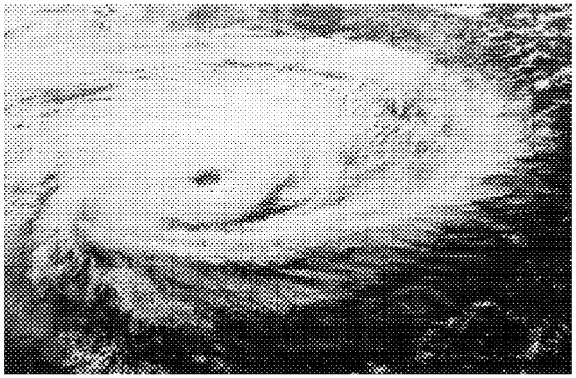
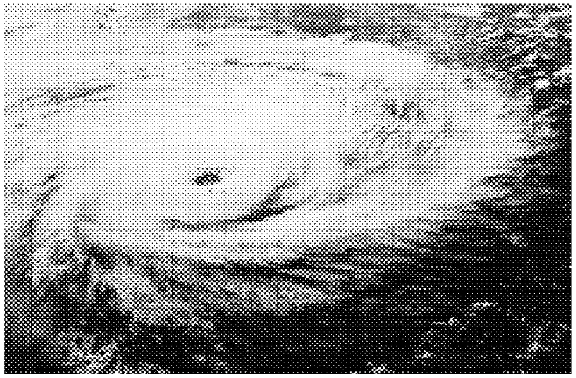


Tracking the "Twin Storms": Catalysts of Market Volatility



Executive Summary: Tracking the "Twin Storms"

- Financial markets – particularly those for non-investment-grade loans and bonds – have been battered by the "twin storms" of:
  - Subprime mortgages; and the *collateralized debt obligations* (CDOs) built out of them; and
  - Leveraged lending; primarily for LBOs and the *collateralized loan obligations* (CLOs) built out of them
- Until recently the equity markets had largely ignored this turmoil, with the Dow touching 14,000 on July 19, but that unraveled on July 26, with the Dow closing at 13,473, a decline of **3.8%** from July 19's high close
- The value of investment-grade CDOs built up out of subprime mortgages has declined dramatically, leading to significant losses: total damage has been estimated at $50-$100 billion
- The dislocation in the leveraged finance market differs fundamentally from prior episodes – it is unfolding in a moderately healthy economy with near-zero corporate defaults – driven by a dramatic contraction in liquidity

It is important to differentiate the "real" economic consequences of these storms from their impact – possibly shorter-lived – on financial markets …

Impact	Real Economy		Impact	Financial Markets	
↓	**Consumer**	• Subprime foreclosure/delinquency will likely impact less than 1% of U.S. housing stock • The U.S. consumer has proven its resiliency in the face of both higher energy prices and weaker housing prices; but these are strong headwinds and do create a "negative wealth" effect on spending	↓↓	**Banks**	• Smaller mortgage finance operations have closed; but larger money-center banks will be able to absorb the subprime-related losses • Bank liquidity has contracted for leveraged borrowers and may impact high-grade activity as a consequence
↓	**Industry**	• A decline in residential construction spending – an appropriate response to a persistent inventory of unsold homes – will be a drag on GDP growth • Construction-related industries – machinery; related retailing, etc. – will also see a real falloff in business	↓↓↓	**Markets**	• Credit market investors – particularly in the riskiest sectors – are on hold, waiting for price stability • Investors, primarily hedge funds, who own "storm-related" securities may need to sell more liquid securities – like high-grade bonds, which are widening • Equities appear to have lost the "private equity" floor

Tracking the "Twin Storms" – Highlighting the Parallels

	Subprime Mortgages	Leveraged Lending
What Is It?	• *Aggressive lending to subprime borrowers*	• *Aggressive lending for leveraged buyouts*
Which Securities Are Involved?	• CDOs built out of subprime mortgages	• Loans and bonds required to fund LBOs; CLOs
What's the Source of the Storm?	• These securities are essentially a leveraged bet on continued *Home Price Appreciation*	• Acquisitions require access to the high-yield market, roughly below ~10%
What Went Wrong?	• Lax lending standards:	• Loosening of lending standards:
	– High LTVs; piggyback loans	– Second liens
	– Low- or no-doc	– "Covenant-lite"
	– Teaser rates	– PIK toggles
How Do You Track the Storms?	• ABX BBB- 07-1 – an index of securities built out of subprime mortgages originated in last six months of 2006	• LCDX – an index of secured leveraged loans and CDX NA HY – an index of 100 sub-investment-grade bonds
What Are the Near-Term Risks?	• Mortgage rates adjustments in 2008	• Loan/bond forward calendar is $200+ billion

What Are the Real Risks of "Contagion"?

- **Residential construction: downturn is a drag on a portion of real economy**
- **Consumers: Negative wealth effect of housing downturn could slow consumer spending**
- **Banks: credit exposure may tighten lending standards and erode liquidity**
- **Investors: leveraged investors in subprime may need to sell other liquid assets**

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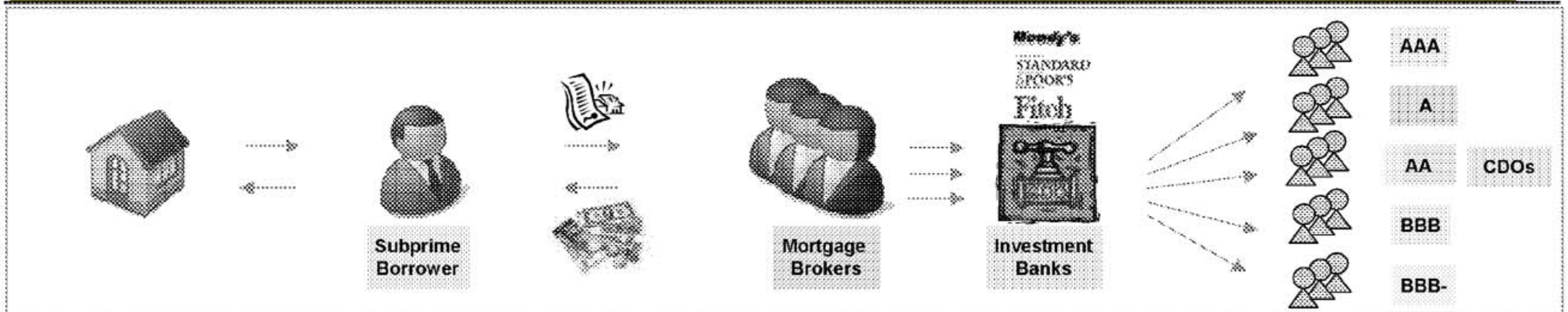
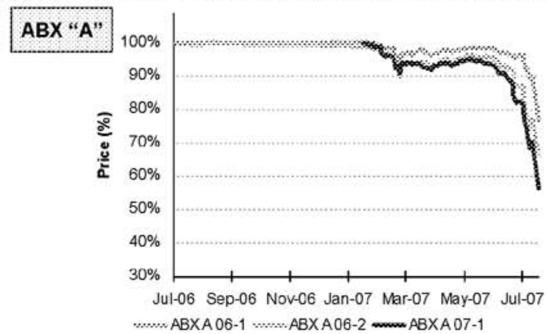
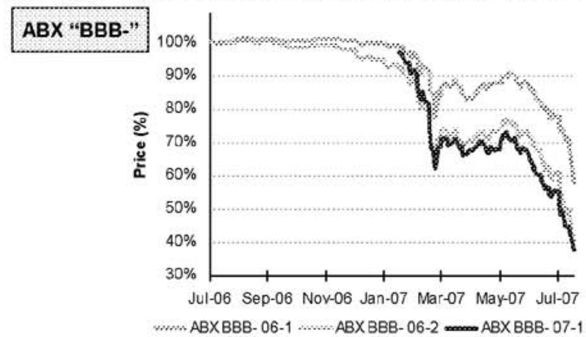
Subprime Mortgages in Pictures: Monitoring ABX BBB-

Mortgage brokers originate subprime loans and banks feed those loans into the CDO machine, creating different tranches of risk as assessed by the structured finance departments of the three rating agencies …

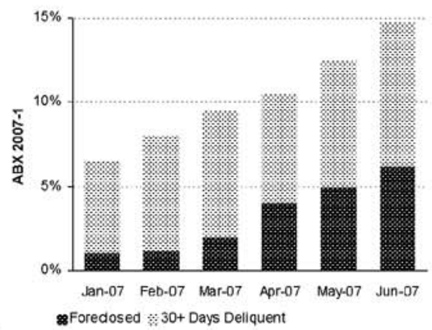


- ABX prices track subprime CDOs – from AAA to BBB- (see next page as well)
- The ABX BBB- 07-1 series – reflecting mortgages originated in the last six months of 2006 – is the most widely followed series and the worst "vintage"
- While the AAAs and AAs remain in the 80s-90s, the BBB- index has declined below 40
- Citi's *subprime mortgage model* shows how *Home Price Appreciation* (HPA) directly impacts expected losses and ABX prices …

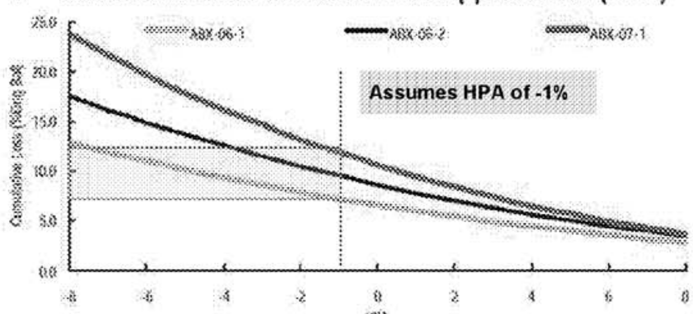




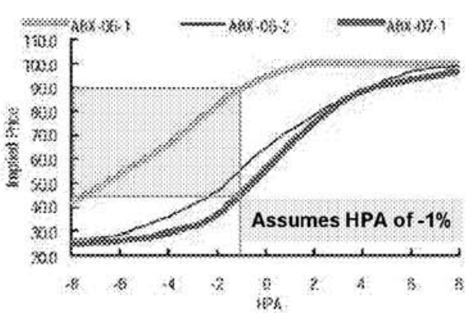
Foreclosures and Delinquencies: ABX 07-1



Cumulative Loss vs Home Price Appreciation (HPA)



ABX BBB- Prices vs HPA



Source: *"Relative Value Estimates for ABX Using Implied HPA and Model Vectors,"* MBS and Real Estate ABS Research, Citigroup, March 16, 2007.

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Subprime Mortgages: Recent Developments

Definition of ABX (Source: Markit)

- ABX.HE represents a standardized basket of home equity asset-backed securities (ABS) reference obligations
- New series of ABX.HE indices issued approximately every 6 mos
  - Initially launched Jan 19, 2006
- Five indices based upon the rating of reference obligations: AAA, AA, A, BBB, and BBB-
- Index is created from qualifying deals of 20 of the largest sub-prime home equity ABS shelf programs from the six-month period preceding the roll; e.g. 07-2 was initiated on July 20
- Licensed dealers provide daily closes for the most recent index series and monthly pricing on previously issued outstanding series

Another Week in Subprime: More Disclosure

- Subprime indexes continued to slip lower — the ABX 07-1 BBB- dropped to an all-time low of 43 (mid) the week ending July 20 … and closed on July 26 at 38
- Bear Stearns announced that investors in its *High Grade Structured Credit Strategies Enhanced Leverage Fund* suffered a total loss on their investment and Bear's other less leveraged fund is worth only nine cents on the dollar.
- Basis Capital, a $1 billion Australia-based hedge fund disclosed it was curbing investor redemptions after it announced a 14% loss in June due to a markdown of mortgage bond positions.
- ACA Capital Holdings Inc. saw its shares drop 22% on July 16 after a report of its subprime exposure came to light. ACA is a provider of asset management and credit protection products.
- Absolute Capital, a $200mm hedge fund, announced on July 26 that it was suspending investor withdrawal

Mortgage Brokers: Closures and Defaults

Company	Headquarters	Report Date of Closure	2006 Originations ($)	Chapter 11 Petition	Total Liabilities ($)
Sebring Capital Partners LP	Carollton, TX	1 Dec 06	1,210		
Ownit Mortgage Solutions	Agoura Hills, CA	7 Dec 06	8,292	28 Dec 06	819
Harbourton Mortgage Investment Corp.	Santa Rosa, CA	20 Dec 06	814		
Mortgage Lenders Network USA Inc.	Middleton, CT	2 Jan 07	4,884	5 Feb 07	>100
Preferred Advantage (National City Unit)	Pittsburgh, PA	3 Jan 07	NA		
Secured Funding Corp.	Costa Mesa, CA	8 Jan 07	1,250		
Popular Financial Services (wholesale only)	Marlton, NJ	9 Jan 07	NA		
Bay Capital Corp.	Owings Mills, MD	12 Jan 07	750		
Funding America LLC	Houston, TX	17 Jan 07	NA		
EquiBanc Mortgage Corp. (Wachovia Unit)	Charlotte, NC	22 Jan 07	NA		
Rose Mortgage Corp.	Chicago, IL	23 Jan 07	NA		
Mandalay Mortgage LLC	Woodland Hills, CA	25 Jan 07	NA		
Lenders Direct Capital Corp.	Lake Forest, CA	8 Feb 07	1,230		
Concorde Acceptance	Dallas, TX	12 Feb 07	225		
ResMAE Mortgage Corp.	Brea, CA			12 Feb 07	1,302
Fremont General	Santa Monica, CA	2 Mar 07	34,900		
New Century	Irvine, CA		56,100	2 Apr 07	22,995

Sources: SNL Financial and Citigroup Investment Research.

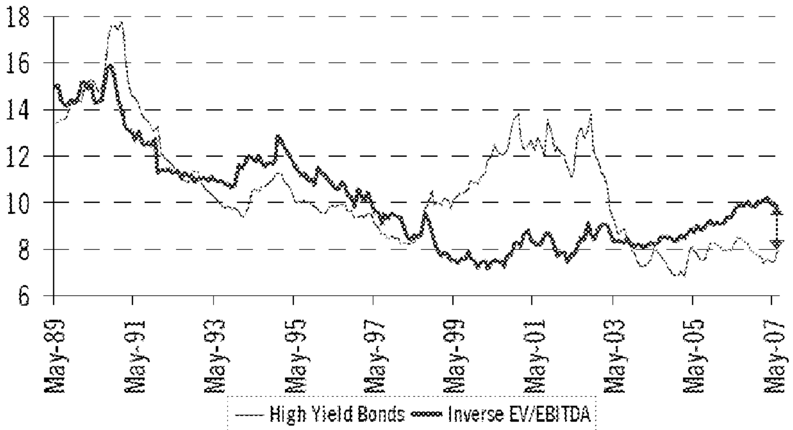
A Perspective on Subprime Contagion This Summer.

- Mortgage issues will remain in the headlines for the rest of the year, as delinquencies and foreclosures continue to rise and the pace of ARM resets is projected to increase in the second half of 2007.
- Other asset class sectors have experienced spread widening as investors cut risk. The lower-rated portions of other asset classes have been hit the hardest. A prolonged period of risk aversion is likely to move price deterioration further up the credit spectrum.
- Spread widening and increased spread volatility in other asset classes has the potential of creating new sources of leveraged unwinds.
- The turmoil in the bond market could be compounded as we head into August, traditionally the most illiquid month of the year.

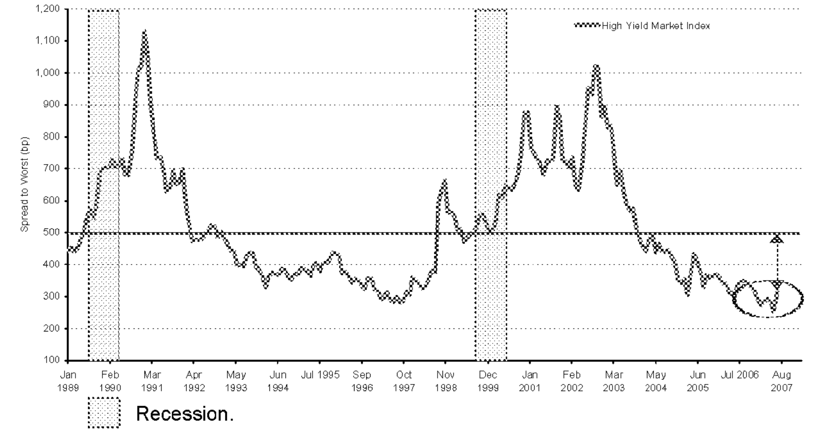
Source: *"Bond Market Roundup: Strategy — US Rate Strategy,"* Fixed Income Research, Citigroup, July 20, 2007.

Leveraged Loans and Bonds in Pictures

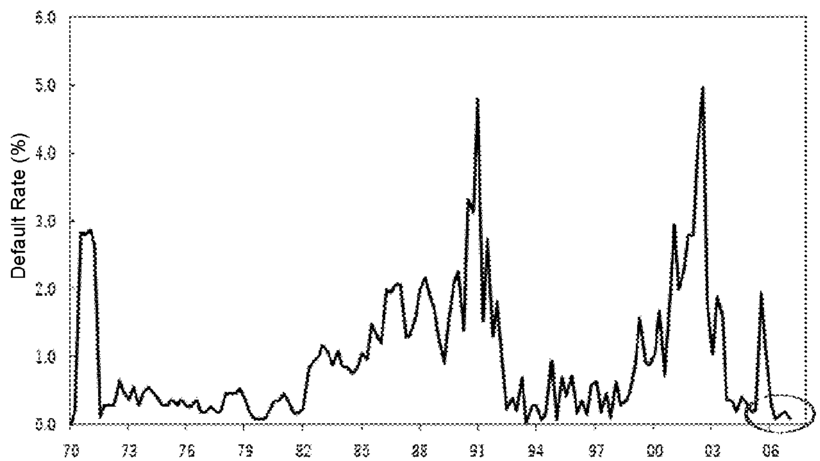
Leveraged buyouts take advantage of the difference between cash flow returns and the cost of high-yield bond financing.



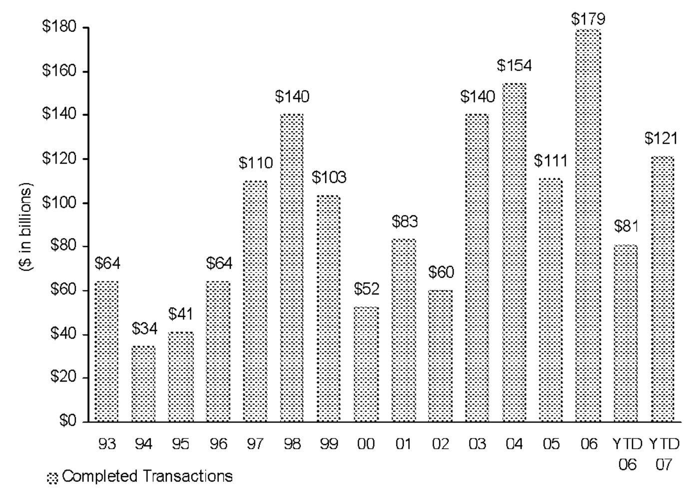
Spreads on high-yield bonds have widened 50-150 bp from historical tights – recessions have typically preceded significant widening.



Default rates remain at historical lows -- recent weakness in the high-yield bond market is about a collapse in liquidity, not defaults.



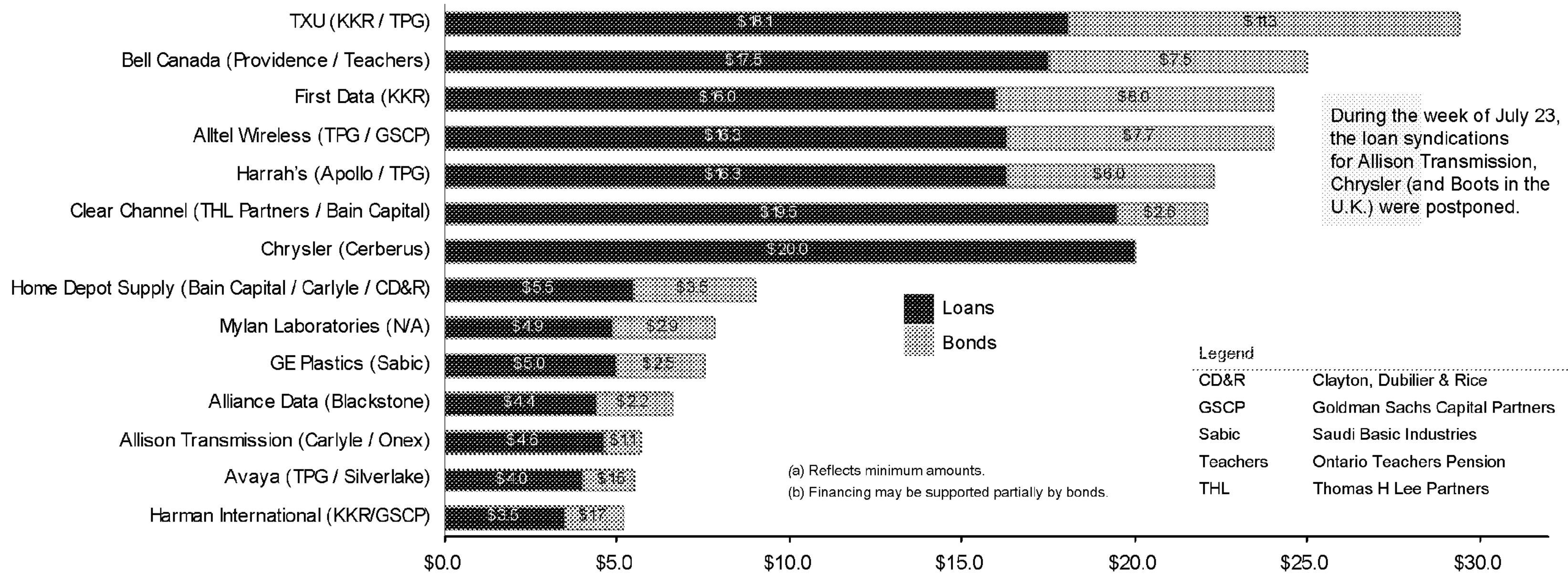
A number of loan/bond deals have been restructured and markets are jittery about more deal failures.



Forward calendar for high-yield bonds should take the 2007 total to well over $200 billion if the market reopens

Leveraged Loans and Bonds: LBO Overhang

The forward calendar for LBO financing has raised market concerns: $170 billion of leveraged loans and almost $70 billion of high-yield bonds (excluding another $20 billon deals in high-yield pipeline)



Recently Restructured Loan/Bond Transactions

Issuer	Amount	Ratings	Changes to Loans	Changes to Bonds
Thomson Learning	$5.8B	B2/B	• Flexed by 50 bps to L+275 bps	• Bonds downsized to $1.6B; 14 covenant changes • $540MM HoldCo PIK toggle notes held by underwriters
Dollar General	$5.0B	B3/B-	• TLB priced at L+275 • $1.7B first-out 1st lien TL sold at 97 and a $600MM last-out 1st lien tranche sold at 95	• Senior notes upsized to $1.175B – priced at 10.625%, 50 bps wide • $725MM senior sub PIK toggle held by underwriters
US Foodservice	$5.0B	B3/B	• Deal pulled from the market	• Deal pulled from the market
ServiceMaster	$4.3B	B2/B	• Flexed by 75 bps to L+300 bps, with step to L+325 bps based on leverage • Offered at 98, with 101 call premium	• $1.15B bond postponed

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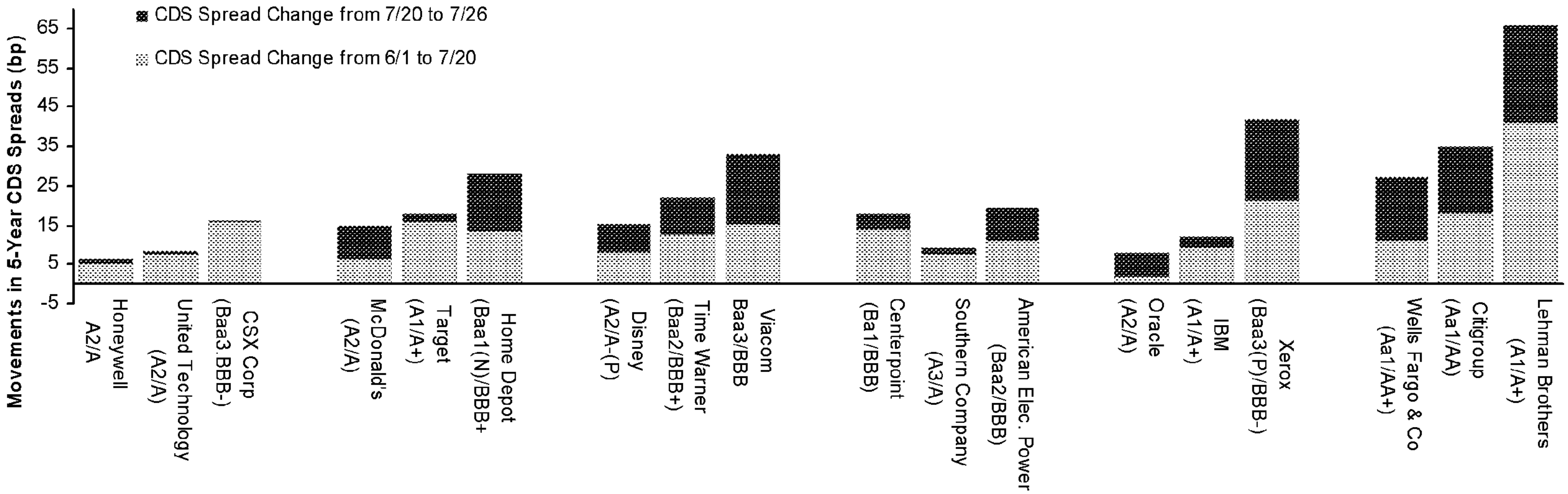
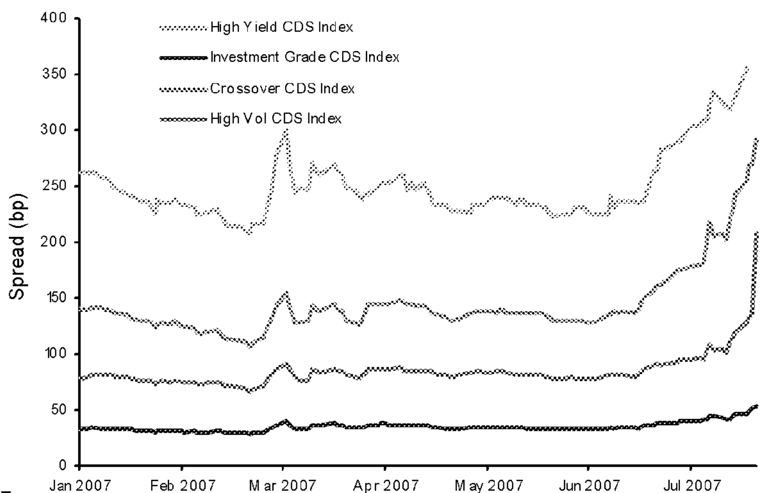
The Investment Grade Market Reaction

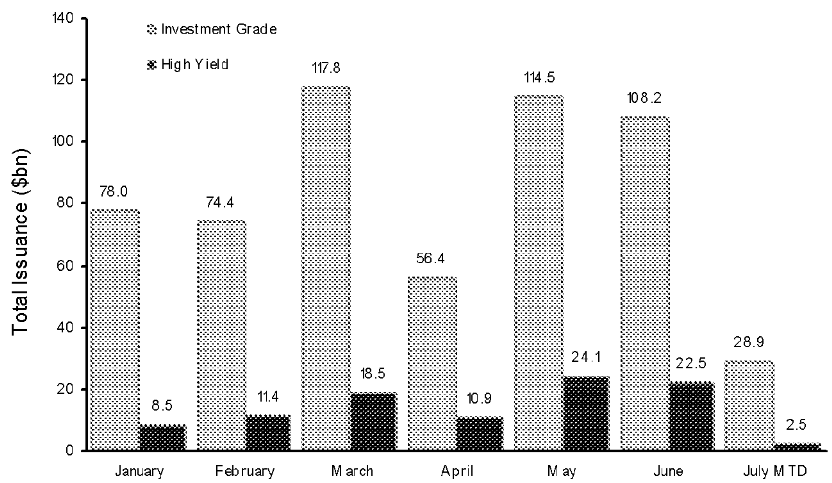
Credit Specific Movement



Credit Default Spread Movement (YTD)



Monthly Issuance Volume



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