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Finance Leadership Summit 2020

"Zest for Enlightenment"



FINANCE LEADERSHIP
SUMMIT

Changing Face Of Finance - Adversity & Sustainability

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 @mrmainelli

12 February 2020, Dublin

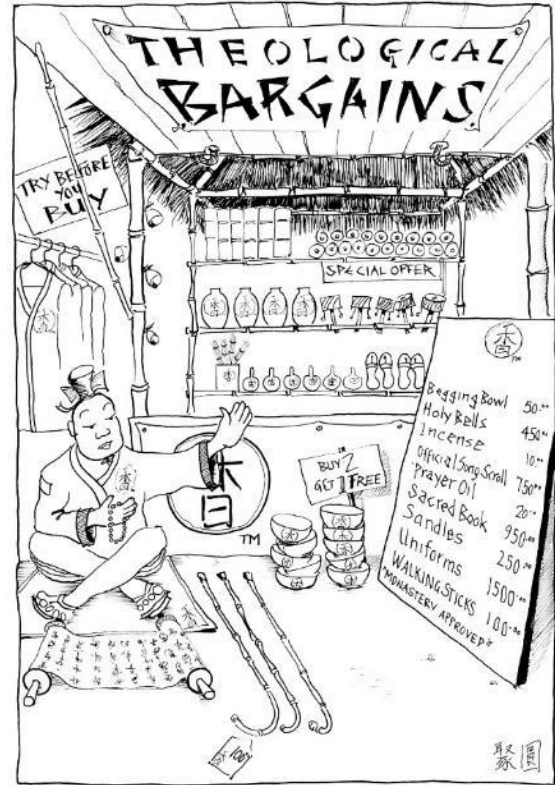




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Outline

- ◆ Our research
- ◆ Smart ledgers ('cause I wuz asked)
- ◆ Global financial centres
- ◆ Adversity & sustainability



"Get a detailed grip on the big picture."

Chao Kli Ning



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Z/Yen

London Accord

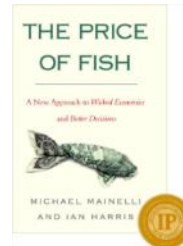


The Global Financial Centres Index



- ◆ Special – City of London’s leading commercial think-tank
- ◆ Services – projects, strategy, expertise on demand, coaching, research, analytics, 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



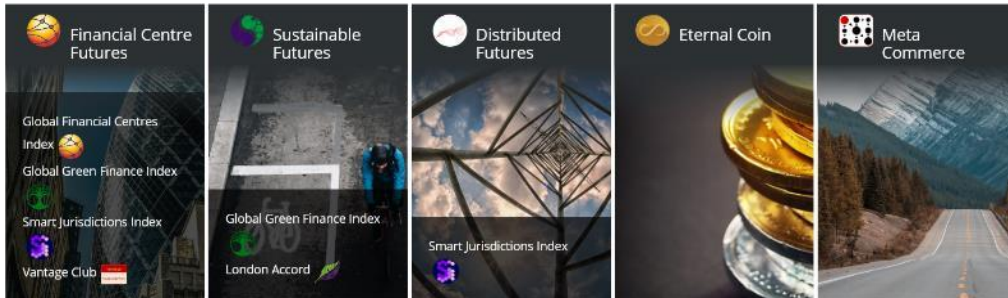


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Long Finance

“When Would We Know Our Financial System Is Working?”

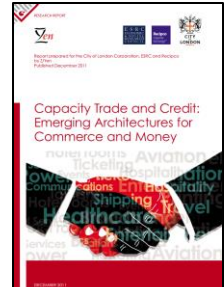
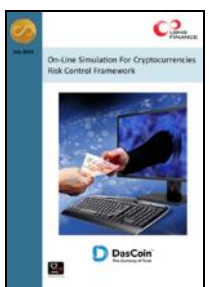
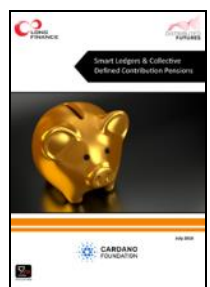
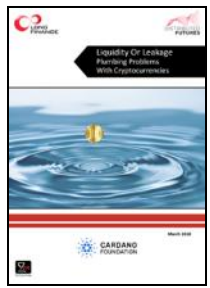
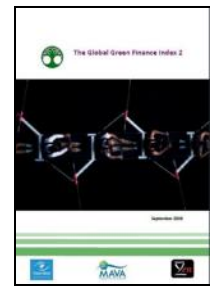
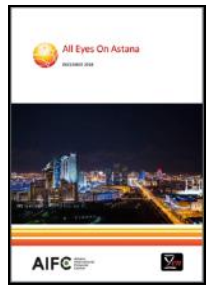
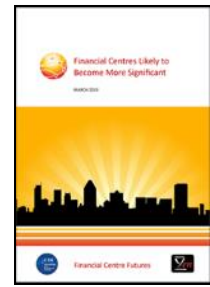
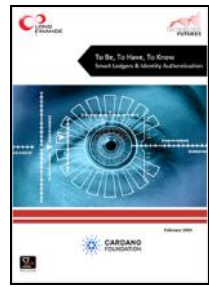
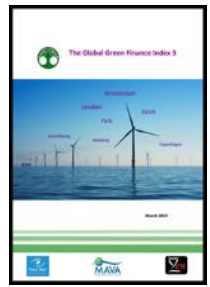
This is the question underlying Long Finance’s goal to improve society’s understanding and use of finance over the long-term. In contrast to the short-termism that defines today’s economic view, the Long Finance time-frame is roughly 100 years.





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Recent Research

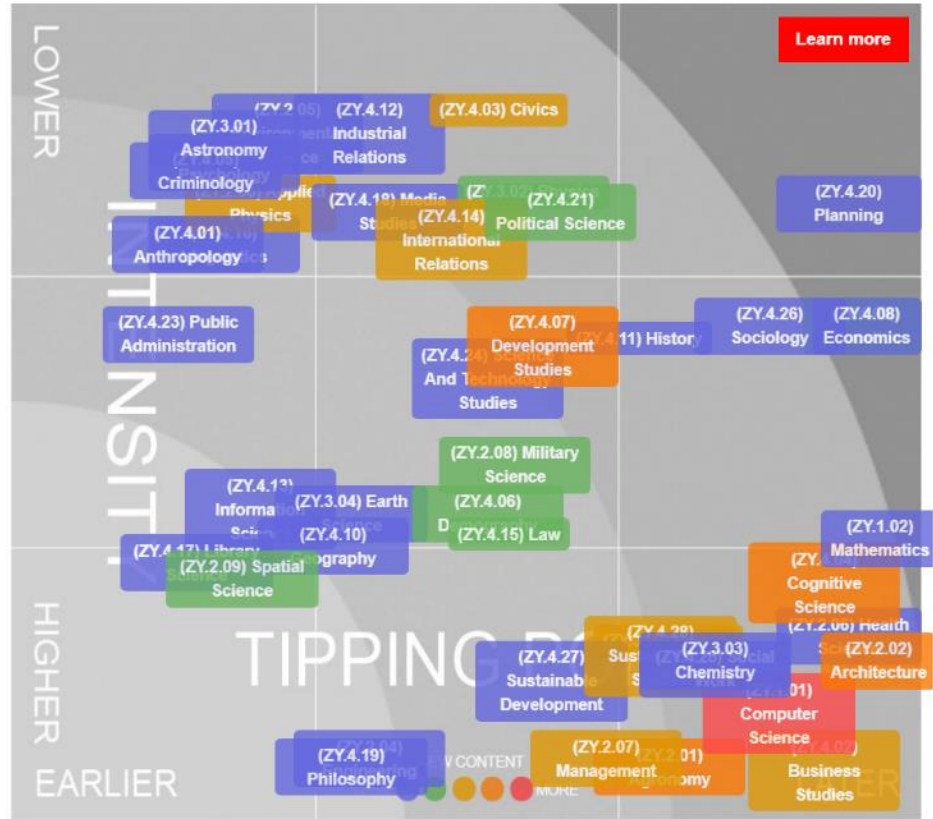




More Perspectives

(ZY.2.09) Spatial Science

- [New] **Remote sensing-based measurement capabilities** will **technology**.
- The global radiation hardened electronics market is expected to witness growth due to factors such as the increase of **space missions** and development in **navigation, science, space exploration, and remote sensing**.
- As Jaro focuses on outer space missions to the Moon, Mars, Venus and other planets, it will increasingly depend on the private sector to build **satellites**.
- The quality of the Philippines's agriculture data will improve with the **Remote Sensing for Earth Observation** will become a scientific application.
- India and France will cooperate in **remote sensing** of earth using **SAR**.
- Iran will launch Soha, a **remote sensing satellite**, into orbit within 2025.
- India's PSLV will launch its Cartosat 2 ER **high-resolution Earth Observation Satellite** Technology Ltd. of the **United Kingdom**.
- Utilization of resources found on the Moon and near-Earth asteroids.
- A **new generation** of remote sensing information with higher spatial resolution.
- The increasing use of CubeSats for **earth observation and remote sensing**.
- Based on application, the **SATCOM equipment market** for space communication will witness growth.
- **Remote sensing** could greatly contribute to measuring progress to obtain information in various wavelengths, which facilitates the monitoring of environmental changes.
- Continuous advancements in electronic satellite equipment, for instance, will drive the **market** during the forecast period, 2018-2023.
- In the year ahead, the foodservice landscape will evolve, driven by increasing demand for **convenience**.

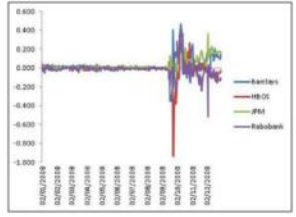
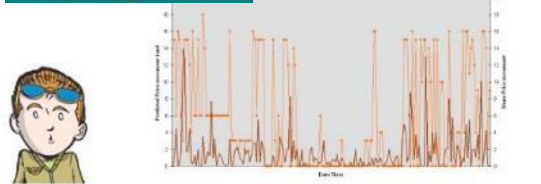
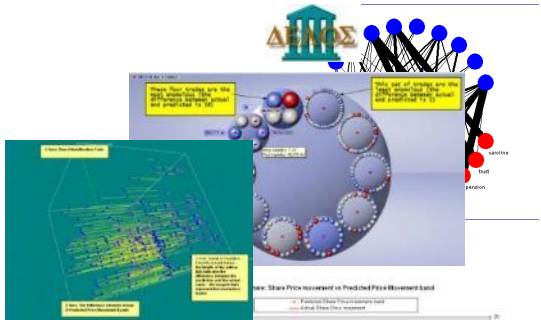




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Z/Yen Fintech Research

- ◆ Distributed Futures (2015-present)
- ◆ Mutual distributed ledgers (1995-present)
- ◆ LIBOR and FX surveillance (2007-present)
- ◆ PropheZy and VizZy – automation & visualisation of compliance monitoring (2002-present)
- ◆ Prediction markets and bubbles (1998-present) – www.extzy.com
- ◆ Market intelligence – Ministry of Defence, e.g. Vision 2020 (1994-present)
- ◆ Avatars for Big Data (2010-2012)
- ◆ Financial Laboratory Club visualising risk (1997-1998)



Extzy website interface showing various data visualizations and charts. The main header says 'Extzy Making a Market Out of The Web'. Below are sections for 'Welcome to Extzy', 'Case File: United Kingdom', and 'Top Chart'. The 'Case File: United Kingdom' section shows a line chart with data points for '28-Feb-12.0', '13-Apr-12.0', '10-Jul-12.44', 'London Olympics July 27-Aug 12', '19-Apr-12.31', '28-Jun-12.47', and '28-Jun-12.0'. The 'Top Chart' section shows a line chart with data points for 'The Index today started at 10000.00 and finished at 10000.00'. The 'Case File: United Kingdom' section also includes a table with columns for 'Price', 'Values', 'Google Trend', and 'PE Ratio'.



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Simultaneity

United States Patent [19]

[11] 4,074,066

Ehrsam et al.

[45] Feb. 14, 1978

[54] MESSAGE VERIFICATION AND TRANSMISSION ERROR DETECTION BY BLOCK CHAINING

Primary Examiner—Samuel W. Engle
Assistant Examiner—S. A. Cangialosi
Attorney, Agent, or Firm—Edwin Lester

[75] Inventors: William Friedrich Ehrsam, Hurley; Carl H. W. Meyer, Kingston; John Lynn Smith; Walter Leonard Tuchman, both of Woodstock, all of N.Y.

[57] ABSTRACT

A message transmission system for the secure transmission of multi-block data messages from a sending station to a receiving station.

[73] Assignee: International Business Machines Corporation, Armonk, N.Y.

The sending station contains cryptographic apparatus operative in successive cycles of operation during each of which an input block of clear data bits is ciphered under control of an input set of cipher key bits to generate an output block of ciphered data bits for transmission to the receiving station. Included in the cryptographic apparatus of the sending station is means providing one of the inputs for each succeeding ciphering cycle of operation as a function of each preceding ciphering cycle of operation. As a result, each succeeding output block of ciphered data bits is effectively chained to all preceding cycles of operation of the cryptographic apparatus of the sending station and is a function of the corresponding input block of clear data bits, all preceding input blocks of clear data bits and the initial input set of cipher key bits.

[21] Appl. No.: 680,404

[22] Filed: Apr. 26, 1976

[51] Int. Cl.² H04L 9/02

[52] U.S. Cl. 178/22

[58] Field of Search 178/22; 35/4; 340/146.1 AL

[56] References Cited

U.S. PATENT DOCUMENTS

3,657,699 4/1972 Rocher et al. 178/22
3,725,579 4/1973 Sturzinger 178/22

"Included in the cryptographic apparatus of the sending station is means providing one of the inputs for each succeeding ciphering cycle of operation as a function of each preceding ciphering cycle of operation. As a result, each succeeding output block of ciphered data bits is effectively chained to all preceding cycles of operation..."



A Beautiful Note

So the address A in the receiver ⁽³⁾ gets: (1) the out-put of A in the transmitter, and (2) the previous input from $P_{(trans.)}$ to $A_{(trans.)}$. Now since binary addition is the same as binary subtraction (i.e. $+ & - \pmod{2}$ are the same) the output of $A_{(receiver)}$ will be the previous input to $A_{(trans.)}$ from the input to the transmitter, i.e., it will be the clear or unciphered message.

The permuto, P , and "decider", D ,

John Nash, 1955 - Suggestively (but not definitively) inviting the reader to compare with a bitwise operation diagram for a modern hash function.



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Smart Ledgers



About -

Stats -

Case Studies -

Products -

The Mutual

Last Geo Timestamps (UTC)
2019-07-10 12:09:23.499213

Total Geo Timestamps
10697
in last 24 Hours

Total Cities
306
in last 24 Hours

Total Countries
47
in last 24 Hours

Geo Timestamp Rate
0.1238
per second

Timestamps Location

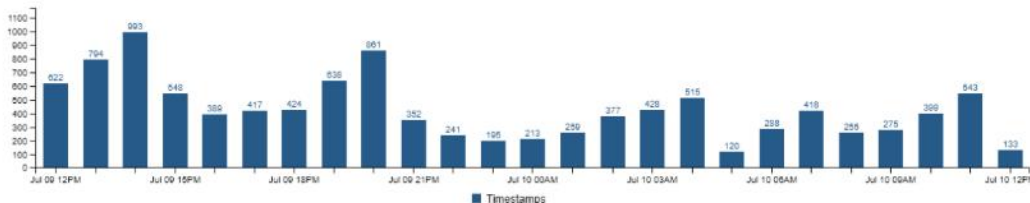
Last Stamp Country
Netherlands

Last Stamp City
Leiden

Top Countries	
United Kingdom	28.64%
United States	22.46%
Netherlands	11.04%
Australia	7.97%
New Zealand	7.80%



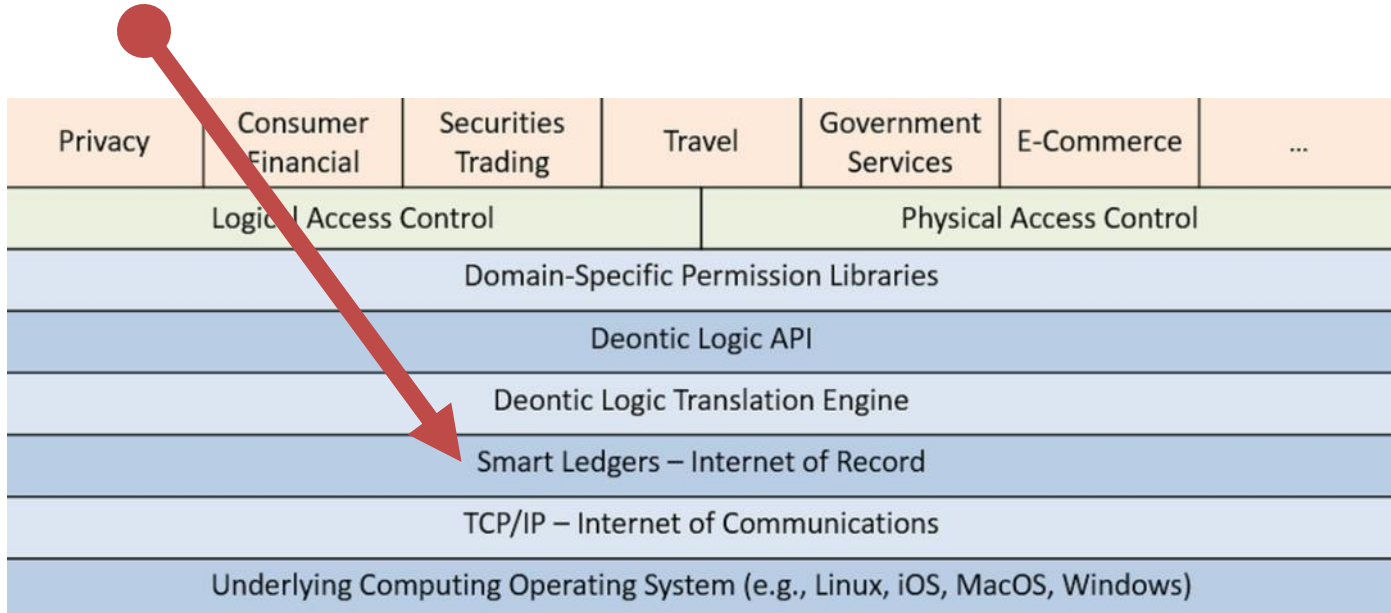
Activities in last 24 hours





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'Internet of Record'





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Real Work Needs Identity

InterChainZ - Identity Validator Use Case

Identity Validator Service User Logout

Add Data to Ledger

+ Add New Entity

+ Add Entity Data

Show 10 entries

Row Height	Row Hash	Created	Entry Type	Category	Company	File Name
1	0000428915...	06-08-2015 09:37:41	Identity		EW715	EW715 l...
2	00000150d3e...	06-08-2015 09:38:05	Company Data		EW715	EW715G...eport.pdf
3	0000ebbbb48...	06-08-2015 09:38:16	Company Data		EW715	EW715ID...df
4	000090d2124...	06-08-2015 09:38:29	Company Data		EW715	EW715S...ySheet p...
5	000092bb08b...	06-08-2015 09:38:41	Company Data		EW715	EW715U...pdf
6	0000c10a4ca...	06-08-2015 09:38:41	Company Data		EW715	EW715Whole File.pdf

EW715WorldCheckreport.pdf

< Return to ledger Download File Verify File Hash Verify Signature Download Public Key

Row height: 7

Row hash: 0000befadd83449914c49285053bde73ce1ad31528982359f2451c85c0a86573f

Previous Row: 0000c10a4ca313504896827c0c81fa29fb12777840f1910a1331d15f99b85c9

Created: 06-08-2015 09:39:03

Entry Type: Company Data

Category:

File Hash: 8d0c994bec277c45432e7e077996dce0536588679a174c8ef136987316f95e2

File Type: application/pdf

File Size: 203Kb

File Name: EW715WorldCheckreport.pdf

Geo Location: (51.5151230, -0.0910000)

Public Key: 30819FD000D6092a6e5f7b3ac45d15fa880c847733344c92270b6

Signature:

Nonce:

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Properties (3) KRING History (5)

Notes (0) +

Sprites (0) +

Files (2) =

Copy to subring

Bens Keyring

Key Ring ID: 3cc2819-5306-4245-8b71-b592a2d4c98

Notes: 4

Files: 20

Sub-rings: 2

You are strictly prohibited from disclosing or copying the content of this service to third parties excluding regulatory agencies.

Please note

- General Legal Notice
- Category
- Reported Link

LONG FINANCE

TO BE, TO HAVE, TO KNOW
Smart Ledgers & Identity Authentication

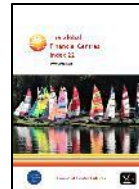
February 2015

CARDANO FOUNDATION



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Financial Centre Research





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A Global Phenomenon



دِيملا علا دِيلاملا زكارملا رشوم

Índice de Centros Financieros Globales

Indice dei Centri Financieri Globali

Indice Globale Centri Finanziari

Indice des Centres Financiers Globaux

世界的な金融

センターインデックス

Σφαιρικός οικονομικός κεντρικός δείκτης

Глобальный индекс финансовых центров

Wskaźnik Globalnych Finansowych Centrów

Индекс на Световните Финансови Центрове

Goelydh Nírnaeth Arnoediad Blebithar

Globaler Finanzzentrenindex

全球金融中心指数

全(quán)球(qiú)金(jīn)融(róng)中(zhōng)心(xīn)指(zhǐ)数(shù)





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Factor Assessment Indices

- ◆ Combine perception data with hard data using advanced statistical modelling
- ◆ Individual assessments of financial centres are associated with the hard data for that centre
- ◆ We can then predict how the individual would rate other financial centres based on their profile

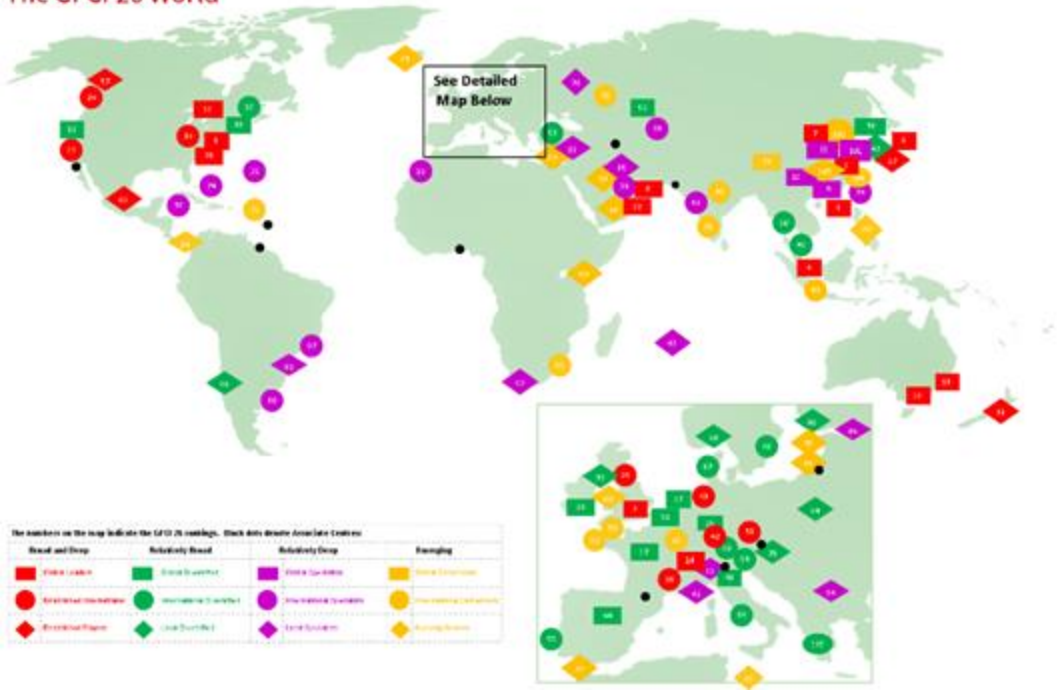


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The GFCI World

104 Centres In GFCI 26 Plus Ten Associate Centres

The GFCI 26 World

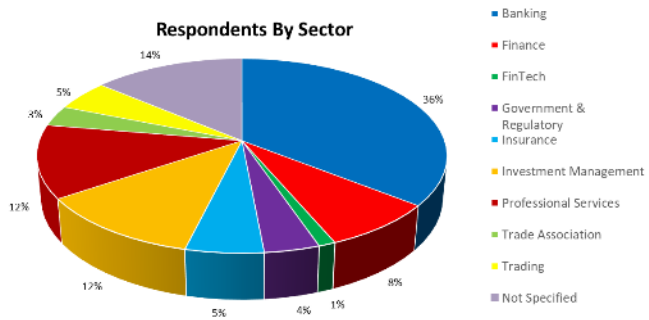




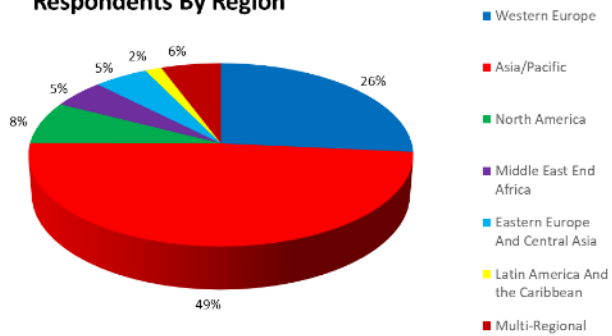
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GFCI 26 Respondents

Respondents By Sector



Respondents By Region





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Top 25 Centres

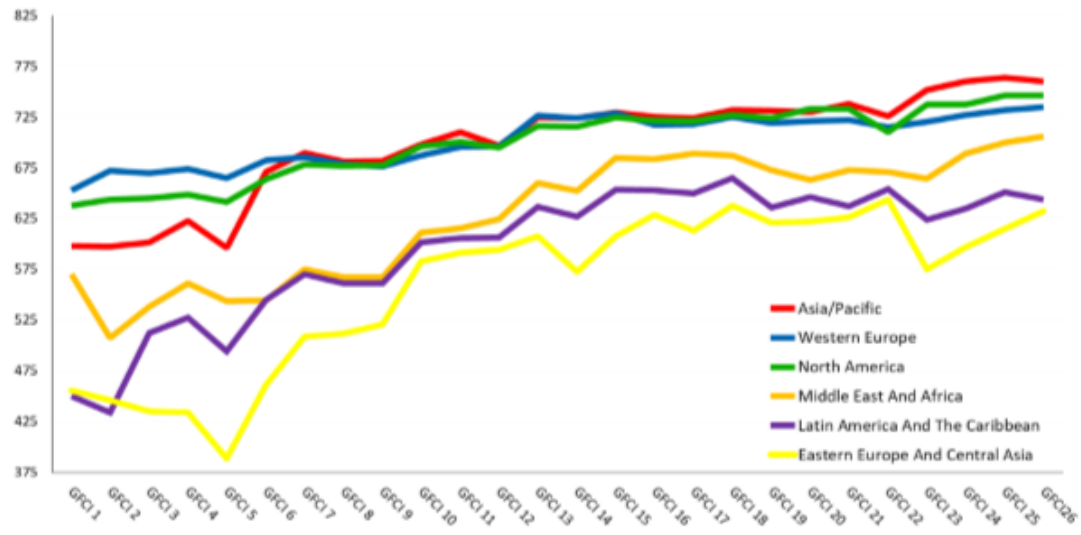
Centre	GFCI 26		GFCI 25		Change in	
	Rank	Rating	Rank	Rating	Rank	Rating
New York	1	790	1	794	0	▼4
London	2	773	2	787	0	▼14
Hong Kong	3	771	3	783	0	▼12
Singapore	4	762	4	772	0	▼10
Shanghai	5	761	5	770	0	▼9
Tokyo	6	757	6	756	0	▲1
Beijing	7	748	9	738	▲2	▲10
Dubai	8	740	12	733	▲4	▲7
Shenzhen	9	739	14	730	▲5	▲9
Sydney	10	738	11	736	▲1	▲2
Toronto	11	737	7	755	▼4	▼18
San Francisco	12	736	16	727	▲4	▲9
Los Angeles	13	735	17	724	▲4	▲11
Zurich	14	734	8	739	▼6	▼5
Frankfurt	15	733	10	737	▼5	▼4
Chicago	16	732	20	717	▲4	▲15
Paris	17	728	27	699	▲10	▲29
Boston	18	727	13	732	▼5	▼5
Melbourne	19	720	15	729	▼4	▼9
Montreal	20	716	18	722	▼2	▼6
Casablanca	21	714	22	712	▲1	▲2
Tel Aviv	22	713	23	710	▲1	▲3
Guangzhou	23	711	24	708	▲1	▲3
Vancouver	24	710	19	721	▼5	▼11
Luxembourg	25	708	30	691	▲5	▲17



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Regional Comparison

The mean of the top 5 centres in each region is plotted below. North America and Western Europe trailing Asia/Pacific.

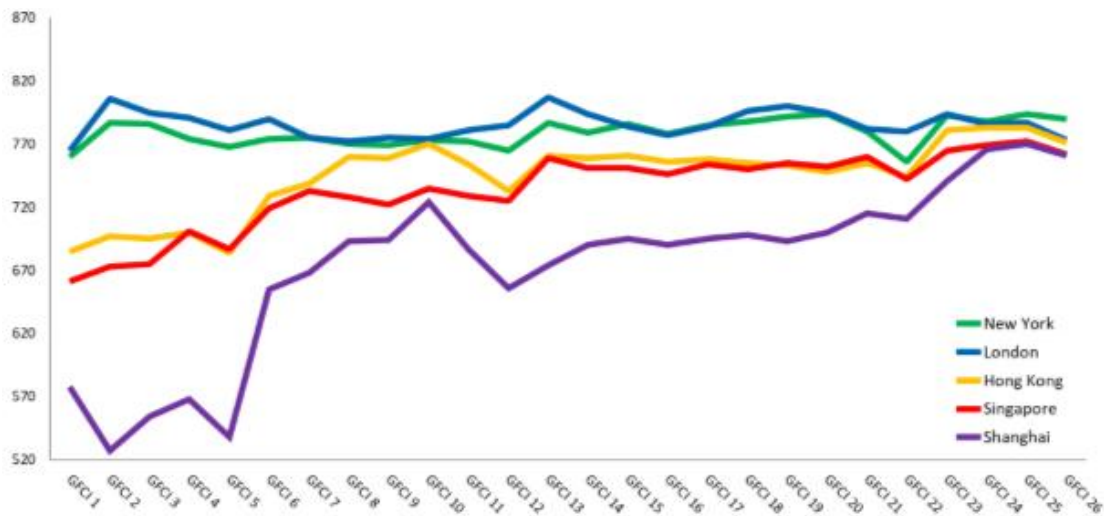




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Top Five Centres - Ratings

The ratings of the top 5 centres overall is plotted below. Sharp downturn for London, though leading centres all fell in the ratings.

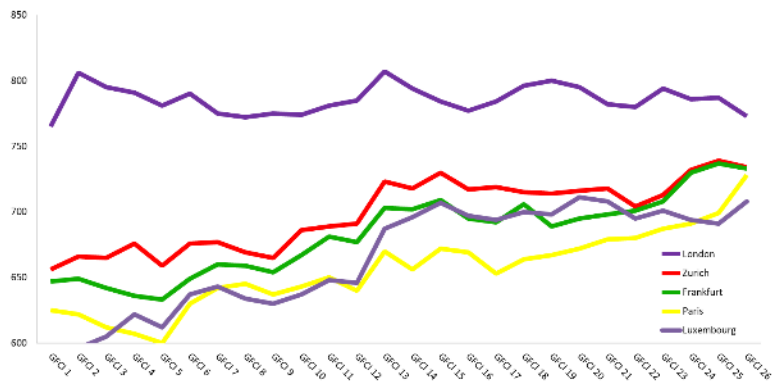




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Western Europe

Centre	GFCI 26		GFCI 25		Change in	
	Rank	Rating	Rank	Rating	Rank	Rating
London	2	773	2	787	0	▼14
Zurich	14	734	8	739	▼6	▼5
Frankfurt	15	733	10	737	▼5	▼4
Paris	17	728	27	699	▲10	▲29
Geneva	26	706	28	698	▲2	▲8
Luxembourg	25	708	30	691	▲5	▲17
Monaco	41	669	33	686	▼8	▼17
Edinburgh	29	701	35	674	▲6	▲27
Madrid	44	661	37	667	▼7	▼6
Dublin	38	674	38	658	0	▲16

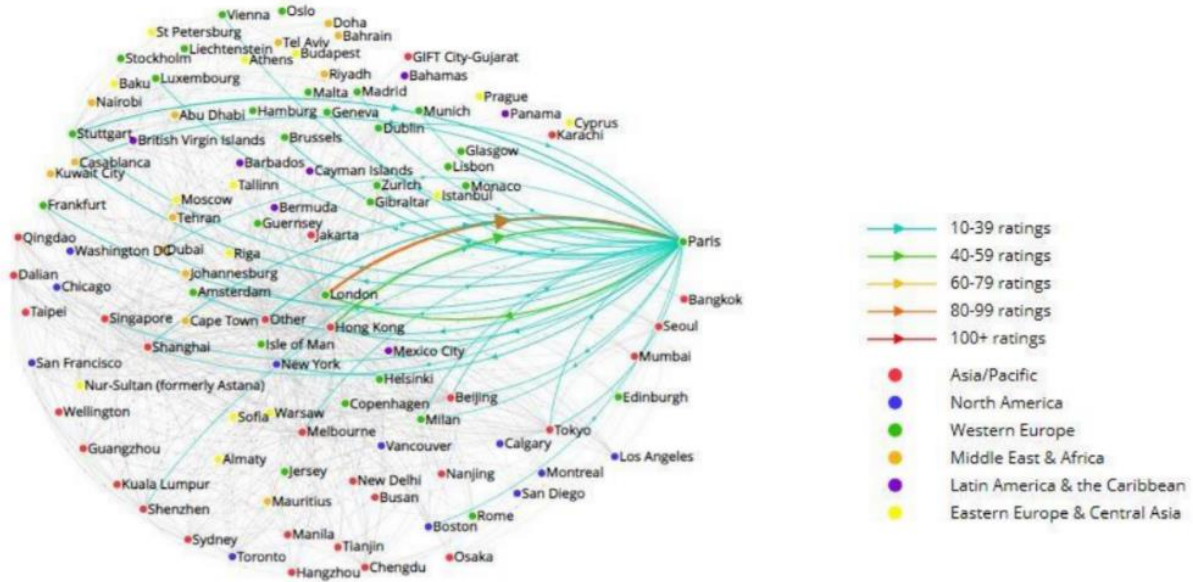




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People, Who Need People...

Chart 6 | GFCI 26 Connectivity — Paris





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FinTech Index

Centre	GFCI 26	
	FinTech Rank	FinTech Rating
Beijing	1	776
Shanghai	2	762
New York	3	759
Guangzhou	4	753
Shenzhen	5	752
London	6	741
Hong Kong	7	740
Singapore	8	738
San Francisco	9	730
Chicago	10	729
Sydney	11	728
Tokyo	12	726
Los Angeles	13	725
Washington DC	14	723
Stuttgart	15	716
Melbourne	16	713
Boston	17	711
Chengdu	18	707
Toronto	19	700
Frankfurt	20	698



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Reputational 'Advantage'

Centre - Top 15	Weighted Average Assessment	GFCI 26 Rating	GFCI 26 Reputational Advantage
Singapore	864	762	102
Qingdao	788	688	100
Stuttgart	748	663	85
Sydney	819	738	81
London	852	773	79
New York	867	790	77
Montreal	787	716	71
Hangzhou	530	459	71
Hong Kong	840	771	69
Shanghai	823	761	62
Tokyo	817	757	60
Zurich	793	734	59
Shenzhen	793	739	54
San Francisco	788	736	52
Melbourne	772	720	52



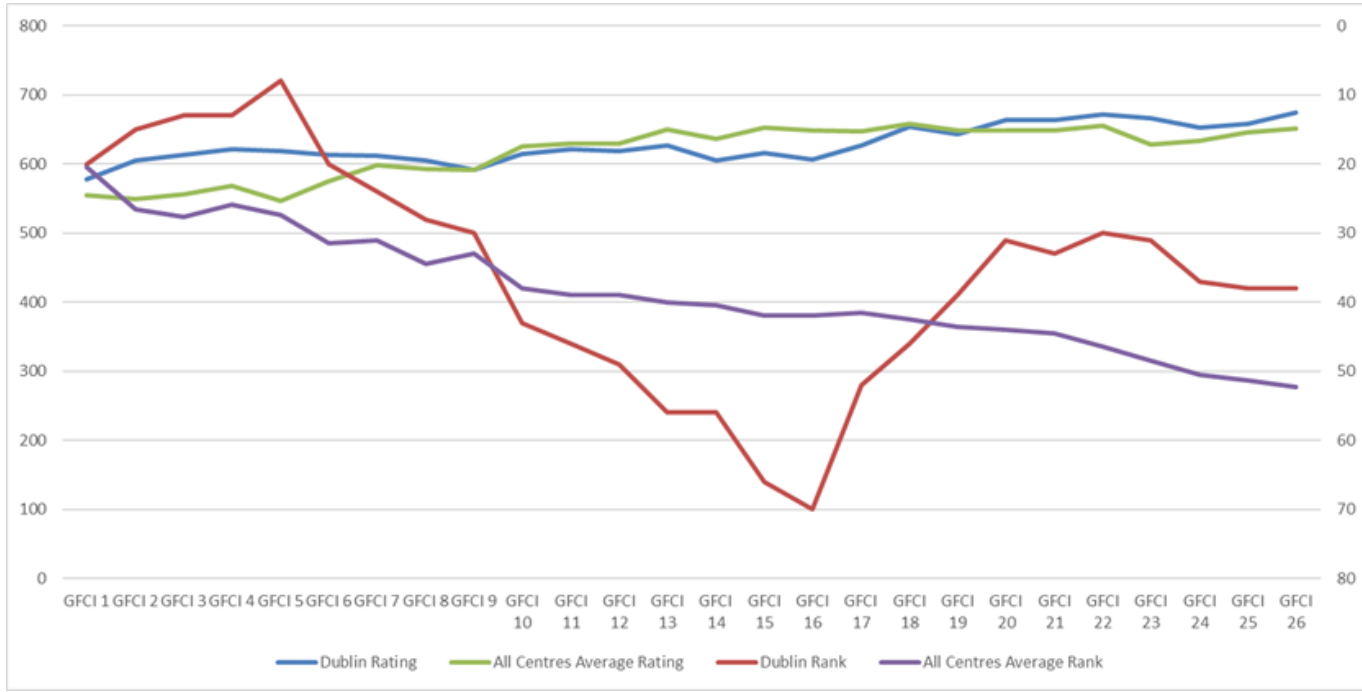
Reputational 'Dis-Advantage'

Centre - Bottom 15	Weighted Average Assessment	GFCI 26 Rating	GFCI 26 Reputational Advantage
Istanbul	598	641	-43
Mumbai	566	609	-43
Glasgow	570	613	-43
Tallinn	558	605	-47
Mauritius	621	671	-50
Bahamas	542	607	-65
Cyprus	526	595	-69
Busan	592	662	-70
Riga	520	593	-73
Edinburgh	627	701	-74
Sofia	499	594	-95
Nanjing	410	507	-97
Dalian	432	529	-97
Tianjin	420	528	-108
Nairobi	468	590	-122



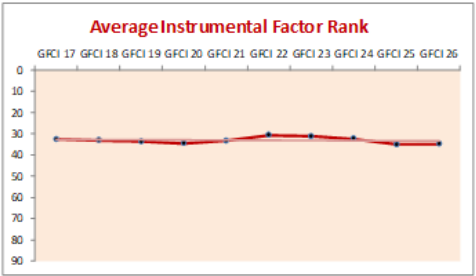
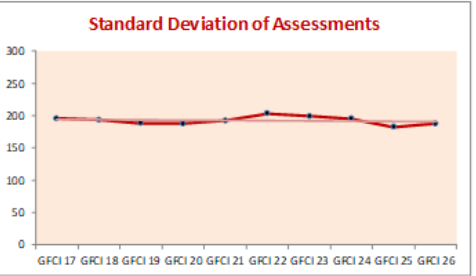
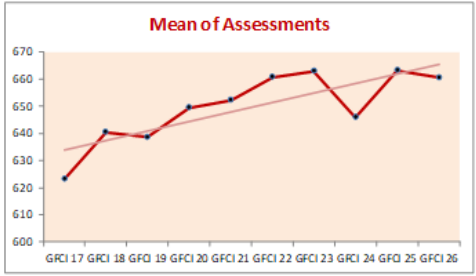
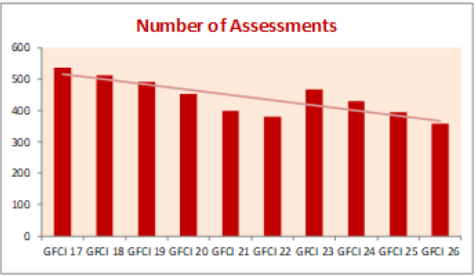
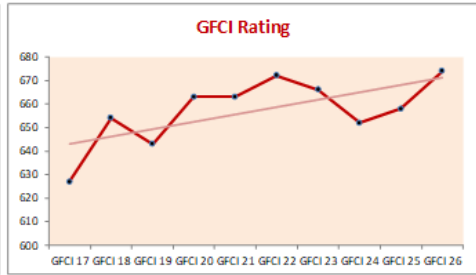
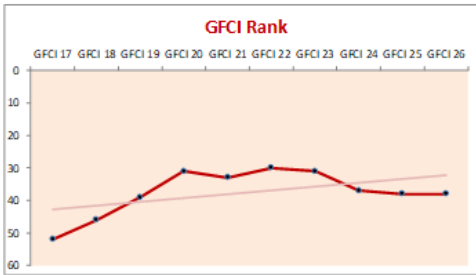
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Dublin Bounce



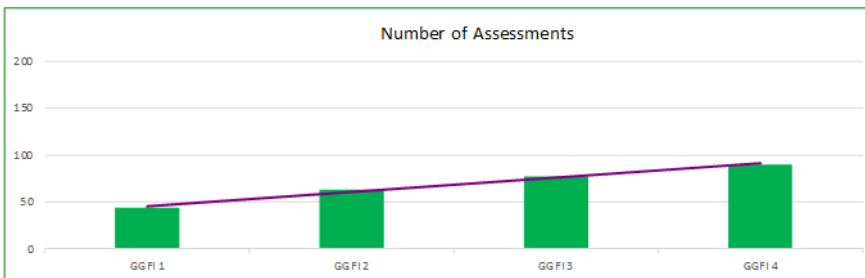
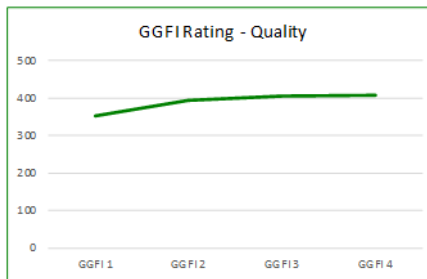
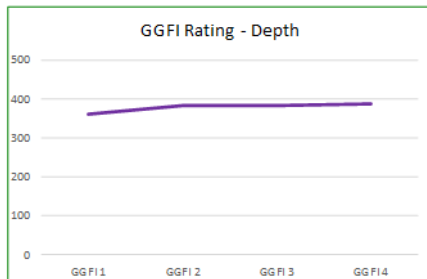
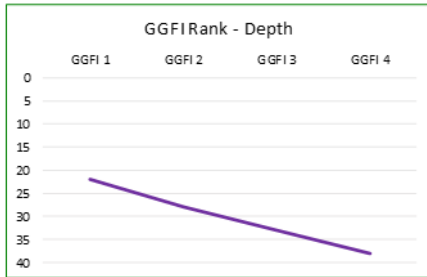


My Dirty Old Town





My Clean Old Town





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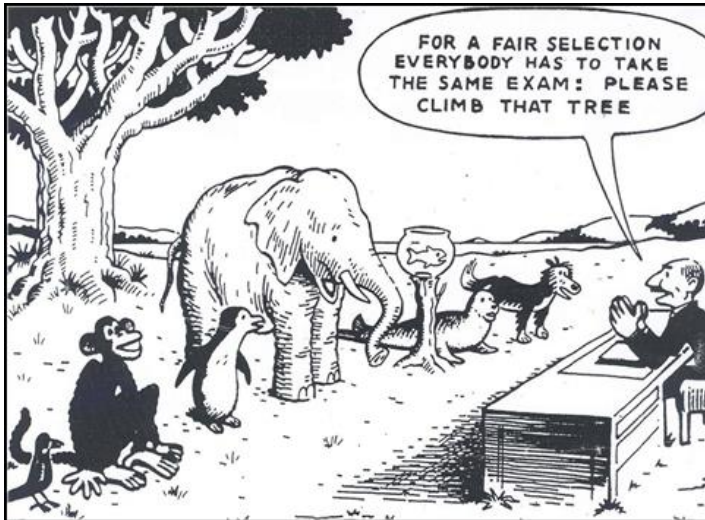
Financial Centre Strength

- You can't be an **international** centre without **international** people
- **Successful** people want to live in **successful** places
- People want to live in **cosmopolitan** places and gravitate to **clusters**
- **Reputation** is vital:
"It takes 20 years to build a reputation and five minutes to ruin it."
- **Trust** is "the glue that holds all relationships together"



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Strategy For Success

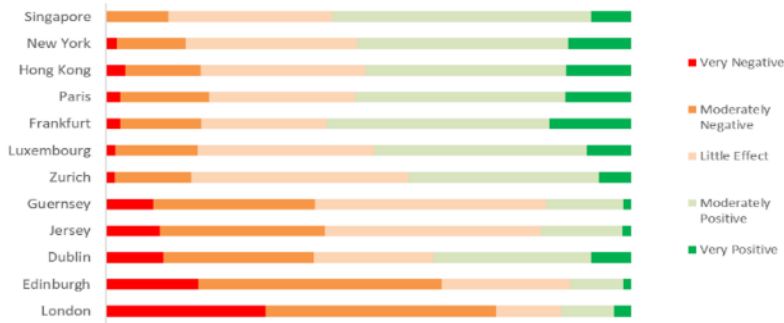


“Treat All Comers Fairly”

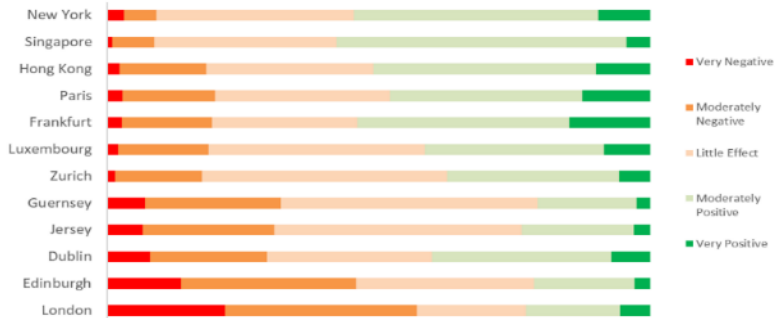


Brexit Impact

Short-term Impact



Long-term Impact





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Adversity

- ◆ Chinese model
- ◆ Regulation – US, EU, China
- ◆ GDPR – US, EU, China/India
- ◆ Standards loci – WTO or Alphabet-soup of Finance
- ◆ IT & cyber
- ◆ Encryption
- ◆ Role of credit in a modern economy – future of fractional reserve banking





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Financial Centre Initiatives

- ◆ Astana – arbitration
- ◆ Busan - building on specialist strengths, e.g. maritime and ‘single sign on’
- ◆ Caribbean - tax, citizenship
- ◆ Casablanca - old airfield in the city centre
- ◆ Dubai - a separate delineated zone, a different jurisdiction
- ◆ Dublin - International Financial Centre, IFS2020, diaspora, Sustainable Nation, arbitration, leasing
- ◆ Jersey - active reputation management
- ◆ Luxembourg – FLAG, green finance
- ◆ Berlin - FinTech
- ◆ Malta - leading on EU regulations, citizenship
- ◆ Milan - finance zone, repeal of FTT, common law, tax holiday for people
- ◆ Seoul - a programme of internationalisation
- ◆ Guangzhou - Maritime Silk road
- ◆ Chengdu - Overland silk road, relaxing student visa requirements, financial safety/stability industrial park
- ◆ Toronto, Montreal, Monaco - university and institute leadership, several –financial training institutes
- ◆ Zurich/Geneva - women are a great strength in the labour force
- ◆ Offshore centres - cross-recognition, e.g. legal, can bring business; moving from taxation simplicity to deal facilitation, tourism-led –yachts, safaris, air travel



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Cyber-Catastrophe ILS



Cyber Catastrophe Insurance Linked Securities - Pilot

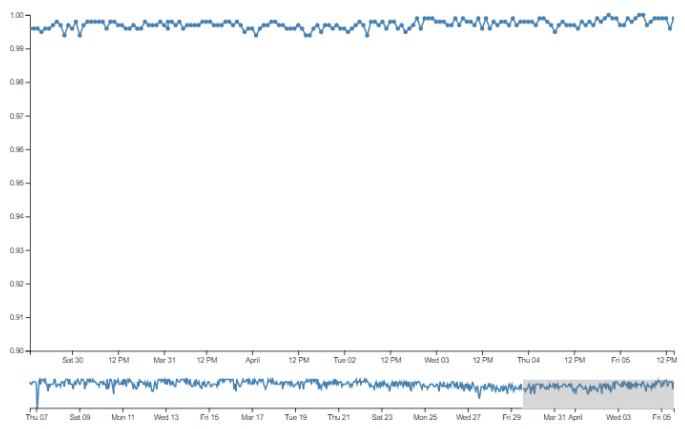
FTSE 1000
NASDAQ
NIKKEI 225
S&P 400
S&P 500

Live Index
Heatmap

FTSE 1000 Live Index

Current Index: 0.998986

Index Over Time



Stats by Domain

Show entries

Search:

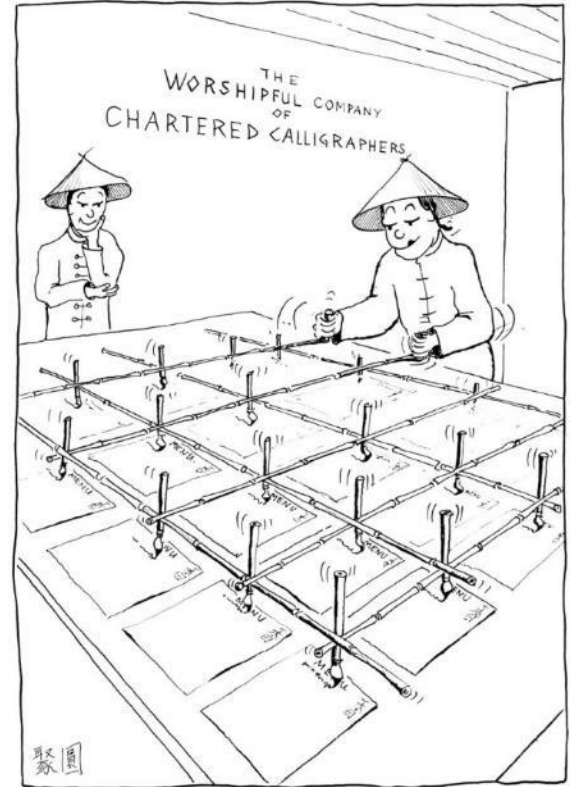
Domain	Total Polls	Successes	Failures	Last Polled At
http://88energy.com	3412	3411	1	2019-04-05T14:47:25.333508
http://accesso.com	3414	3414	0	2019-04-05T14:00:59.071350
http://admiralgroup.co.uk	3417	3417	0	2019-04-05T14:07:29.390076
http://alliancepharmaceuticals.com	3415	3413	2	2019-04-05T14:20:52.562682
http://alohafmc.com	3418	3408	10	2019-04-05T14:08:36.671534



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The Opposite Of Danger Is Taking Risks

- GDPR alignment – gold standard
- high-speed broadband and wifi
- open source content
- intellectual property – patent indemnities
- IDAX (identity, documentation, agreement exchange) infrastructure
- cyber-catastrophe ILS
- employee share ownership
- policy performance bonds



"Get a big picture grip on the details."

Chao Kli Ning



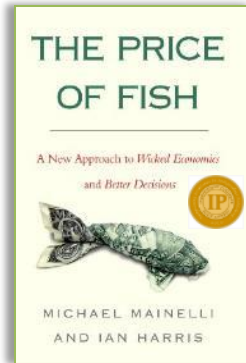
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When Would We Know Our Commerce Is Working?



“Get a big picture grip on the details.”

Chao Kli Ning



Thank you!

