth of a large “shadow financial system”:

- PE and LBOs/leveraged loans/CLOs
- SIVs, conduits and ABCP
- Hedge funds and HLIs
- Money market funds including state funds
- Investment banks/broker dealers
- Monoliner bond insurers

A large “shadow banking system” that does not have access to LOLR

- All these non-bank players are subject to severe liquidity/rollover risk as they borrow short/liquid and invest/lend long/illiquid
- They did not manage their liquidity risk very well.
- This shadow banking system – unlike banks - does not have direct (or even indirect) access to the lender of last resort (LOLR) support of central banks
- Thus, liquidity injections by central banks have been hoarded by liquidity strapped, risk averse and counterparty risk-averse banks and other depository institutions, the only ones having access to the central banks' LOLR support

Insolvency rather than just illiquidity

- Liquidity problems versus credit problems
- 1998 LTCM crisis: liquidity problems alone. Monetary easing was effective
- 2007: severe credit/insolvency problems that monetary policy cannot address
 - Millions of defaulting households
 - 200 mortgage lenders gone bankrupt
 - Many homebuilders gone bust
 - Many highly leveraged institutions have gone belly up
 - Even corporate default rates will sharply rise now that the slosh of liquidity is gone and junk bond spreads are high again
 - Corporate default rates in 2006-2007 were artificially low and will surge in 2008 leading to even wider junk bond spread and large losses on credit default swaps (CDS)

Risk versus Uncertainty

- “Risk” is priceable while generalized “Uncertainty” cannot be measured or priced
- Great opacity, lack of information/disclosure and lack transparency in modern Anglo-Saxon globalized financial system
- Two types of unmeasurable uncertainty:
 - Size of the losses is unknown. \$200b, 300b on subprime alone? Or more? It depends on how much home prices will fall. Creation of illiquid, exotic, complex instruments that are priced to model rather than to markets.
 - Uncertainty on who is holding the toxic waste (the Where is Waldo? problem)
- This uncertainty leads to lack of trust, confidence, and large counterparty risk; everyone is hoarding liquidity and unwilling to lend

Risk of a systemic and contagious financial crisis

- Contagion from subprime to near prime and prime. Subprime RMBS and CDO market semi-dead and expected defaults (see ABX) massive
- Contagion to consumer credit (auto loans, credit cards, student loans)
- Contagion to commercial real estate (CMBX spreads)
- Contagion to failed/postponed/restructured LBOs with problems for leveraged loans and CLOs
- Meltdown of SIVs, conduits and ABCP paper market
- Massive losses for banks and other financial institutions that have not been fully recognized yet

Risk of a systemic and contagious financial crisis

- Soon contagion to corporate bonds and rising default rates
- Risk of massive losses (\$250b according to Bill Gross) on credit derivative swaps (CDS)
- Risk of bankruptcy of some large systemic financial institution
- Total financial losses could be above \$1 trillion
- End of a massive credit cycle/bubble
- Transmission of financial losses and contagion from the US to other world capital markets (especially Europe) as securitization spread ownership of risky asset to investors across the globe
- Risk of credit crunch in Europe as this region depends on banks – relative to capital markets - more than the US
- Process of re-intermediation of financial activity back to the banking system and reduction in size of securitization

Risk of a systemic and contagious financial crisis

- This reintermediation will exacerbate the liquidity and credit crunch as banks have higher liquidity and capital ratios than the shadow financial system
- Reduction in capital of banks/financial institution will lead to a multiple contraction in credit/lending (\$200 b losses lead to a credit contraction of \$2 trillion according to Goldman Sachs)
- Bank recapitalization – via sovereign wealth funds and other sources – will not be large enough to prevent this capital destruction and ensuing credit crunch
- We reached a Minsky Moment and the bust of this Minsky credit cycle

Why re-coupling rather than decoupling of the rest of the world?

- Will the rest of the world decouple from the US hard landing or recouple with it?
- If the US had a soft landing the rest of the world (ROW) would decouple
- But conditional on a hard landing the real economies of ROW will not decouple
- 2007 was the year of decoupling as US was in a soft landing mode
- 2008 will be the year of recoupling (Goldman Sachs, Morgan Stanley) as the US experiences a recession
- When the US sneezes the ROW gets the cold as the US is 25% of global GDP
- And in 2008 the US will experience a severe case of pneumonia not just a mild cold. So the contagion to the rest of the world will be severe with a global economic slowdown
- Certainly the financial – as opposed to the real – contagion has already been massive (see European financial markets)

Channels of recoupling and global interdependence

- Direct trade channels
- Indirect trade channels
- Effects on commodity prices
- Effects of a weaker \$ on other countries's competitiveness is extremely important
- Transmission of financial contagion and crunch across the globe
- Impact on consumer/business/investors' confidence
- Rise in international investors' risk aversion
- Common shocks such as high oil prices hurting all oil importers
- Other common shock: beginning of deflation of housing bubbles across the world (already in Spain, UK, Ireland; soon in Italy, France, Portugal, Greece, Turkey, Central Europe, Baltic nations, Australia, New Zealand)
- Now less room for macro (monetary/fiscal) policy stimulus than after 2001

Which countries are most at risk?

- The rest of the world will not experience a full fledged recession like the US one. But the economic slowdown will be more severe than the one expected by the consensus
- Risk of a 2008 recession in parts of Europe (UK, Spain, Ireland but also Portugal, Italy, France, Greece)
- Countries that trade a lot with the US will be hurt more (Mexico, Canada, China, East Asia)
- Risk of a significant economic slowdown in China (because of its dependence on net exports and export growth) and – via China – in the rest of East Asia
- Emerging markets with weaker fundamentals (current account deficits and fiscal deficits and other balance sheet vulnerabilities) more at risk of a global credit crunch hitting them
- Commodity exporters – in Asia, Latin America, Africa – will suffer of falling commodity prices in a global slowdown

Inflation (stagflation) or deflation?

- High oil, energy and commodity prices
- Rising headline and core inflation
- Concerns about rising inflation and stagflation (low growth and rising inflation)
- But stagflation requires negative supply side shocks
- While a US recession and global economic slowdown is a negative demand side shock that will lead to lower – not higher – inflationary pressures

Why lowering inflationary pressures in a global economic slowdown?

- US recession leads to a fall in aggregate demand and lower pricing power of firms
- Slack in labor markets reduces growth of wages and labor costs
- Fall in global demand reduces commodity prices (oil, energy, metals, food, etc.)
- Global economic slowdown driven by lower demand reduces inflationary pressures around the world
- To get stagflation you need a large negative supply side shock (for example a war with Iran that spikes the price of oil)

Implications of outlook for asset prices: bear market in equities

- In US recessions S&P500 index falls by about 28% nominal (and 21% real) as earnings sharply fall
- The stock market is now pricing a Bernanke put: hope that Fed ease may prevent a hard landing. Market rallies every time the Fed eases and/or announces future easing
- But these rallies are increasingly short-lived and running out of steam as the drumbeat of bad economic news dominates over time the effects of Fed easing
- We are at the last legs/stages of an equity sucker's rally (as the one in April-May 2001)
- This rally will be over and a equity bear market in full swing – as in 2001- once investors realize that the Fed easing will not prevent a recession
- Foreign equity markets will also suffer as financial and real recoupling will occur and as markets are highly correlated during episode of stress and high risk aversion
- Such foreign equity markets have not priced yet the global recoupling with the US recession

Implications for major asset classes/prices

- Credit spreads (and CDS spreads) are to widen much more as corporate defaults sharply increase
- Higher corporate junk bond spreads that have already risen from 200bps to over 500bps
- Lower home prices in the US and across other bubbly housing markets lead to further home equity losses
- Much more losses on RMBS, CDOs and related securitized products as the economic recession makes the financial losses larger and recovery values lower
- Financial firms' losses will increase over time and thus their equity valuations will get even worse than the recent weakened levels. CDS spreads on financials will widen further

Implications for major asset classes/prices

- Lower long term government bond rates
- Policy rates reduced especially in the US, UK, Canada but also – to a lesser extent – in Eurozone and Japan
- US Fed Funds rate below 3% by the end of 2008
- Steepening of yield curves as policy rates are reduced while long rates fall by less
- Further dollar weakness on a traded weighted basis. Also fall of the British pound and Canadian dollar as they are both overvalued
- Fall in the currency values of countries with large current account and fiscal deficits
- Fall in commodity prices (including oil and energy) as global demand falls
- Even gold will fall from its highs as fundamental demand is reduced in a global slowdown and as speculative demand falls once global inflation pressures are reduced
- Contagion to emerging market stocks, currencies and bonds for countries with weaker economic and financial fundamentals

Conclusion

- US recession and global economic slowdown in 2008
- Central banks are behind the curve and Fed easing will not prevent a US recession
- Severe financial losses (over \$1 trillion) and systemic risk for the financial system
- Recoupling of the rest of the world with a global economic slowdown
- Cash is king: avoid a variety of risky assets
- Further sharp and persistent re-pricing of risk
- The credit boom/bubble party is over!



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