GUY CARPENTER

2012 In Focus

MAN-1 Disasters in the Financial Space

Jason Israel
GC Analytics, Managing Director

October 4-5, 2012

MARSH & McLENNAN COMPANIES

Financial Event Exposure compared with Property

Financial events have severity similar to Property, but there are key differences

		Property Cat	Financial Events
Nature of Event Risk	Types of Perils	Generally Understood	Often Emergent
	AY Correlation	Low Correlation Some perils have loss cycles (e.g. El Niño) Model uncertainty	Moderate correlation Economic & Law changes Coverage uncertainty Trend uncertainty
	Loss Concentration	Usually Regional	Varies by nature of event (Some are niche-specific)
	Payout	Short-tail	Medium to Long-Tail
	Secondary Effects	Fire following Quake, Demand Surge Contingent B.I.	Some clash exposure Some loosely linked (Subprime → Madoff?)
Business Risk	Rate Cycle	Yes	Yes
	Calendar Yr Accumulation	No	Yes
	Coverage Certainty	Moderate	Lower - emerging perils and nonstandard language

Monitoring, Modeling & Mitigating Financial Event Risk – Much interest, but still far behind the Property

		Property Cat	Financial Events
Risk Monitoring	Exposure Tools	Geo-coding, Inspections, etc	Difficult to identify Some limited tools
	Third Party Models	RMS / AIR / EQECAT	Data Providers, But few models
	PostEvent Assessment	PCS and modelers	Limited reporting
Reinsurance	Event covers	Well Developed	Mostly "per risk" QS/XOL
	Other Options	Clash Options, ILW's, CWIL, Securitizations	Clash difficult to define Some structured options

Recent Financial (& D&O) Events

Events / Litigation Wave	Sectors Affected	Allegation
Predatory Credit/Lender	Banks/Consumer Finance	Misleading and/or usurious interest (Settled $2B)
IPO Laddering (2001)	Inv. Banks (+IPO firms)	**Unfair IPO allocation and price manipulation ($600M)**
Banking/Enron (2002)	Banks (Money Center)	Helped fund Enron with disguised loans ($4B)
Analyst Claims (2002)	Investment Banks	Fraudulent research to solicit investment banking ($1.5B)
Banking/Worldcomm (2002)	Investment Banks	Conflict of Interest & Due Diligence in public bond ($5B)
Mutual Late Trading (2003)	Mutual Funds /Brokerage	Deceptive/preferential treatment for select investors ($2B)
Variable Annuities (2004)	Security Broker/Dealer	Unsuitability, Failure to disclose tax & other issues
Insurance Bid Rigging (2005)	Insurance Brokers	False quotes, violating duty to clients ($1B)
Options Backdating (2006-)	***General D&O***	Intentional Misreporting of Exec. Compensation (About $2B)
Credit Card Interchange(2007)	Consumer Finance	Collusion in setting merchant fees (Settled $7B)
Subprime (2007-2008)	Inv. Banks/Brokers/Banks…	Deceptive practices - UW / packaging loans (~1.5B)
Credit Crisis	Mostly Banks	Hiding impairment of assets (subprime loans) ($6.5B+)
Auction Rate Securities	Inv. Banks/Brokerage Firms	Banks promoted then withdrew support for debt market
Madoff+ (2008-2009)	Asset Managers	Ponzi Schemes - with Funds diverting
M&A Bump-ups ('09+)	*General D&O*	D&O injunctive suits against most major M&A Activity
Chinese Reverse Mergers ('10)	*General D&O*	Discrepencies between US reporting and in China
FDIC Involvment?	Regional/Comm.Banks	FDIC pursuing action vs. executives of some failed banks
LIBOR	Banks (Money Center)	LIBOR Manipulation - Barclay's settled for $200M… Others?
Euro Currency Issues	Banks (Money Center)	MF Global had $1.6B shortfall… Are others exposed?

Some Events of the 80's and 90's

Events / Litigation Wave	Sectors Affected	Allegation
S&L Crisis (1986)	Savings & Loans	Interest shock to Liquidity / Financial - **$88B in costs**
Churning	Security/Broker Dealers	Breach of fiduciary duty via Rapid trading
Cost of Correction	Security/Broker Dealers	*(Soft market coverage issue)*
Auto Original Parts	Insurers P&C (Personal)	Objections to use of replacement parts by Auto Insurers
Mold	Insurers P&C (All)	Refusal to cover certain Mold Claims
Yield Burning	Inv. Banks/Brokerage	Artificially increased costs of municipalities debt refinancing
Nasdaq Price Fixing	Inv. Banks/Brokerage	Collusion to fix spread (preDecimalization of stock)

On the Horizon…

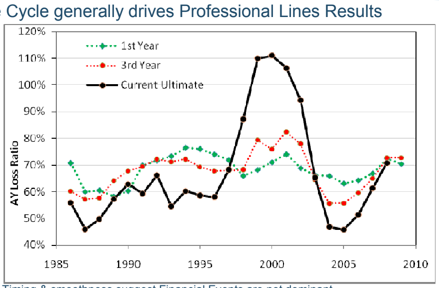
- FDIC continues to test suits against executives of failed banks
- LIBOR fixing suits against US and NonUS banks on the rise since July
- Eurozone continues to struggle with shoring up weaker members states
  If a member secedes – it could create a new wave of suits volatility

What patterns are in these events?

"History does not repeat itself, but it does rhyme" – Mark Twain

- In the Financial D&O/E&O space, while defining events (as opposed to clash or systemic) is difficult there are significant payouts associated with multi-insured events.
- Most of the suits target the large players
  - Deep pockets
  - Most complex and varied operations
  - Exceptions include S&L and Mutual Funds Timing
- Investment banks have the largest share of the claims
- Large Money Center banks similarly affected
- P&C Insurers had more events than Life Insurers, but difference might not be credible?

Rate Cycle generally drives Professional Lines Results

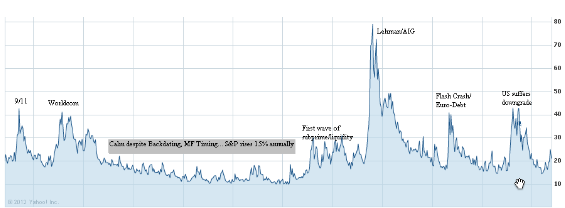


Timing & smoothness suggest Financial Events are not dominant.
2002 had much higher claim count & payout than 1999-2000, but at higher rate levels.
Rates softened from 2003 until 2011 – but loss activity also reduced during 2003-2006.

Recent Financial Institutions results vary only slightly from the above
– with significant increases for 2002(Enron D&O), 2003(MF E&O) & 2008(Subprime)
Fewer Financial claims in 2006 (options backdating) and 2010.

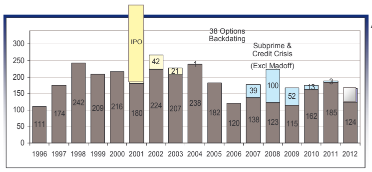
Source: Schedule P – Other Liability – Claims Made for Industry
(Predominantly Professional Liability)

VIIX = Investor "Fear Index"



Source: Yahoo! Finance

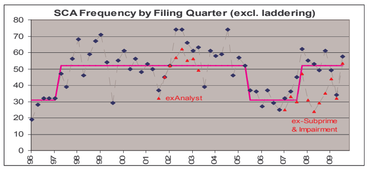
Security Claim Frequency (D&O)



About 200 security class actions per year.

This amounts to 2-3% of the 6000+ companies traded in the US.

2012 annualizing to 165



Claim rate was about 50 claims per quarter

In early 2005 this dropped to about 30.

Subprime contributed many additional cases, but the recent trend is close to 40.

The cause of the 2005 drop is still debated:
US Supreme Court decision *Dura*?

Problems with the plaintiff attorneys?

Sarbanes-Oxley?

Stable stock market?

Source: Stanford Law School

D&O Sector Shocks

Sector	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Basic Materials	5	6	8	3	7	5	7	2	2	8	7	6	13
Capital Goods	5	4	6	5	5	11	1	4	7	8	3	8	6
Conglomerates	3	2	1	4	2	1	1			2	3		
Consumer Cyclical	18	10	12	5	10	8	13	5	7	3	4	6	10
Consumer Non-Cyclical	11	8	5	4	8	5	6	4	4	9	4	4	9
Energy	5	2	1	6	2	6	3	2	4	6	3	10	16
Financial	23	28	23	40	49	48	32	14	41	113	77	41	23
Healthcare	24	19	27	34	39	40	32	19	26	23	23	36	24
Services	52	49	116	74	40	47	30	27	46	19	25	32	31
Technology	60	78	290	68	56	56	55	39	35	28	14	22	49
Transportation	2	3	4	2	1	6	1	2	1	2		1	3
Utilities	1	6	4	22	6	4	1		2	3	2	5	4
Grand Total	209	215	497	267	225	237	182	118	175	224	165	171	188

Within Finance:

Insurance	**7**	**10**	**6**	**7**	**9**	**15**	**9**	**8**	**11**	**11**	**10**	**2**	**5**
Money Center Banks	**5**	**1**		**4**	**4**	**6**	**4**			**16**	**9**	**3**	**4**
Regional/Comm. Banks	**5**	**1**	**3**	**5**	**4**	**5**	**5**		**10**	**16**	**14**	**14**	**5**
Investment Services	**1**	**9**	**6**	**14**	**23**	**16**	**12**	**3**	**9**	**41**	**24**	**8**	**5**
Other Financial Services	**5**	**6**	**7**	**8**	**8**	**3**	**2**	**2**	**10**	**23**	**13**	**9**	**3**

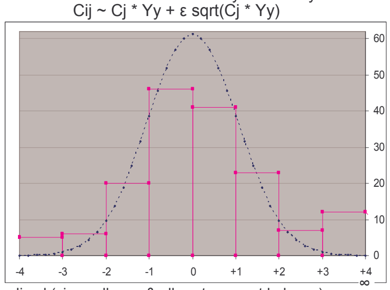
Overall Claims by year vary due to legal & financial environment,

Claim distribution *by sector* is sometimes driven by these specifics
(Subprime disproportionately affecting finance & real estate,
Spikes in IPO/M&A Litigation affect Technology firms)

We also have Sector specific shocks – such as Utilities or Pharmaceuticals

How “normal” are sector security claims each year?

Standardized Residuals of Security Claims by Sector
Cij ~ Cj * Yy + ε sqrt(Cj * Yy)



Even normalized (since all year & all sectors must balance),
Sector shocks result in significantly more tail than Poisson.
Even so most security claims are still non-Shock

Disclaimer

- The opinions contained in this presentation are the author's and do not necessarily represent Guy Carpenter or the Casualty Actuarial Society.

GUY CARPENTER