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### The Long Finance Programme

Long Finance is a not-for-profit programme, supported by Z/Yen which seeks to expand frontiers, stimulate discussion, educate and inform, in order to change systems and provide services which foster a long-term approach to finance. It delivers this goal by producing research, hosting events, creating communities of interest and stimulating discussion on issues at the leading edge of finance.

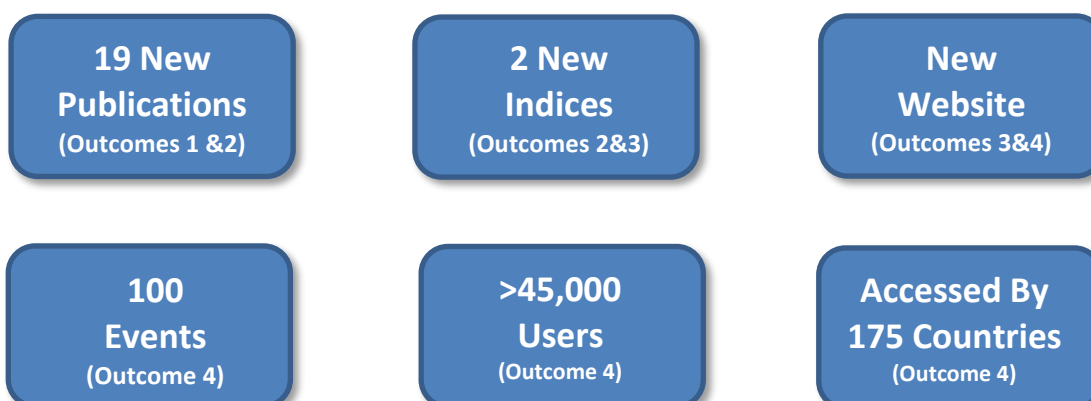
Not-for-profit organisations and programmes face increased demands to demonstrate the value from their work. When allocating scarce resources, or when competing for external support, they need to be able to provide evidence that their work really does make a difference. In particular, they must set achievable objectives in their strategies, prioritise possible areas of activity and/or projects, find “good enough” solutions to maximise the impact of their limited resources and record and measure sufficiently to prove that they are meeting the objectives they have set<sup>1</sup>.

Z/Yen has worked extensively with our not-for-profit clients to implement practical approaches that allow them to measure the impact of their work<sup>1</sup>, and through this, we have learned the value of providing evidence of worth for the Long Finance programme across each of the four following outcomes:

1. expanding frontiers to mitigate needs;
2. changing systems to remove or release needs;
3. service delivery to meet needs;
4. communitarian to address needs for or through communal activity.

This is why, for the last seven years, we have published an annual **evidence of worth report** for our Long Finance programme. This document reviews the achievements of the Long Finance Programme over 2018 in order to present ‘Evidence of Worth’.

### 2018 In Summary




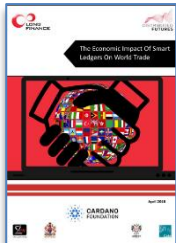

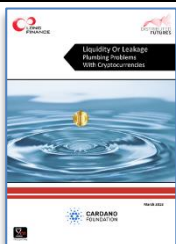






<sup>1</sup> Harris I, Mainelli M and O'Callaghan M 2001 Evidence Of Worth In Not-For-Profit Sector Organisations Journal of Strategic Change, Volume 11, Number 8, John Wiley & Sons, pages 399-410.

<https://www.longfinance.net/publications/professional-articles/evidence-of-worth-in-not-for-profit-sector-organisations/>

**Programme - Distributed Futures**

The distributed futures programme stimulates discussion, delivers research and holds events which focus on the impacts and uses of smart ledgers on society, technology, economics and politics, with a view to expanding frontiers, changing systems, delivering services, and building communities.

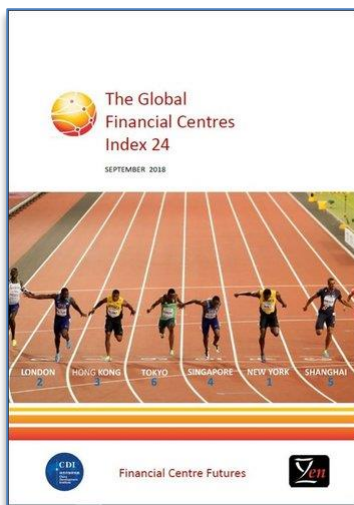
Working in partnership with key stakeholders, such as the Cardano Foundation, over the course of 2018, 10 research reports were published bearing the Distributed Futures mark, and smart ledgers were the theme of more than 60 of our seminars, webinars, conferences, and lectures.

	<p><u><a href="#">Information Rules: Smart Ledger Architectures &amp; Distributed Permissions</a></u></p>		<p><u><a href="#">The Economic Impact Of Smart Ledgers On World Trade</a></u></p>
	<p><u><a href="#">Smart Jurisdictions Index</a></u></p>		<p><u><a href="#">Liquidity Or Leakage - Plumbing Problems In Cryptocurrencies</a></u></p>
	<p><u><a href="#">Cyber-Catastrophe Insurance-Linked Securities On Smart Ledgers</a></u></p>		<p><u><a href="#">Get Smart About Scandals: Past Lessons For Future Finance</a></u></p>
	<p><u><a href="#">Smart Ledgers &amp; Collective Defined Contribution Pensions</a></u></p>		<p><u><a href="#">The Quantum Countdown: Quantum Computing And The Future Of Smart Ledger Encryption</a></u></p>
	<p><u><a href="#">Timestamping Smart Ledgers - Comparable, Universal, Traceable, Immune</a></u></p>		<p><u><a href="#">Smart Ledger Geostamping - Steps Towards Interoperability &amp; Standards</a></u></p>

### Programme - Financial Centre Futures

This programme initiates discussion on the changing landscape of global finance, seeking to explore how finance might work in the future. There are currently 3 active projects in this programme:

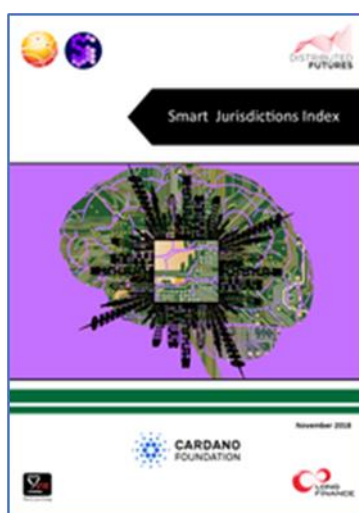
- ◆ [The Global Financial Centres Index](#)
- ◆ [The Smart Jurisdictions Index](#)
- ◆ [The China Financial Centre Index](#)



[The Global Financial Centres Index](#) reaches a global audience and is the subject of a great deal of coverage in the press, including the Financial Times, CNBC, Irish Times, Wall Street Journal, and the Washington Post. The widespread media attention granted to the GFCI in 2018, was intensified by the continuing fallout from Brexit, with particular attention paid to London’s position in the index.

Sponsored by the China Development Institute, 110 financial centres were researched for GFCI 24 of which 100 are now in the main index. The GFCI is compiled using 137 instrumental factors. These quantitative measures are provided by third parties including the World Bank, the Economist Intelligence Unit, the OECD and the United Nations.

The instrumental factors are combined with financial centre assessments provided by respondents to the GFCI online-questionnaire ([www.globalfinancialcentres.net](http://www.globalfinancialcentres.net)). GFCI 24 used 31,326 assessments from 2,453 respondents.



[The Smart Jurisdictions Index \(SJI\)](#) is an initiative from Z/Yen, sponsored by the Cardano Foundation as part of the Long Finance Programme. Smart Ledger technology has been in use for many years, although it has come to prominence in recent times due to the rise of cryptocurrencies. Increasingly, governments are addressing the issues that arise from this technology, whether from a legal or regulatory perspective or with regards to the delivery of services to citizens. The SJI, currently in pilot form, is a novel approach to tracking the relative preparedness of jurisdictions, at national and state levels, in welcoming Smart Ledger technology in business, finance and government operations. It is intended to provide a starting point for potential investors to examine where they might wish to explore business opportunities; and for

governments and regulators to explore their competitiveness, and the stance which they wish to take in welcoming or balancing the opportunities that this technology has to offer.



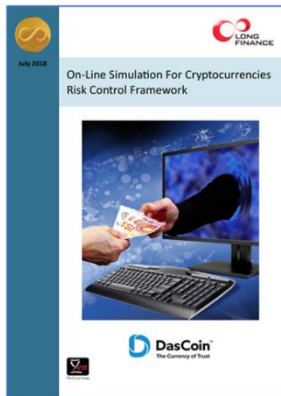
**China's Financial Centre Index 10** - CDI's China Financial Centres Index (CDI CFCI) is a multi-factor comprehensive evaluation system to measure the competitiveness of China's financial centers.

It aims to evaluate the advantages and disadvantages of the development of China's financial centers through a series of objective indicators, thus laying a foundation for proposing effective measures to enhance the competitiveness of those financial centers.

CDI CFCI 10, published in September 2018, evaluates the competitiveness of 31 financial centers in China, by adopting 91 objective indicators, based on four grades of competitiveness. These are evaluations of comprehensive competitiveness, financial industry performance, financial institution strength, and financial ecological environment.

**Programme - The Eternal Coin**

The Eternal Coin programme aims to initiate a global discussion on the nature of money and the concept of value. In 2018, Long Finance research produced a report entitled “Control Frameworks For Cryptocurrencies: An Initial Evaluation”, an analysis of the control needs of cryptocurrencies from the perspective of both their creators and their regulators.



**Cryptocurrency development** has been an exciting area for several years, with many new ideas coming forward. However, to date, almost all the 1,500+ cryptocurrencies that have been launched have died away, even Bitcoin has serious technical limitations that have prevented it from being a competitive payment system in most situations. Cryptocurrencies have been seriously impacted by technical problems, disagreements, fraud, hacks, competition, regulation, lack of popularity, apathy, and sheer incompetence. This report looks at the control needs of cryptocurrencies from the perspective of their creators and regulators (such as they are). The objective is to make recommendations on controls for

cryptocurrencies that are not too prescriptive, but more helpful than generic control frameworks, such as COSO’s frameworks for internal control and enterprise risk management.

**Programme - Meta-Commerce**

Meta-Commerce aims to identify and structure the critical questions underlying the long-term viability of the financial system. Inspired by David Hilbert's **23 questions project** of 1900, the Meta-Commerce programme brings together financial experts across a range of disciplines, with a view to producing a framework of questions in order to prioritise future research and direct action.


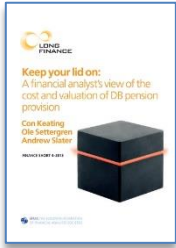
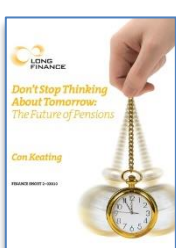
By helping to identify a set of core questions that link economics, finance and society, and that need solving in order to have a working financial system, Meta-Commerce maps the road to Long Finance and contributes to its overarching goals – to **expand frontiers, change systems, deliver services and build communities**.

2018 saw Meta-Commerce focused on integrating its long-running work on new pension structures with technology. A report of special importance was:



**Smart Ledgers & Collective Defined Contribution Pensions** The report focuses on collective defined contribution (CDC) pensions, a new integrated system of accumulation and decumulation, which brings with it some new technological challenges. Some aspects of a CDC scheme are rooted in practices arising in the DB world and some in DC, but there are also some which are entirely new, such as risk-sharing among members. There is a need for an integrated administration and management system. The use of smart ledger technology is a natural solution to many of the challenges a CDC structure poses for pensions governance and administration.

This makes the sixth in a series of reports spanning nine years. The previous five being:

Cover	Title	Author(s)	Release Date
	<a href="#"><u>A Primer On The Risk Structure And Contractual Accrual Rate Of DB Pensions</u></a>	Iain Clacher, Con Keating, and Anna Tilba	2017
	<a href="#"><u>Security And Sustainability In Defined Benefit Pension Schemes: A Response To The Department Of Work And Pensions Consultation</u></a>	Iain Clacher, Con Keating, and Andrew Slater	2017
	<a href="#"><u>Keep Your Lid On: A Financial Analyst's View of the Cost and Valuation of DB Pension Provision</u></a>	Con Keating, Ole Settergren and Andrew Slater	2013
	<a href="#"><u>Don't Stop Believing: The State and Future of UK Occupational Pensions</u></a>	Con Keating	2011
	<a href="#"><u>Don't Stop Thinking About Tomorrow: The Future of Pensions</u></a>	Con Keating	2010



**Programme - Sustainable Futures**

Sustainable Futures focuses on ways in which the financial system supports the transition to a sustainable economic model, addressing green finance, and environmental, social and governance systems. There are currently two active projects in this programme:

- ◆ [The Global Green Finance Index](#)
- ◆ [The London Accord](#)



[The Global Green Finance Index](#) seeks to measure perceptions of the quality and depth of green financial products across the world’s financial centres and to chart the progress of financial centres towards a financial system that delivers sustainable development, and values people and the planet as much as profit.

The GGFI is sponsored by the [MAVA Foundation](#) and produced by [Z/Yen](#) and [Finance Watch](#). The index is updated and published twice a year. The first edition of the index, which was launched in Brussels ranked 47 centres based on 1,790 ratings from 337 individuals, combined with 113 instrumental factors. The second edition of the index, launched in London was published in September rated 56 centres, based on 3,100 ratings from 535 individual respondents, combined with 125 instrumental factors.



[The London Accord](#) aims to encourage better policy creation by enhancing policy-makers’ and academics’ access to reports which highlight the role that the financial services industry can play in assisting society on the road to sustainable development.

Since its foundation in 2007, the Accord has grown to become the world’s largest open-access library of environmental, social, and governance analytics reports. To date, over 600 reports have been donated by a global community of businesses, academic institutes, governments, think-tanks, and NGOs. All reports on this site are available to download in full, for free in accordance with our terms of use.

In 2018, 18 new reports were added to the London Accord. Several new contributors joined the London Accord, including the Oxford Sustainable Finance Programme, the World Bank Group, and Aviva.

**The Farsight Awards** have been run by Z/Yen since 2006, and seek to reward the best individual piece of analysis done by an investment research institution which integrates traditional financial analysis with longer-term environmental, social & governance issues. Six of the reports submitted over 2018 were shortlisted for the Farsight Awards, which are due for judging in February 2019.

Entries to the awards are drawn from the previous year's submissions to the London Accord. The judging panel convenes between December and January each year to chose a winner and highly commended reports, based on the criteria of originality, readability & clarity, sophistication & depth, as well as financial usefulness.

**Table 1 Shortlisted Farsight Entries 2018**

Contributors	Title
Aviva	<a href="#"><u>Frontiers In Sustainable Agriculture: Putting Your Money Where Your Mouth Is</u></a>
Kepler Cheuvreux	<a href="#"><u>Blue Economy Screener - Thematic &amp; Impact Investment</u></a>
HSBC Global Research	<a href="#"><u>Fragile Planet - Scoring Climate Risks Around The World</u></a>
FAIRR	<a href="#"><u>Plant-Based Profits: Investment Risks &amp; Opportunities In Sustainable Food Systems</u></a>
BBVA	<a href="#"><u>Sustainable Development Goals As A Framework For Climate Investment</u></a>
Smith School of Enterprise and the Environment, Oxford University	<a href="#"><u>The Fate Of European Coal-Fired Power Stations Planned In The Mid-2000s: Insights For Policymakers, Companies, And Investors Considering New Coal</u></a>
Lloyd's	<a href="#"><u>Innovative Finance For Resilient Infrastructure</u></a>

### The Long Finance Community

Long Finance seeks to engage our community of financial services professionals, policy makers, academics and interested lay-people in debate, discussion and interaction.

In August 2018, the Long Finance website underwent a complete overhaul, with major changes to its format and content. Since August the new site has attracted over 15,000 new users who, in addition to reading online content, downloaded our reports over 5200 times.

**Table 2 The top 10 countries accessing the Long Finance Website**

Top 10 Countries		percentage of total
	United Kingdom	<b>19.49%</b>
	United States	<b>14.77%</b>
	Hong Kong	<b>4.54%</b>
	China	<b>4.36%</b>
	Germany	<b>4.22%</b>
	Japan	<b>3.70%</b>
	Russia	<b>3.19%</b>
	Canada	<b>3.12%</b>
	India	<b>2.48%</b>
	Switzerland	<b>2.44%</b>
	Other	<b>37.69%</b>

Long Finance runs three separate twitter feeds, to deliver news and connect to the more than 45,000 individuals who use Long Finance content and form our communities of interest. Table three illustrates their themes.

**Table 3 Long Finance Twitter Feeds**

Twitter Handle	Theme
<a href="#"><u>@LongFinance</u></a>	Social, technical, economic, and political news from around the world on making technology and finance work to social benefit
<a href="#"><u>@ZYenResearch</u></a>	Z/Yen research reports and events
<a href="#"><u>@ZYenLF</u></a>	Financial Centre Futures themed research and events

The Long Finance blog [the Pamphleteers](#) attracted significant attention over 2018. Table 4 shows a selection of popular articles submitted by our community members in 2017

**Table 4 The Pamphleteers 2018**

Title	Date	Authors	Hits
<a href="#"><u>Governance and Regulation For Collective Defined Contribution Schemes</u></a>	11 Dec	Anna Tilba & Con Keating	<b>63</b>
<a href="#"><u>Financial Services And Climate Change - More Than Hot Air?</u></a>	03 Dec	Simon Mills	<b>158</b>
<a href="#"><u>The Road to Serfdom: Biopiracy and the Ultimate Identity Theft</u></a>	26 Nov	Ian O. Angell	<b>172</b>
<a href="#"><u>Can Smart Ledgers Lead To Smarter Social Decisions?</u></a>	01 Nov	Michael Mainelli	<b>641</b>
<a href="#"><u>Where Does The Buck Stop Now?</u></a>	28 Oct	Chris Yapp	<b>315</b>
<a href="#"><u>Initial Coin Offerings (ICOs) - The Search For The Final Function</u></a>	12 Oct	Ian Dowson	<b>879</b>
<a href="#"><u>A Tale Of Two Middle Classes</u></a>	21 Aug	Patricia Lustig & Gill Ringland	<b>521</b>

Table 4 (Continued)

Title	Date	Authors	Hits
<a href="#"><u>Investment Costs In Europe: 'Game of Thrones'</u></a>	15 Aug	Sunil Chadda and JB Beckett	437
<a href="#"><u>If You Have Identified A Genuine Issue Of Banks Getting A Certain Windfall Out Of The Monetary System Every Year, Please Don't Allude To It As Being 'A Money Tree'.</u></a>	26 Jul	Rob Julian	831
<a href="#"><u>Bullshit Jobs &amp; The Eternal Coin: A Long Finance Pamphleteers Look At The Future Of Work</u></a>	10 May	Ian Harris	2205
<a href="#"><u>Why No International Standard Unit For Value?</u></a>	08 Mar	Shann Turnbull	1383
<a href="#"><u>The Power of Perception</u></a>	06 Mar	Greg Ford	1167
<a href="#"><u>Ethics In Business: Balancing Guardianship And Commerce</u></a>	06 Feb	Ian Angell	1170
<a href="#"><u>Be Careful What You Wish For!</u></a>	29 Jan	Chris Yapp	1062
<a href="#"><u>Trust And Markets – The SubPrime WhoDunnit Solved?</u></a>	15 Jan	Con Keating and Barry Marshall	867
<a href="#"><u>The Design And Operation Of Collective Defined Contribution Pensions</u></a>	03 Jan	Con Keating	988
<a href="#"><u>Brexit At Tiffany's</u></a>	03 Jan	Chris Yapp	791

## Events

In 2018, Long Finance hosted or participated in a record-breaking 100 events around the world, including contributions to almost a dozen international conferences and seminars organised by other institutions. Details are listed below.

January	February	March
ThinkTech Hawaii - Relax! Blockchain is Just a Ledger (Outside In)	Ethical Reading Meetup: The Ethics of Artificial Intelligence	Launch of Global Financial Centres Index 23
ThinkTech Hawaii - Relax! Blockchain is Just a Ledger (Outside In)	The Second Internet Of Agreements Conference: Blockchains And World Trade	Financing the Transition: Sustainable Infrastructure in Cities
GDPR & Blockchain (Smart Ledgers)	An Audience With Dr. Nathan Myhrvold: How Invention Can Spur Development?	Cryptocurrencies & Cyber-Money Laundering
Professor Michael Mainelli On Smart Ledgers	The Quantum Countdown: Quantum Computing And The Future Of Distributed Ledger Encryption	Security Forward Risk & Intelligence Forum
CISI - London & Milan, A Strategic Opportunity? with Bepi Pezzulli	Divide & Rule On Your Screen: Copyright, Antisocializing Contracts, and DRM	Liquidity Or Leakage - Plumbing Problems With Cryptocurrencies
Blockchain event: Financial Reporting Council's Lab (FR Lab) and the Association of Chartered Certified Accountants (ACCA)	Make Your Financial Centre More Competitive	Launch of Global Green Finance Index
Smart Ledgers (aka blockchains) Beyond Law?	Smart Ledgers - Learning From Past Financial Scandals	Trust-Busting Or Trust-Building: How Can The City Earn Trust?
SIMA	House of Lords EU Internal Market Subcommittee - Brexit: Future Trade Between The UK And The EU In Services: Follow-Up	Get Smart About Scandals: Past Lessons For Future Finance
Security Forward Risk & Intelligence Forum	ThinkTech Hawaii - Blockchain Applications with Z/Yen (We Like The 1%)	
	Blockchain Applications (We Like The 1%)	
April	May	June
Distributed Futures Forum - Insuring Smart Ledgers - Using Traditional Insurance To Improve Ecosystems	Beyond The Hype: Exclusive Blockchain Panel Event	Smart Ledger Cities: How Do We Rate And Rank Them?
The Economic Impact Of Smart Ledgers On World Trade	Global Labour And The UK: Brexit, Migration, Identity, And Talent	IFSEC International 2018
Centre For The Study Of Financial Innovation: Sustainable Finance For Breakfast	1066 - How History Was Stitched Up	Technology & Trade Symposium
Europe's New Financial Centre - Paris, Frankfurt or Dublin?		Make Your Financial Centre More Competitive
Parliamentary Reception: The Economic Impact of Smart Ledgers On World Trade		Getting Smart About Ledgers - What's A Charity Treasurer To Do About Blockchain?
Make Your Financial Centre More Competitive		Buy The Same Tokens? After The Pixie Dust Settles
The Third Internet Of Agreements Conference: Identity		Distributed Futures Forum
		Timestamping Smart Ledgers - Comparable, Universal, Traceable, Immune

July	August	September
<p>How To Make Your Financial Centre More Competitive</p> <p>Smart Ledgers &amp; Collective Defined Contribution Pensions</p> <p>Insurance-Linked Securities - Their Potential Role In Cyber And Other Insurance</p> <p>Blockchain Start-Ups! Meet Local Start-Ups!</p> <p>Security Forward Risk &amp; Intelligence Forum</p> <p>The Fourth Industrial Revolution And Society: A Source For Optimism?</p> <p>Control Frameworks For Cryptocurrencies: An Initial Evaluation</p>	<p>Smart Cities Workshop</p> <p>The Economic Impact Of Smart Ledgers On World Trade</p> <p>Get Smart About Scandals: Past Lessons For Future Finance</p> <p>The Quantum Countdown: Quantum Computing And The Future Of Smart Ledger Encryption</p>	<p>Make Your Financial Centre More Competitive</p> <p>Launch of the 2nd Report of the Global Green Finance Index (GGFI)</p> <p>Economic Simulation And Control Of Cryptocurrencies: Simulator Development Launch</p> <p>The 'Internet Of Record' – Belatedly Delivering Boring Timestamping Or Hyperbolic Heat?</p> <p>Launch Of Global Financial Centres Index 24</p> <p>Smart Ledgers &amp; Collective Defined Contribution Pensions</p> <p>Timestamping Smart Ledgers: Comparable, Universal, Traceable, Immune</p> <p>Smart Ledger Geostamping - Steps Towards Interoperability &amp; Standards</p> <p>Unexplained Wealth - Whose Business?</p>
October	November	December
<p>Initial Cryptocurrency Offerings – Dying Or Developing?</p> <p>The Curious Case Of Japan Leads To Deep Revelations About Money</p> <p>Identity On Blockchain</p> <p>Policies And Strategies Of Global Financial Cities For Sustainable Finance</p> <p>Smart Ledgers - Beyond Borders But Within Commerce</p> <p>Security Forward Risk &amp; Intelligence Forum</p> <p>Financial Centres Summit, Dublin</p>	<p>Planet Pod Talks Green Money With Sir Roger Gifford, Anne Maria Cronin &amp; Professor Michael Mainelli</p> <p>Hamburg Summit: China Meets Europe</p> <p>Security – A FrameD Of Mind</p> <p>Advanced Financial Talent Education Conference, Guangzhou</p> <p>Make Your Financial Centre More Competitive</p> <p>Long Finance Autumn Conference 2018 - Smart Ledgers (MDLs, aka Blockchains) &amp; Risk</p> <p>Compliance Excitement On Smart Ledgers - 'The Internet Of Record'</p> <p>The Future Of London As A Financial Centre</p> <p>When The Pixie Dust Settles: The Excitement Of The 'Internet Of Record'</p> <p>The Great Debate: Can Self-Reporting Ever Be Enough For Investors?</p>	<p>Smart Jurisdictions Index</p> <p>Information Rules: Smart Ledger Architectures &amp; Distributed Permissions</p> <p>It's All About Digitization</p> <p>Cyber-Catastrophe Insurance-Linked Securities On Smart Ledgers</p>

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## Thanking Our Partners

We would like to express our gratitude to the Cardano Foundation, the Mava Foundation, Finance Watch, The China Development Institute, Gresham College, and Z/Yen Group for their long-standing support.

We would like to thank all the London Accord contributors for sharing research, and members of the Long Finance Advisory Board for their wise guidance. Finally, we would like to thank those in our community who contribute their thoughts and time to the Long Finance events and blogs.





**“When would we know our financial system is working?”** 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 characterises today’s economic views, the Long Finance time-frame is roughly 100 years.

Long Finance aims to:

- ◆ expand frontiers - developing methodologies to solve financial system problems;
- ◆ change systems - provide evidence-based examples of how financing methods work and don’t work;
- ◆ deliver services - including conferences and training using collaborative tools;
- ◆ build communities - through meetings, networking and events.

Long Finance runs programmes exploring four major themes:

1. **London Accord** – looking at environmental, social, and governance investment research issues;
2. **Financial Centre Futures** – seeking to explore how finance might work in the future;
3. **Meta-Commerce** – aiming to identify and structure the critical questions underlying the long-term viability of the financial system;
4. **Eternal Coin** – encouraging a global discussion on the nature of money and the concept of value.

[www.longfinance.net](http://www.longfinance.net)