

# **Economic and Natural Disasters and their Effect on Financial Markets through Derivative Securities: Role on the Kobe Earthquake in Japan, Asia and the US, 1988-1997**

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- 1987 -- hedge fund manager
- 1988-89 -- First Yamaichi Visiting Professor, University of Tsukuba and Consultant Yamaichi Research Institute
- World wide asset allocation
- Stock market anomalies and crashes
- Power Japan and Invest Japan 1991 with Dr. Sandra L. Schwartz
- Articles and talks
- Work with Frank Russell company on Russell-Yasuda Kasai and other Asset Liability Management Models, 1989-1997

## **The Script: Economics, Social Aspects and Fear vs. Greed**

- Japan is ALWAYS the key to understanding Asian Financial Markets
- Low interest rates and an export boom in the 1980s
- Analysis in Power Japan Yen will rise if an earthquake hits
- Fabulously high land and stock prices, enormous cash
- Attempts to justify these prices with rational economic models
- mid 1988 decision in Cabinet to raise interest rates
- Interest rates climb and finally the stock market cracks in January 1990 -- it was way in the danger zone
- Alan Greenspan A+  
Wim D C-  
MOF etc. a lower grade

interest rates rise for 8 more months the financial system of debt and gambling is hurt too much

- 5 trillion lost in land, 5 trillion in stocks
- Risk arbitrage on Nikkei puts in 1989-90 with Ed Thorp
- Futures hedging in North-America by the put issuers essentially takes over the Japanese stock market

- Japanese brokerage firms try to prop up the market by buying futures with low commissions. Salomon etc. make hundreds of millions doing index arbitrage. Numora et al lose heavily
- Eventually Yamaichi goes bankrupt
- Iishi meeting with head at YRI on WTZ crash model results in 1989 dismissed: what would a Gaijun professor know about Japan
- Yen rallies
- Nick Lesson tries to corner the Japanese market in Singapore with 40% of the market on the SIMEX. He sells strangles. The market falls in early 1995. There is a substantive additional drop after the KOBE earthquake. Nick loses heavily on the short puts. Barings loses USD 1 Billion plus and goes bankrupt.

<b>SELL</b>		<b>STRANGLE</b>
	↓	
<b>SELL PUT</b>	<b>INDEX</b>	<b>SELL CALL</b>
<b>PREMIUM P</b>		<b>PREMIUM C</b>

**IF INDEX IN MIDDLE GAIN  $P + C$**

**NICK LEESON / BARRINGS SIMEX SINGAPORE**

**CONTROLLING 40 % OF SIMEX PUSH FUTURES SO  
THAT INDEX ON EXPIRY WHEN CASH = FUTURES IS IN  
MIDDLE.**

**WHEN QUAKE HIT IN JANUARY 1995 MASSIVE  
SELLING ON OSAKA FUTURES.**

**HUGE LOSSES ON PUTS. BARRINGS GOES BANKRUPT.**

**NICK IS PUT IN JAIL.**

- **Our prediction in Power Japan that the Yen would strengthen following a major quake was right**
- **The Yen rises to 80 in mid 1995**
- **The neighbouring Asian countries take loans in a “good currency” Yen and short a “bad” currency the US dollar**
- **Japan has a recession**
- **The Asian countries continue to expand**
- **Demand falls in the Asian countries, the dollar rises, debts mount**
- **Thailand devalues, others devalue and their small stock markets fall, interest rates rise – there is a huge economic problem in Asia**

- **Hong Kong defends their dollar. The peg holds but with much stress. There is little effect in the U.S.**
- **The US stock market is NOT in the danger zone of interest rates, neither is Hong Kong**
- **September 22-24 Hong Kong starts to fall with a 10% fall on Friday the 24<sup>th</sup>**
- **the S+P falls a little but volatility rises. Deep out puts go from 60 → 120 → 240**
- **Hong Kong falls 5% on Monday, the 27<sup>th</sup>**

- **Fear grips the US market on Monday, September 27, the S+P falls 7%. On Tuesday it falls 3% more.**
- **240 Friday becomes 1600 on Tuesday. Later 1600 → 0 in November. Ziemba's dinner in Verona is stressful.**
- **Niederhoffer goes bankrupt**
- **Ziemba learns the true meaning of risk control and size of positions and how to calculate them more or less right using stochastic programming.**