



© Z/Yen Group  
2014

# Policy & Strategy in A Global Cyber World

*"Zest for Enlightenment"*

## Cyber Reinsurance

**Professor Michael Mainelli**

*26 February 2014*

*Royal Society, London*

***www.zyen.com***

**Z/Yen Group Limited**  
Risk Reward Managers  
90 Basinghall Street  
London EC2V 5AY  
United Kingdom  
tel: +44 (20) 7562-9562

[www.zyen.com](http://www.zyen.com)  
Michael\_Mainelli@zyen.com





© Z/Yen Group  
2014

# Z/Yen

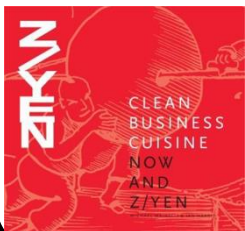
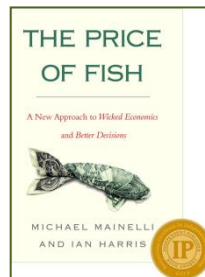


The Global  
Financial Centres  
Index



- ◆ Special – City of London’s leading commercial think-tank
- ◆ Services – projects, coaching/training, expertise on demand, research, strategy, modern systems
- ◆ Sectors – technology, finance, voluntary, professional services, outsourcing

- Independent Publisher Book Awards Finance, Investment & Economics Gold Prize 2012 for ***The Price of Fish***
- British Computer Society **IT Director of the Year** 2004 for PropheZy and VizZy
- DTI **Smart Award** 2003 for PropheZy
- *Sunday Times* Book of the Week, ***Clean Business Cuisine***
- £1.9M **Foresight Challenge Award** for Financial Laboratory visualising financial risk 1997

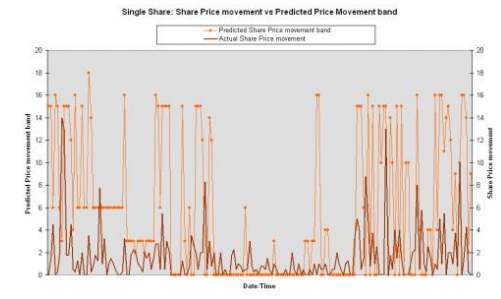
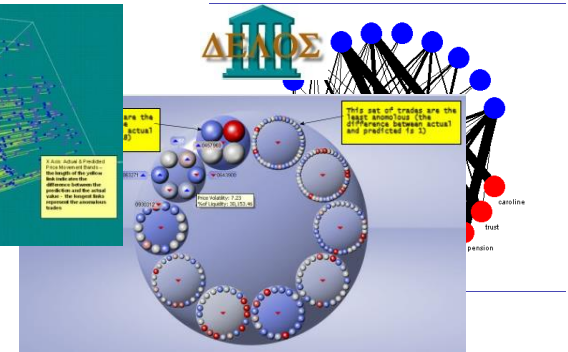
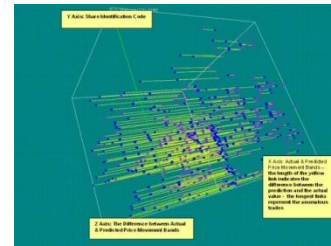




© Z/Yen Group  
2014

# Z/Yen in Finance

- ◆ Long Finance predicting bubbles (current)
- ◆ LIBOR litigation (current)
- ◆ Prediction markets (1998-present) – [www.extzy.com](http://www.extzy.com)
- ◆ Market Intelligence – MoD, e.g. Vision 2020, and ongoing
- ◆ Avatars for Big Data (2010-2012)
- ◆ PropheZy and VizZy – Automation of Compliance monitoring (2005-2008)
- ◆ Financial £laboratory Club visualising risk (1997-1998)



**ExtZy** Home My Account Find Shares Community Statistics Help

Making a Market Out Of The Web

Welcome to ExtZy

ExtZy is a prediction market game created by Z/Yen, which makes a market out of web pages. Players can buy shares in these sites that they think will go up in popularity, and then trade their dividends in for real prices.

Take a look at the "Market", read the "One Minute Guide to ExtZy" or the "Three Minute Guide to Markets": read the "Rules" of the game, build your "Portfolio" and set your eye on the top "Pickers". Think you're a pro? Try it, and your thoughts and questions to the "Forum". Dig into the "Player" lists for more handouts on fusion and sell-off, and "Contact Us" with us on Twitter.

Rank	Name	Portfolio	Score
1	Harold Wang	245.0	3127.54
2	John Hanks	245.0	3127.54
3	Lee Hanks	337.0	244.0
4	David Ladd	325.0	244.0
5	Laurie Daryl	3149.0	3127.54

**Case Five: United Kingdom**

09-Feb-12, 8  
09-Feb-12, 44  
12-Apr-12, 55  
19-Apr-12, 21  
21-Jun-12, 17  
28-Jun-12, 8  
21-Jun-12, 5.4  
London Olympics, July 27- Aug 12  
Diamond Jubilee, June 2-5

Price Volume Google Trend PIE Ratio

**Market Indices**

ExtZy.com Twitter

The Entire ExtZy Market

PIE: Powerful and Scalable Application...

YouTube.com Twitter

Adaptation: Credit Risk Impacts of a Ch...

LEAGUE Google Chrome

But what does this chart actually show?



© Z/Yen Group  
2014

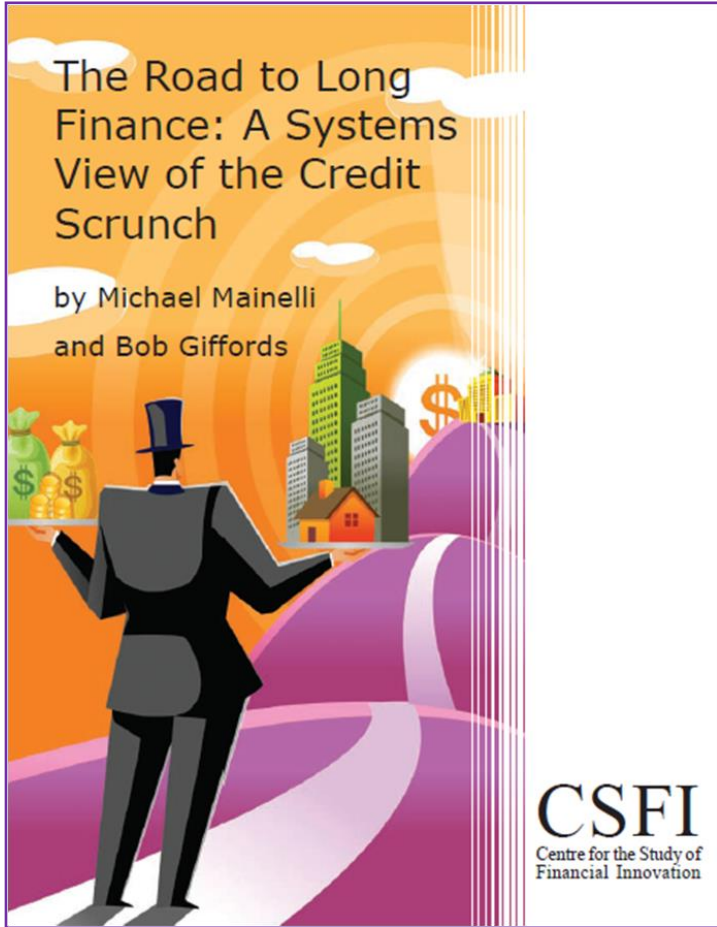
# Global Overview – Finance & IP





© Z/en Group  
2014

# About



***‘When would we know our financial system is working?’***

## Objectives:

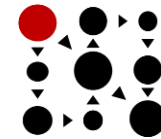
- ◆ Expand Frontiers
- ◆ Change Systems
- ◆ Deliver Services
- ◆ Build Communities



London  
Accord



Financial  
Centre  
Futures



Meta-  
Commerce



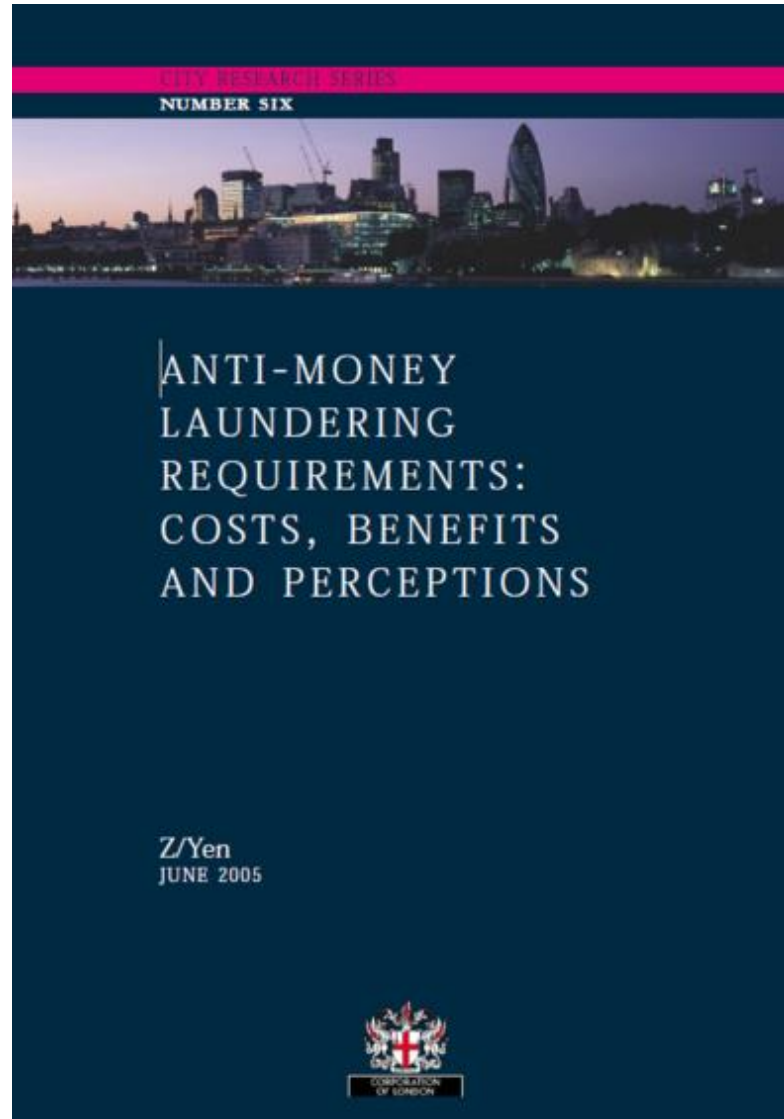
Eternal  
Coin





© Z/Yen Group  
2014

# What's The Use?





© Z/Yen Group  
2014

# Cyber Snake Oil?



“Get a detailed grip on the big picture.”

*Chao Kli Ning*



© Z/Yen Group  
2014

# Casualties

<b>Company</b>	<b>Year</b>	<b>Type</b>	<b>Impact (\$)</b>
<i>Heartland Payment Systems</i>	2009	Malicious software/hack compromises unknown number of credit cards	130,000,000
<i>TJX Companies Inc</i>	2007	Hack exposes credit card numbers and transaction details	94,000,000
<i>Sony Corporation</i>	2011	Names, personal data, possibly credit card details, obtained from PSN/Qriocity users	77,000,000
<i>Card systems: Visa, Mastercard, American Express</i>	2009	Major card processor breached, credit card numbers lost	40,000,000
<i>RockYou Inc</i>	2009	Hackers access user-names and passwords	32,000,000
<i>US Department of Veterans Affairs</i>	2006	Social security and personal data of US military veterans stolen	26,500,000
<i>Sony Online Entertainment</i>	2011	Data, including birth dates, email and credit card details accessed by hacker	24,600,000

Insurance Day, 7 June 2011 [source: datalossDB]





© Z/Yen Group  
2014

# Why Should Carbon Smell Funny?



STUCK ON AN ELEVATOR WITH THE U.S.  
AT THE UN GLOBAL WARMING CONFERENCE



© Z/en Group  
2014

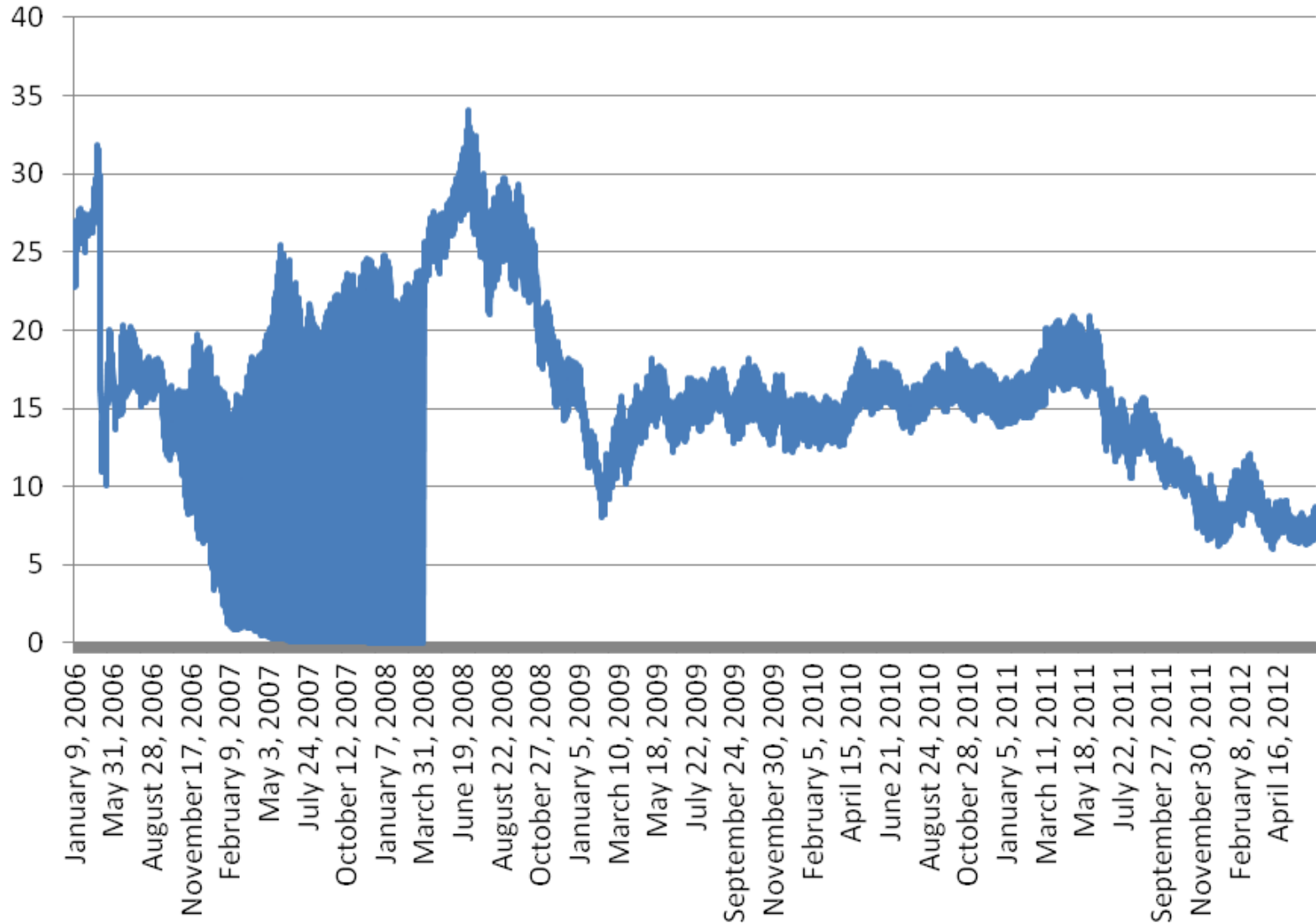
# EU ETS – A Serious and Important Market





# Yet Odorous Due to Cyber and Political Risk

© Z/Yen Group  
2014



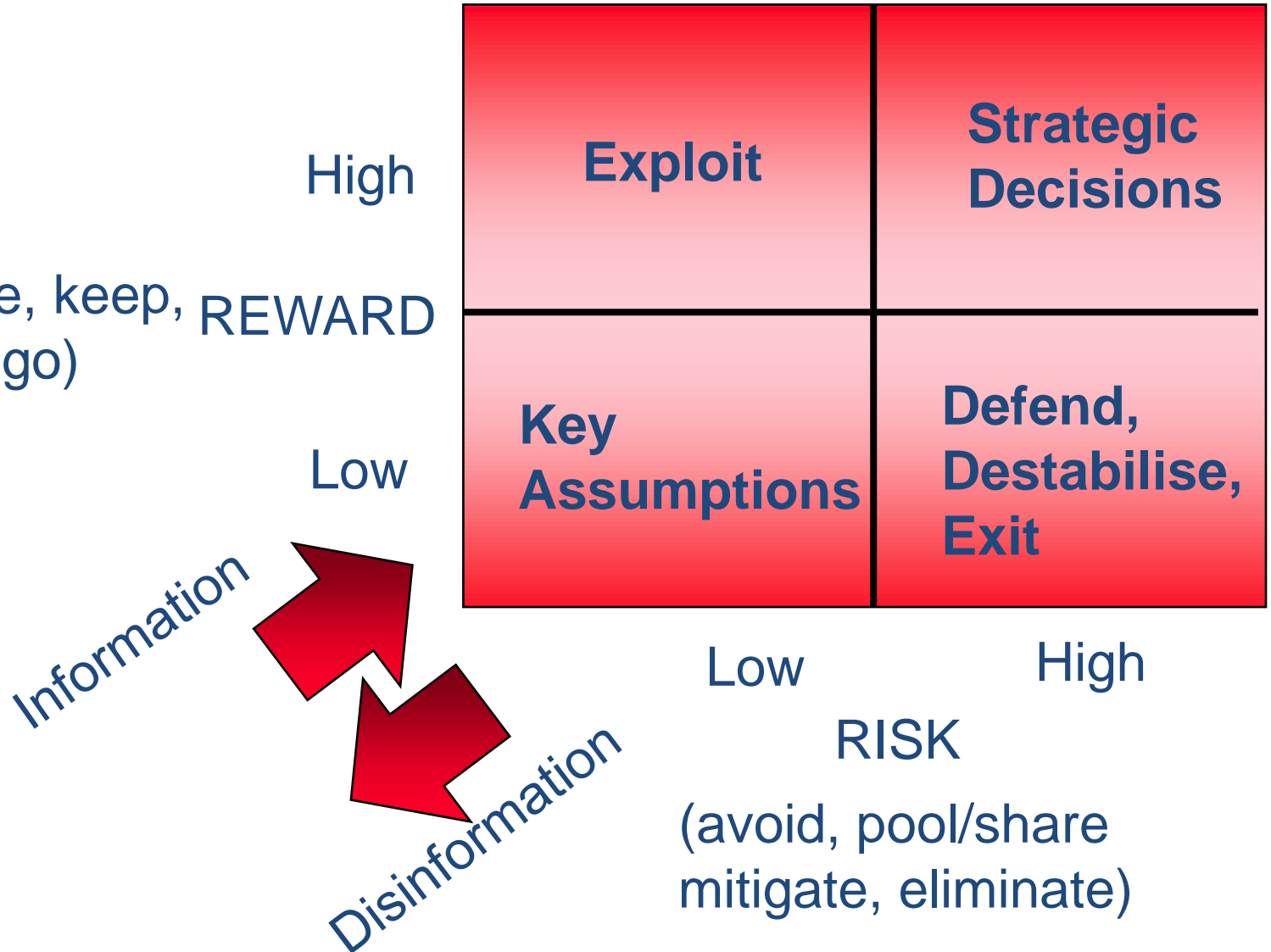
[Source: ICF ECX EUAs]



© Z/Yen Group  
2014

# Generic Risk/Reward Profiles

(enhance, keep, REWARD  
sell, forego)





© Z/Yen Group  
2014



- ◆ The Pool Re scheme has been set up by the insurance industry in co-operation with the UK government so that insurers can continue to cover losses resulting from damage caused by acts of terrorism to commercial property in Great Britain.
- ◆ Insurers that participate in the scheme offer terrorism cover as part of the relevant commercial policies they issue when their policyholders request them to do so. Each insurer must pay losses up to a threshold, which is determined individually for that insurer. When losses exceed that threshold, the insurer can claim upon reserves accumulated by the insurance industry on a mutual basis within a separate company, Pool Reinsurance Company Limited (“Pool Re”). Should terrorism claims exceed these reserves, Pool Re can, in turn, draw funds from government to enable it to meet its obligations in full, regardless of the scale of losses.



© Z/Yen Group  
2014

# Cyber Re - Proposal

- ◆ Cyber Re is a reinsurer for circa above £100 million exposure
- ◆ Cyber Re exists not to insure, but to allow insurers to insure by providing re-insurance, in turn providing regulators with the assurance that terrorism insurance can be safely underwritten
- ◆ Basic policy is “business interruption”
- ◆ Cyber Re is focused on creating a club with members, thus encouraging members to share information and reduce risk by sharing information, as well as to grow their market
- ◆ Cyber Re should be close to no-cost and quite small operationally



© Z/Yen Group  
2014

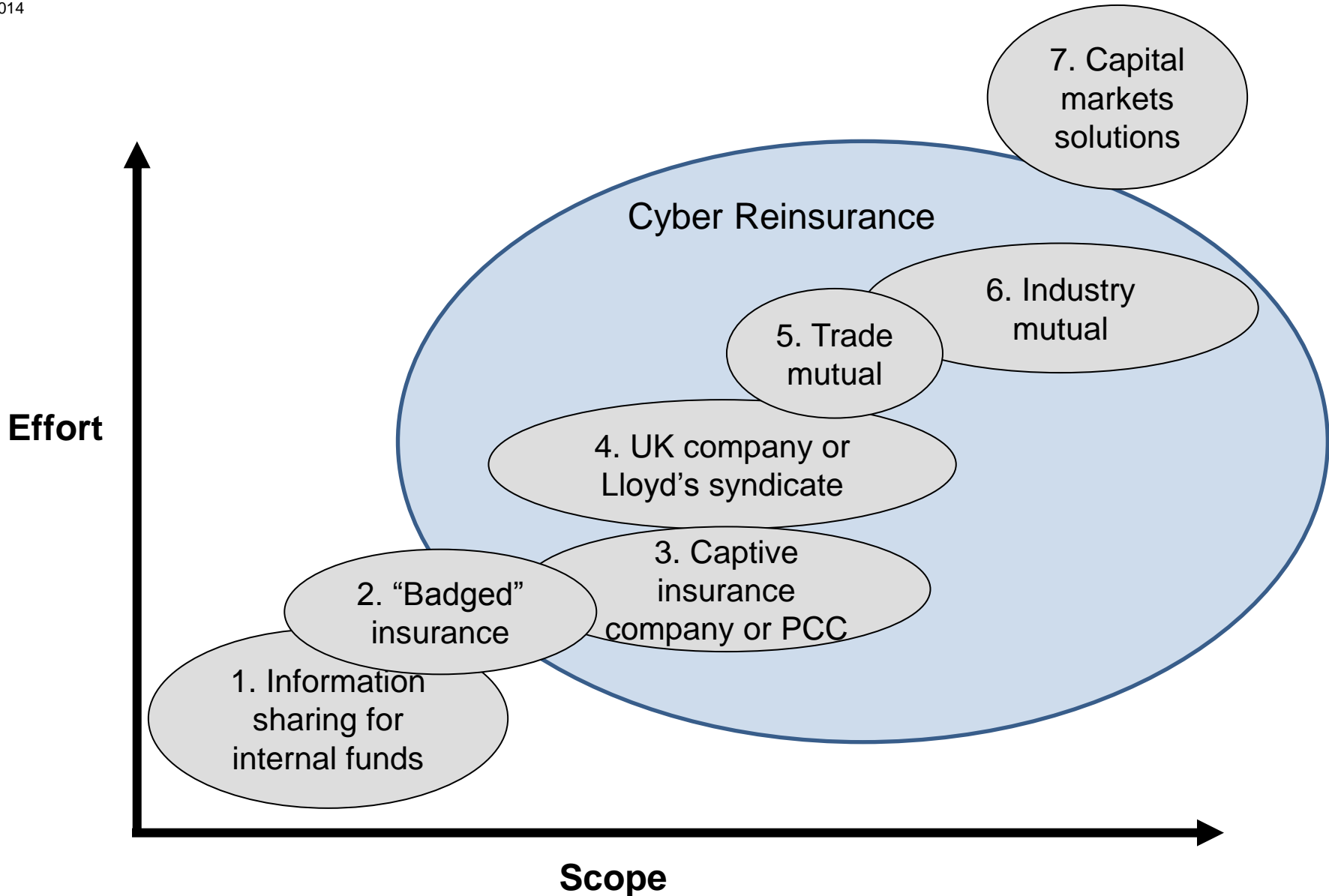
# Cyber Re Tasks

- ◆ Helping members to assess their exposure
- ◆ Sharing best practice in assessment and risk reduction, including the development and use of appropriate standards (e.G. ISO 27000 series)
- ◆ Working with members to plan risk reduction programmes
- ◆ Providing controlled risk transfer mechanisms for members who achieve stated levels of risk reduction or undertake risk reduction activities to stated levels of quality
- ◆ Managing members' interests to achieve equitable risk sharing
- ◆ Handling reinsurance with HM treasury and other governmental entities



© Z/Yen Group  
2014

# Options – A Financial View







© Z/Yen Group  
2014

# Obvious Issues

- ◆ What risks are jointly shared BUT on which organisations do not compete?
- ◆ Can these risks be assessed and managed (e.g. standards and certification schemes)?
- ◆ Is there benefit in joint learning about risks?
- ◆ Is there an industry benefit in perceived risk management/guarantees?
- ◆ Can the industry co-operate?



© Z/Yen Group  
2014

# Progress to Date

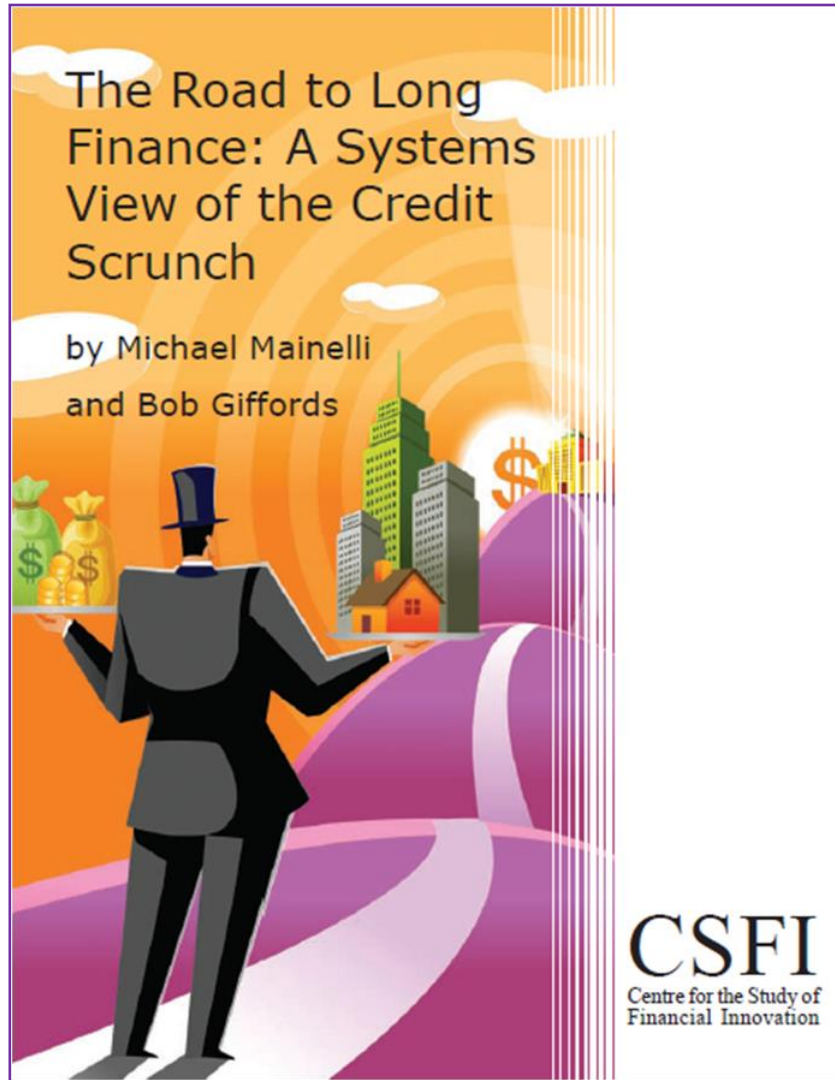
- ◆ Discussion - Cabinet Office, Metropolitan Police, Home Office, City of London Corporation, BIS, NATO, United Kingdom Accreditation Service, London Stock Exchange, NYSE Euronext, ICE, LCH.Clearnet, Markit, Yahoo, eBay, Futures & Options Association, Thomson Reuters, Bloomberg, Aviva, Barbican, Steptoe & Johnson LLP, ENISA – European Network and Information Security Agency, Barclays, RFIB, Munich Re, Swiss Re (indirectly), Willis Re, Alpheus, Intellect, Birkbeck College, Centre for the Study of Financial Innovation, Chatham House
- ◆ Consultation programme – CityForum with Cabinet Office, GCHQ, HM Treasury

***“When would we know our cyber risk management is working?”***



© Z/Yen Group  
2014

# Long Finance



*‘When would we know our financial system is working?’  
... when we can recommend a retirement structure to a 20 year old? ...  
when we can fund a forest? ... when we can defend our virtual property?’*

## Objectives:

- ◆ Expand Frontiers
- ◆ Change Systems
- ◆ Deliver Services
- ◆ Build Communities



## Programmes:

- ◆ London Accord
- ◆ Financial Centre Futures
- ◆ Meta-Commerce
- ◆ Eternal Coin





© Z/Yen Group  
2014

# Thank you!



“Get a big picture grip on the details.”

*Chao Kli Ning*