

# The Bulletin

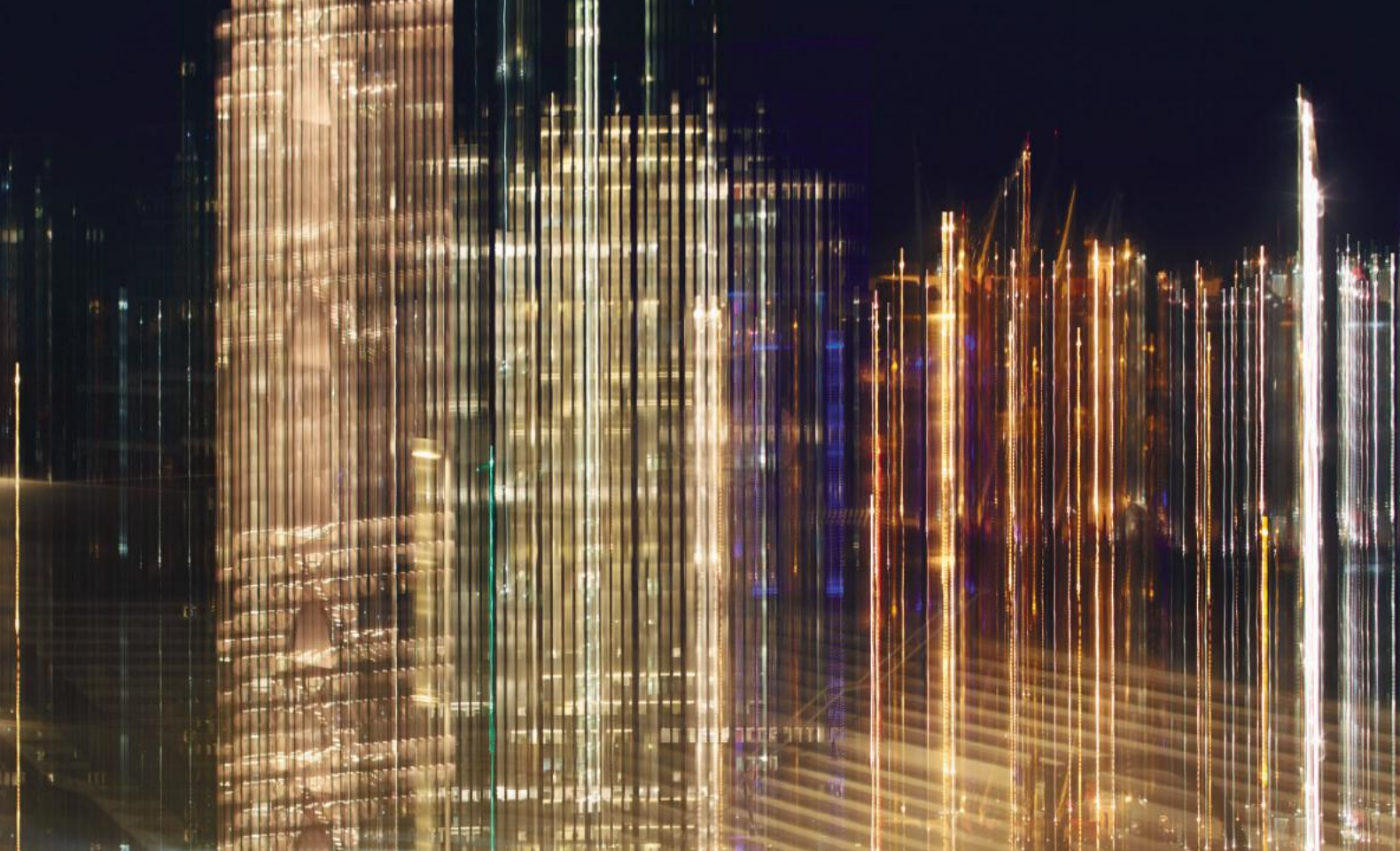
 OMFIF

Summer 2019  
Vol.10 Ed.3

Climate crisis  
requires action now

LIVING IN  
A WORLD  
ON FIRE





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# The Bulletin

Summer 2019 Vol.10 Ed.3



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Cover picture: Xinhua/Shutterstock

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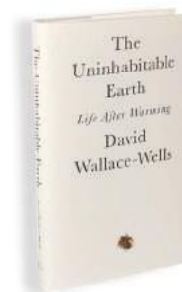
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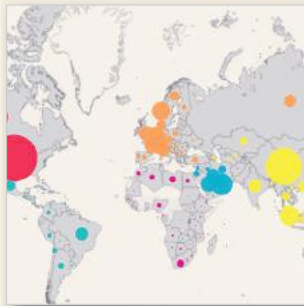
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The GPI interactive databank allows users to view six years of data of the full GPI top 750 ranking by assets under management, their global distribution, filter by type of institution, region, and chart changes in various trends such as AUM.

To access the databank for free and get your complimentary copy of the 2019 GPI go to [omfif.org/gpi](http://omfif.org/gpi)



Interactive maps



Charts

Ranking

| Rank | Institution                                    | Country      | Type | End-2018 AUM (\$Bn) |
|------|------------------------------------------------|--------------|------|---------------------|
| 1    | People's Bank of China                         | China        | CB   | 5.35                |
| 2    | Government Pension Investment Fund             | Japan        | PF   |                     |
| 3    | Bank of Japan                                  | Japan        | CB   |                     |
| 4    | Norges Bank Investment Management              | Norway       | SP   |                     |
| 5    | China Investment Corporation                   | China        | SP   |                     |
| 6    | Alfa State Investment Authority                | UNE          | SP   |                     |
| 7    | Military Reserve Fund                          | US           | PF   |                     |
| 8    | Swiss National Bank                            | Switzerland  | CB   |                     |
| 9    | Federal Employees Retirement System            | US           | PF   |                     |
| 10   | Kuwait Investment Authority                    | Kuwait       | SP   |                     |
| 11   | National Pension Service                       | South Korea  | PF   |                     |
| 12   | Thrift Savings Fund                            | US           | PF   |                     |
| 13   | Caisse des Dépôts et Consignations             | France       | SP   |                     |
| 14   | South African Monetary Authority               | South Africa | CB   |                     |
| 15   | Dutching Pensionfonds ABF                      | Netherlands  | PF   |                     |
| 16   | Central Bank of the Republic of China (Taiwan) | Taiwan       | CB   |                     |
| 17   | Central Bank of the Republic of Russia         | Russia       | CB   |                     |
| 18   | Hong Kong Monetary Authority                   | Hong Kong    | CB   |                     |
| 19   | US Monetary Authorities                        | US           | CB   |                     |
| 20   | Reserve Bank of Australia                      | Australia    | CB   |                     |

OUT NOW



## Dialogue on world finance and economic policy

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With offices in London and Singapore, OMFIF focuses on global policy and investment themes – particularly in asset management, capital markets and financial supervision/regulation – relating to central banks, sovereign funds, pension funds, regulators and treasuries. OMFIF promotes higher standards, performance-enhancing public-private sector exchanges and a better understanding of the world economy, in an atmosphere of mutual trust.



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# Living in a world on fire

In 1992 Al Gore, perhaps the most famous politician-cum-climate activist, published *Earth in the Balance*, his first book on global warming. He wrote, 'We can believe in the future and work to achieve it and preserve it, or we can whirl blindly on, behaving as if one day there will be no children to inherit our legacy.' In the 27 years since its release, countless communiqués and reports have been issued promoting 'sustainable' investment and transitioning to a 'green' economy.

And yet, more than half the carbon exhaled by the burning of non-renewable fuels has been emitted since Gore penned those words. By dint of either ignorance or apathy, we are continuing to 'whirl blindly on' towards catastrophe.

Our imprudence means warming this century of between 1-2 degrees Celsius is all but assured. The cost in potential lives lost in that case is already harrowing. Unless manifest changes are made, the figure could easily exceed four degrees.

The only way seriously to transform the global economy is through urgent policy action. Thankfully many influential policy-makers – including two of the contributors to this magazine, Sarah Breedon of the Bank of England and Ma Jun of China's Green Finance Committee – understand the urgency of climate action. The Central Banks and Supervisors Network for Greening the Financial System, of which 36 major bodies are members (with the US Federal Reserve conspicuous by its absence), illustrates well the increasing attention that world leaders are paying to the damage climate change is wreaking.

The challenge that policy-makers face is nothing short of renovating modern capitalism so that it no longer unduly rewards the extraction of fossil fuels, and phasing out nations' reliance on dirty energy in favour of renewables. Continuing down the current path – which can lead only towards a loss of life several orders of magnitude greater than that experienced in the second world war, the bloodiest event in human history – is unconscionable.



»5 April, London

## ‘Huge disentanglement’ over Brexit

THE UK is undergoing a ‘huge process of disentanglement’ over Brexit, according to Ivan Rogers, former UK permanent representative to the EU, speaking at an OMFIF-State Street Global Advisors seminar. He said it was ‘too late for a genuinely bipartisan approach’ on Brexit from Prime Minister Theresa May.



»13 April, Washington

## More diversity is needed in central banking



‘IT IS DISHEARTENING to see a lack of women at the top levels of sovereign funds as well as at central banks of various countries,’ said David Marsh, representing OMFIF at an IMF gender diversity leadership panel. He noted that there has recently been a decline in female central bank governors, quoting research from OMFIF’s ‘Gender Balance Index’.

»10-11 April, Washington and New York

## US and Europe: Overcoming barriers

OMFIF and Hessen Trade & Invest convened two roundtables to discuss the consequences of political developments in Europe, investment opportunities in Germany, and the future of EU-US trade relations.

»3 April, Singapore

## Implications of Brexit on Asia



OMFIF and the British Chamber of Commerce in Singapore convened a panel of high-level speakers to discuss the implications of Brexit for Singaporean and Asian stakeholders, from the decisions of private business attempting to mitigate risk, to the effect on existing and future trading relationships.

»16 April, London

## Finance and climate: ‘Distant thunder’



WORLD finance needs more data, more disclosure and better risk management to master climate change challenges, the Bank of England’s Sarah Breeden told an OMFIF meeting in London focused on ‘greening’ the Belt and Road initiative. ‘We can hear distant thunder,’ she said. ‘We cannot wait for the storm to hit.’

»3 May, London

## De Guindos rejects 'national champions'

LUIS DE GUINDOS, vice-president of the European Central Bank, rejected 'national champions' in European banking in a wide-ranging OMFIF City Lecture in London. In remarks seen as opposing the now-abandoned link-up between Deutsche Bank and Commerzbank, he said he favoured cross-border mergers.



»13 May, London

## Economic outlook and challenges for East Asia

HOE EE KHOR, chief economist at the Asean+3 Macroeconomic Research Office, discussed the economic outlook and challenges for East Asia at an OMFIF roundtable. These include regional economic integration, the impact of China's economic slowdown and related trade risks, developments in the region's financial markets and the influence of global financial conditions.



»30 May, New York

## Risks in maturing credit



AT AN OMFIF roundtable Fabio Natalucci, deputy director of the International Monetary Fund's monetary and capital markets department, outlined the main findings of the IMF's global financial stability report, drawing attention to the major risk areas for the future.

»30 May, London

## China Railways and financial stability



A DEFUNCT 1907 Chinese Imperial Railways loan certificate at an OMFIF lunch demonstrates the virtues of financial stability, discussed by David Marsh and John Adams (OMFIF), Jianhai Zhu (Agricultural Bank of China) and Elisabeth Stheeman, highlighting her work on the Bank of England Financial Policy Committee.



## GPI 2019 launches

Available for download at: [omfif.org/gpi2019](http://omfif.org/gpi2019)

» 12 June, Singapore

### Singapore's infrastructure plans

SINGAPORE is expanding initiatives to finance sustainable infrastructure in Asia, including increasing the flow of bankable products, according at Heng Swee Keat, deputy prime minister and finance minister, outlining measures at the launch of OMFIF's *Global Public Investor 2019* at the Singapore stock exchange.



» 19 June, London

### Future of China 'city clusters'

The London launch of *GPI 2019* was hosted by Barings. Presentations were given on emerging market urbanisation, with special emphasis on China and the scale of infrastructure and real estate development accompanying its shift towards a consumption-led economy.



» 13 June, Singapore

### Sustainable economic development

OMFIF convened a group of global public investors and market practitioners to discuss the growth of the insurance-linked securities market. They discussed how to address climate-related issues by increasing uptake of risk-transfer mechanisms such as catastrophe bonds and other insurance-linked securities.

» 11 June, London

### Economic outlook in Brazil



BRAZIL has seen a marked change of political leadership, with major consequences for the country and Latin America. This breakfast briefing covered the economic climate in Brazil, projected growth in the country and expected fiscal and monetary reforms.

» 11 June, London

### Brexit: Constitutional implications



PHILIP RYCROFT, former permanent secretary for the Department for Exiting the EU, gave his take on the state of UK politics including domestic policy consequences and business planning for the different Brexit scenarios.



# Agenda

»Monday 8 July, St. Louis

## Modelling the macroeconomy in risky times

A workshop to outline various ways of capturing risk in macroeconomics organised jointly by the National Institute of Economic and Social Research, OMFIF Foundation, Centre for Macroeconomics, Federal Reserve Bank of St. Louis and Olin School of Business.

»Tuesday 9-Wednesday 10 July, St. Louis

## Assessing priorities and implications for society, politics and economics

A seminar with the Federal Reserve Bank of St. Louis and the OMFIF Foundation to look ahead to the next 10 years in finance, covering themes such as the future of central banking, economic inequality, sustainable investment, global governance and the role of technology in employment and education.

»Tuesday 10 September, London

## Strong performance in a volatile regional environment

The Chilean economy remains one of the strongest in Latin America. This roundtable assesses Chile's economic outlook, its monetary and macroeconomic policy, as well as regional challenges and opportunities.

»Monday 23-Tuesday 24 September, Norway

## Asset and risk management forum

A seminar to focus on recent macroeconomic and financial developments, as well as the challenges and opportunities for public sector investment management. The aim of the forum is to examine best practice, promote higher standards and achieve interactive dialogue.



»Tuesday 15 October, New York

## Global Public Investor 2019 US launch

A seminar for the US launch of *Global Public Investor* 2019, the publication devoted to public sector asset ownership and management around the world. The meeting focuses on the key issue of sustainability and aims to share best practice among investors.

»Friday 18 October, Washington

## Launch of Absa Africa Financial Markets Index

Now in its third year, the Absa Africa Financial Markets Index records the openness to foreign investment of countries across the continent. The index is the premier indicator of the attractiveness of Africa's capital markets, which can be used by investors and asset managers around the world.

For details visit [omfif.org/meetings](https://omfif.org/meetings)



Gabi and Jonah Frank flee as fire threatens their home in Malibu, California, US, November 2018. The fire destroyed dozens of structures and forced thousands of evacuations. Picture: REUTERS/Eric Thayer



# Living in a world on fire

Climate-related catastrophes are occurring more frequently and with greater severity. Unless crucial and wide-ranging policy changes are made, all parts of the world will suffer the grim consequences. →

# Climate crisis requires action now

## Financial system needs to support an early and orderly transition



**Sarah Breeden**  
Bank of  
England

Climate change poses significant risks to the economy and to the financial system, and while these risks may seem abstract and far away, they are in fact very real, fast approaching, and in need of action today. Studies show that average global incomes could be reduced by as much as one-quarter by the end of the century if limited or no action is taken to reduce carbon emissions. But global averages mask significant differences across regions and sectors. And most estimates are conservative – particularly since the models are partial, heavily dependent on assumptions, and do not capture well the nonlinearities that are a key feature of the most recent climate analysis.

In principle, these risks can be avoided. The scale of transition is significant, but it need not create substantial costs across the global economy as a whole.

Studies have focused on the impact from the transition to a carbon-neutral economy

on the financial system through ‘stranded assets’ that turn out to be worth less than expected. The estimated losses are large – \$1tn-\$4tn when considering fossil fuels alone, or up to \$20tn when looking at a broader range of sectors.

Even at the bottom end of these ranges, losses represent a material share of global financial assets. A climate ‘Minsky moment’, where asset prices adjust quickly with negative feedback loops to growth, seems possible. That underlines why the financial system needs an early and orderly transition if risks are to be minimised. And why we need to change course now.

### The Bank taking action

The Bank of England is considering the implications of climate change for its own operations, taking account of the financial risks while ensuring the purpose of its core operations as a central bank is preserved. And more broadly the action, or lack of action, of individual institutions will be critical in determining whether climate-related risks are well managed.

The Bank was the first regulator in the world to publish supervisory expectations

setting out how the banks and insurance companies we regulate need to develop an enhanced approach to managing the financial risks from climate change.

Our expectations cover governance, risk management, scenario analysis and disclosure. They are designed to ensure firms take a strategic approach with clear accountability. It should be holistic, forward-looking, embedded in business-as-usual risk management, but grounded in the long-term financial interests of the firm.

We have deliberately not been prescriptive in our expectations, recognising that our understanding of this risk is immature but that it needs action now. Over the next year or so, as tools and expertise develop, we will embed more granular requirements into our policy, to bring industry in line with our evolving expectations.

The Bank supports the disclosure of climate risks by firms in line with standards set out by the Task Force on Climate-related Financial Disclosures. Disclosure by firms is critical if the financial system is to be able to weigh risks and direct investment accordingly. It must be forward-looking, speaking to future risks and opportunities and not just current emissions. In my opinion, we will not be able to disinvest our way to a carbon-neutral economy.

This is just the start. To be able to judge whether we are sufficiently well prepared and whether a change in course or greater financial resilience is required, we need to consider the position of the system as a whole.

### Measuring future risks

Measuring these future risks from climate change to the economy and to the financial system is a complex task. Different physical and transition effects need to be translated



‘Climate risks may seem abstract and far away, but they are in fact fast approaching.’

into economic outcomes and financial risks looking ahead over many decades. To simplify that challenge, we need to focus not on what will happen but what might happen. To do that we can use scenario analysis – data driven narratives that help anchor our assessments of risk.

Using scenario analysis to paint a picture of the risks of continuing along the current climate trajectory creates clear strategic imperative to act. Considering a scenario where our climate goals are met highlights the changes that will be needed to support a transition to a carbon-neutral economy. Both expose the customers, sectors and geographies that are vulnerable to physical and transition risks and therefore highlight the areas where action is required.

By taking different decisions today, participants in the financial system are able to minimise their future risks. But while necessary, that may not be sufficient to deliver a financial system that is resilient to climate risks. Instead, we need also to consider this risk at the system level.

To that end, the Financial Policy Committee and the Prudential Regulation Committee will stress test the UK financial system for resilience against different climate pathways. The Prudential Regulation Authority will ask UK insurers, as part of its market-wide insurance stress tests this year, to consider how their businesses would be affected in different physical and transition risk scenarios.

The investment needs to finance this transition are significant – an estimated \$90tn by 2030. This presents substantial opportunities for the financial sector to develop new products and services to mainstream green finance. To support that goal, there is a need to develop new standards and classifications to identify which economic activities contribute to the transition to a carbon-neutral economy. ●

**Sarah Breeden is Executive Director for International Banks Supervision at the Bank of England's Prudential Regulation Authority.**

# Central banks demonstrating collective leadership



**Gary Smith**  
Barings

The Bank of England asserts it is the world's first financial market regulator to publish supervisory expectations for the management of the financial risks that may result from climate change – for all of the banks and insurance companies under its purview.

Sarah Breeden, executive director at the Bank, spoke at an OMFIF seminar earlier this year and cautioned that insurance companies might be perilously exposed to weather-related events, such as heatwaves, droughts and floods. Similarly, banks that have lent to companies reliant on burning fossil fuels run the risk of financial losses in the event assets become stranded during a transition to other fuel sources. Copycat pressures are significant in the rarefied world of central banking; expect other regulators to follow the Bank of England's lead.

At the end of April the Banque de France and Bank of England issued a joint communiqué as members of the Network for Greening the Financial System. They wrote, 'As financial policy-makers and prudential supervisors we cannot ignore the obvious physical risks before our eyes. Climate change is a global problem, which requires global solutions, in which the whole financial sector has a central role to play.'

The governors of the two central banks urged other financial regulators around the world to carry out climate change stress tests to reveal risks in the system, while also calling for more collaboration between nations. In other words, to copy them.

The pair warned that a 'massive reallocation of capital' was necessary to

prevent global warming above the two degrees Celsius maximum target rise set by the 2015 Paris climate agreement, with the banking system required to play a key role: 'If some companies and industries fail to adjust to this new world, they will fail to exist.'

Among its recommendations the communiqué urges central banks and supervisors to integrate climate-related risks into financial stability monitoring and prudential supervision, where regulatory expectations should be established and guidance provided to financial firms. The paper highlighted that the financial risks created by climate change are analytically difficult to measure, but are unprecedented and require immediate action.

The NGFS recommendations are designed to demonstrate collective leadership, which in turn is expected to foster a greener financial system. Over the next year, the network plans to develop a number of technical documents, including a handbook on climate and environment-related risk management for supervisory authorities and financial institutions; voluntary guidelines on scenario-based climate risk analysis; and best practices for incorporating sustainability criteria into central bank portfolio and reserves management.

Current NGFS members include, among others, the central banks of France, the UK, China, Singapore, Australia, Malaysia and New Zealand, as well as Japan's Financial Services Agency and the Bank for International Settlements. This list is very likely to grow. The US Federal Reserve is currently conspicuous by its absence. ●

**Gary Smith is Member of the Barings Investment Institute and Deputy Chairman of the OMFIF Advisory Council.**

# Electric cars picking up the pace

Public policy must bolster technological advances and consumer trends



**Bhavin Patel**  
OMFIF

**T**ransforming the automotive industry, which accounts for almost 20% of global greenhouse gas emissions, is crucial if countries are serious about achieving the central goal of the 2015 Paris climate accord of keeping the global average temperature increase to below two degrees Celsius above pre-industrial levels. Curtailing production of fossil fuel-reliant engines will prove essential.

At the end of 2018 the global stock of electric cars on the road reached 5m. Of these, 2m were added in 2018 alone, signalling an acceleration in the adoption of greener forms of transport.

According to the United Nations, global greenhouse gas emissions must fall to at least 55% of current levels to meet the temperature targets set by the Paris agreement. Benchmarks disseminated by the International Energy Agency calculate that 15% of all cars will need to be electric by 2030 to help meet current climate change targets. This will require

**‘Emissions must fall to at least 55% of current levels to meet the targets set by the 2015 Paris accord.’**

industry growth of 30% per year, which appears achievable by current rates.

However, despite the surge in electric vehicles over the last couple of years, the overall market size compared to the traditional automotive industry remains less than 1%. A mixture of ambitious policy changes and technological advances is needed to stimulate

the required level of adoption.

China, the world's No. 1 carbon emitter, accounted for half of global electric car sales in 2018. Policy changes in the country have both spurred electric vehicle purchases and disincentivised the purchase of combustion-based automobiles.

Manufacturers in China have quotas on the number of zero-emission vehicles they must produce. If a manufacturer fails to meet their targets, it must pay for credits, which are bought from overachieving competitors. Moreover, local authorities in several cities have introduced legislation restricting the purchase of nonelectric vehicles.

Under the ‘Made in China 2025’ plan, Beijing has set targets for its domestic manufacturer to sell 3m electric vehicles per year, up from the current 1m. Draft regulation published last year revealed that the central government is considering seriously a complete ban on new sales of combustion engines.

## **Abetting adoption**

Policy-makers in the European Union are modelling similar supply-side policies targeting manufacturers. In October 2018, the European Parliament voted in favour of an EU-wide carbon reduction target of 20% for new cars and vans by 2025 and a 40% reduction by 2030. Zero- and low-emission vehicles should make up 20% of new sales by 2025 and 35% by 2030, with car manufacturers incurring penalties if they miss these targets.

The US, the second largest global car consumer, has not affirmed any formal strategies for increasing electric vehicle adoption. President Donald Trump's withdrawal from the Paris agreement and the repeal of several electric-friendly pieces of legislations, including a review of automobile emission standards and the defunding of the Clean Power Plan, indicate that any US policies

supporting cleaner transport are unlikely to materialise in the near term at the federal level.

One major barrier to entry has been the high purchase cost of electric vehicles. Related equipment and battery replacements can prove expensive, and insurance premiums for electric cars are typically higher than for traditional vehicles. The usability and practicality of the batteries in electric vehicles have also been a concern for consumers considering entering the market for the first time.

But technological advances are allowing manufacturers to improve the lifespan, cost, efficiency and capacity of electric vehicle batteries. Additionally, the increasing size of the automotive battery industry and the opening of China to international suppliers will lead to economies of scale in production, spurring competition both on price and quality.

Vehicle sharing and co-ownership schemes have aided adoption where costs have acted as a barrier. The electrification of public transport likewise allows for more people to access greener vehicles without themselves incurring the high costs of electric cars.

Fiscal inducements such as subsidies, grants and tax incentives at the point of purchase can increase the number of new consumers in the market. Other policies – such as the provision of preferential parking, road-toll rebates and access to low-emission zones – can also make electric vehicles more attractive for users. China has a green number-plate scheme that affords preferential treatment in major cities.

As important as technological advances and evolving consumer trends are to lowering barriers to entry for electric vehicles, meaningful changes to public policy remain the most critical component if we are to curtail the dangerous projected increase in global average temperatures. ●

**Bhavin Patel is Senior Economist and Head of Fintech Research at OMFIF.**

# Water infrastructure investment critical

## Blended finance makes projects more bankable



**Kat Usita**  
OMFIF

Water is sometimes considered a public good, with governments traditionally funding its supply and distribution. Individuals' right to water and sanitation is universally recognised. Yet in the modern world, this natural resource has always been the subject of disputes, exclusions and rivalries.

Globally, there are communities that still have limited or no access to clean water. Although around 71% of the Earth's surface is water-covered, the freshwater supply makes up only a minuscule fraction and is unevenly distributed throughout the world. As universal access has yet to be achieved, and in the light of the increasingly intense struggles that climate change presents, private investment must find its way to financing water infrastructure.

Private sector investment in water infrastructure struggles with the same issues as other infrastructure sectors. Different types of facilities carry varying degrees of risk that can be difficult to measure in a standardised manner. Infrastructure that falls under the broad category of 'water' covers a range of end-goals: providing access to drinking water; enabling the irrigation of agricultural land; facilitating wastewater treatment; controlling floods; and generating hydropower. Each of these objectives necessitate building structures that carry unique risks defined by specific locations and contexts.

Data on water investments are limited, making financial modelling difficult and costly. While all kinds of infrastructure are capital-intensive and have lengthy payback periods, water infrastructure's sensitivity to changing environmental conditions makes it more difficult to quantify related risks. Long droughts can threaten water supply and sharp spikes in rainfall can strain flood control mechanisms, even when infrastructure is adequately built and maintained. Global warming compounds these challenges as weather patterns become more volatile.

### First-mover advantages

People expect the water infrastructure being built today to last decades and meet the needs of seemingly ever-growing and rapidly-urbanising populations. While it is possible to estimate future needs based on current growth trends, it is harder to assess financial risk related to water infrastructure in the context of a finite freshwater supply and growing climate unpredictability. For these reasons water has been less attractive for investors looking to venture into infrastructure.

Yes the scarcity of attention presents an opportunity, especially as freshwater itself becomes more scarce. The sector is less crowded with investors than energy or transport, which tend to attract the most private sector attention because of the greater availability of data and 'bankable' projects. In water and water-related initiatives, there is still plenty of room to take first-mover advantage, especially through direct investments. For the more wary, familiar instruments such as project bonds for water

infrastructure are available, representing a growing subset of the green bonds market.

Blended finance is crucial in improving the bankability of water projects. This brings together official development assistance with private or public sector funding, with the aim of pooling resources for sustainable development. The structure has been around for decades, but only in the last few years has blended finance become widely used in the investing landscape. The sense of urgency that is helping to channel private investment into funding gaps has made blended finance an important part of the infrastructure financing toolbox.

The pipeline of bankable water investment deals tends to be short and fragmented. Development institutions can provide official development assistance not only in the form

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**'Throughout history, water crises have triggered conflicts and created security threats.'**

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of grants and guarantees, but also through technical assistance to help governments identify and market financially viable water investment opportunities.

The investment incentives go beyond financial, social and development goals. Water, like any natural resource, can become political. Throughout history, water crises have triggered conflicts and created security threats. The 'Water Conflict Chronology', a comprehensive record of water-related violent disputes, lists 655 incidents dating back to 3,000 BC, with more than 40% of these occurring after 2010. As the climate continues to change, tapping private investment to overcome water-related challenges will be more necessary than ever before. ●

**Kat Usita is Deputy Head of Research at OMFIF.**

# Rapid growth in responsible investment

## Need for informed decision-making frameworks



**Frances Barney**  
BNY Mellon Asset  
Services

Investor appetite for responsible investment is accelerating. According to the Global Sustainable Investment Alliance, \$30.7tn was invested sustainably at the beginning of 2018, a 34% increase on 2016. A recent EY survey of institutional investors found that 97% evaluated the non-financial disclosures of target companies when making investment decisions.

Generational change is inherently slow moving, but its effect on society's attitudes to the wider, non-financial impact of investment decisions are becoming increasingly apparent. Studies have shown younger generations to be significantly more interested than their parents and grandparents in responsible investing. As they age, they are expanding their share of global investable assets, in part through intra-generational transfer. They are having a growing sway over institutional investors' investment strategies, both directly as trustees, managers and end-users, and through their influence on governments and regulators.

### Supportive regulation

The regulatory environment – which previously discouraged pension plan administrators and other institutional investors from considering environmental, social and governance investment options or even analysis – is now in some cases fostering actively transparency and ESG considerations. Regulatory and industry bodies are mobilising to promote ESG among institutional investors.

A number of jurisdictions – so far primarily in Europe – require institutional investors to disclose how they integrate ESG into the investment process. The implementation in early 2019 of the new European Union directive on institutions for occupational retirement provision – known as IORP II – calls for greater attention to and disclosure of ESG factors in the investment process for pension schemes.

More end-investors want a say in how their savings can drive societal impact. They want transparency into how their pension plans invest in ESG assets. The European Commission's high-level expert group recommended that pension funds 'should consult beneficiaries on their sustainability preferences and build those into their investment strategy'. As various pension plans and related associations debate this recommendation, a spectrum of viewpoints is emerging. Mainly, institutions want more guidance on how to provide ESG transparency to end-investors. Others want more freedom on how and whether to implement measures to provide information transparency to end-investors.

### ESG integration

A growing body of research suggests that consideration of ESG factors in the investment analysis process – known as ESG integration – can enhance returns. Assessing how companies manage things like waste management, community engagement and business ethics can support the investment and risk analysis process. In sustainable investing, ESG integration is now more popular than negative screening among investment managers.

One of the main challenges for ESG investment is the ability for investors and asset managers to analyse their investments against sustainability factors. Technology is becoming an enabler; data and data analytics can be used to measure the non-financial performance of investments.

Earlier this year, BNY Mellon launched a reporting service that enables clients to track their equity portfolio investments based on ESG factors and United Nations Global Compact principles. This can support the analysis of risk/return associated with sustainable investing, help asset owners perform investment manager due diligence, and inform conversations with stakeholders interested in ESG.

So far, ESG investment has focused mostly on equities, but there is growing interest in fixed income ESG – green bonds, social bonds, sustainability bonds and social impact bonds, as well as corporate bonds. Providers – including BNY Mellon – are developing services to enable investors to score fixed income against ESG criteria. This is likely to appeal to institutional investors, such as insurers and pension funds, with significant fixed income holdings.

All investments have multiple non-financial impacts. A development project might score positively for societal impact due to the creation of well-paid jobs, while scoring negatively for its environmental impact. Institutional investors are a diverse group with different priorities for ESG. Inevitably, they will take varying views of any investment. We are still at the early stages of developing the evaluation frameworks and information services to make informed ESG-based investment decisions. Investors' priorities are unlikely to converge significantly. One thing most can agree on is that ESG investment analytics will continue to be a fascinating and fast developing area. ●

**Frances Barney is Head of Global Risk Solutions at BNY Mellon Asset Servicing. The views expressed herein are those of the author only and may not reflect the views of BNY Mellon.**

# From conversation to action

## Climate-orientated approach crucial to investment strategy



**Rakhi Kumar**  
State Street  
Global Advisors

For decades, experts have warned that the physical, economic and regulatory risks posed by climate change could mean significant losses for investors. Consequently, investors have been debating how to interpret and measure climate risk in their portfolios and how to safeguard their investments. Several key developments have helped move this debate from conversation to action.

First, the physical impact of climate change is manifesting clearly. Extreme weather events have become more frequent. For example, the impact of prolonged drought caused by climate change on the agriculture sector could reduce Australia's GDP by one percentage point over two years. Moreover, the economic risk that climate change poses is quantifiable. A report published in November 2018 by 13 US government agencies warned that, without steps to address global warming, annual losses in some US sectors could reach hundreds of billions of dollars by 2100.

### Regulatory landscape

Some governments, especially in Europe, have sought to operationalise the commitments they made through the 2015 Paris climate agreement. European policy-makers are seeking to 'mainstream' sustainability into existing legislative frameworks. They are embedding explicit requirements on the financial services sector to assess, disclose and mitigate long-term climate-related risks.

In line with its 2030 climate targets, including a 40% reduction in emissions, the

European Union has introduced legislation such as the non-financial reporting directive. This calls on companies to include business-specific disclosure on environmental matters and other environment, social and governance data in a new non-financial information statement. The EU has also revised the shareholder rights directive to require institutional investors and asset managers to develop an engagement policy that strengthens shareholder engagement and promotes long-term sustainability.

In 2018 the European Commission published an action plan on sustainable finance. The proposed rules would apply to asset owners, managers, insurance distributors, investment advisors and other market participants. They aim to reorient capital flows towards sustainable investment to achieve sustainable and inclusive growth. They are also intended to manage financial risks stemming from climate change, resource depletion, environmental degradation and social issues. Moreover, the rules seek to foster transparency and long-termism in financial and economic activity.

The Commission has set up a technical expert group to develop actions relating to ESG taxonomy, benchmarks, disclosures and financial advice. Some of these have been accepted by European bodies, which should lead to secondary legislation.

### Climate investing

As climate science and data availability improves, investment approaches are evolving to help meet specific objectives. Investors can express their climate commitment in several ways. One example is exclusionary screening. This entails targeting meaningful carbon reduction across asset classes by screening out companies with high emissions and

fossil fuel reserves, or companies in key industries with significant climate-related risk exposure. This is implemented as a standalone screen or in combination with other investment approaches.

Another way is through mitigation, in a two-pronged approach that targets specific net carbon reduction goals. First, by reducing the carbon intensity of a portfolio by a desired percentage while staying within a specified tracking error range against a specific benchmark. Second, by increasing exposure to companies generating 'green' revenues from low carbon opportunities.

Mitigation and adaptation is a new frontier in climate investing that targets carbon reduction and provides exposure to businesses adapting to climate change. This may involve reducing exposure to fossil fuel assets and 'brown' revenues and increasing exposure to 'green' revenues and to companies that are adapting their business models to climate risks and opportunities.

Asset stewardship is an inextricable part of any climate investment approach. It allows for continuing engagement with companies about the risks and opportunities presented by climate change, even if investors do not express their view explicitly in their portfolios.

The appropriate approach for a particular investor depends on considerations such as their investment and climate-related objectives and risk tolerance. The challenge around finding reliable data in this field persists. Therefore, investors must consider which managers offer a truly climate-oriented approach that will meet their regulatory and investment obligations. ●

**Rakhi Kumar is Head of Environmental, Social and Governance Investments and Asset Stewardship at State Street Global Advisors.**

# Mainstreaming environment risk

## Financial institutions grasping severity of climate threat



**Ma Jun**  
China Green Finance  
Committee

The frequency and impact of severe damage to assets caused by environmental stress has risen in recent years. Financial institutions and regulators have become increasingly concerned that environment- and climate-related risks could become genuine sources of financial risk. Institutions are starting to understand better the physical and transition channels through which environmental risks enter the financial system. As a result, environmental risk analysis is becoming a popular practice among financiers and policy-makers.

Physical risks include a rise in sea levels and extreme weather events, caused or exacerbated by climate change. They destroy physical assets like real estate in coastal areas and lead to increases in non-performing loans, as well as heavy insurance losses. Insurance market Lloyd's of London estimates that the 20 centimetre rise in sea level at the tip of Manhattan since the 1950s increased insured losses from Hurricane Sandy in 2012 by 30% in New York alone.

Transition impacts relate to the adjustment to a greener, low-carbon economy. For example, there may be a sharp decline in demand for coal-fired power generation as renewable energy prices become even more competitive. This will undercut new and existing coal-fired power plants, resulting in stranded assets in the coal mining and coal-fired power sectors.

Moreover, tougher environmental policies, such as those enforced in China in recent years, may cause more and more polluting companies to default on their loans as they are forced out of the market. The transition risks

of climate change are estimated to result in losses of \$1tn-\$4tn in the world's energy sector alone. The global economy more broadly could lose up to \$20tn. More research is needed to understand how these impacts translate into systemic risks for financial markets, particularly taking possible chain reactions – so-called 'second order effects' – into account.

### Call to action

This growing concern was reflected in the G20 green finance study group's 2017 synthesis report, which called for financial institutions to conduct environmental risk analysis as a major part of greening the financial system. In late 2017, eight central banks and financial regulators formed the Network for Greening the Financial System, which aims to identify, quantify and regulate financial risks stemming from climate change and environmental damage. As of April 2019, the NGFS had grown to 36 members. Its supervision workstream, which I chair, reviews the supervisory practices for integrating environment and climate risks into microprudential supervision. It takes stock of the current institutional disclosure frameworks for environmental and climate information, and examines risk differentials between 'green' and 'brown' assets.

The Bank of England and a few other European central banks and supervisors have attempted to quantify the financial risks from climate and environmental exposure through the use of ERA, deploying both quantitative and qualitative methods. However, the integration of climate- and environment-related factors into prudential supervision is still limited. At the firm level, banks, asset managers and insurance companies have developed or employed ERA methodologies provided by third-party research institutions for assessing environmental and climate risk exposure. They analyse their implications for

market and credit risks using stress testing and scenario analysis. The NGFS has so far identified 28 institutions that have conducted ERA analyses.

While an increasing number of financial supervisors and financial firms have recognised the significance of ERA for ensuring financial stability and the resilience of financial institutions to environmental and climate risks, its application remains limited. This is due in part to a lack of awareness of such risks and the absence of green and brown taxonomies. Further barriers include inadequate environmental and climate data (due partly to poor disclosure), limited capacity to develop analytical models, and the lack of consistent assumptions on stress test scenarios.

The NGFS published its first comprehensive report in April. It focused on climate-related risks as a source of financial risk and issued recommendations to central banks, supervisors and policy-makers on ERA.

The fact that central banks and supervisors from 36 countries are calling for action on ERA suggests it is becoming a core part of the global effort to green the financial system. Many regulators are likely to issue specific guidance and instructions for financial firms to better understand and disclose environmental and climate risks. Once implemented, these actions will create a much better environment for financial institutions to conduct ERA and develop tools to manage such risks. With NGFS leading the way, I expect ERA will become a widespread practice among financial institutions. ●

**Ma Jun is Special Adviser to the Governor of the People's Bank of China, Chairman of China's Green Finance Committee, and Chair of the Network for Greening the Financial System's Supervision Workstream.**

# Smart, sustainable spending

## Focus on quality and resilience for filling infrastructure gaps



**Makhtar Diop**  
World Bank

The discussion around infrastructure financing is rife with numbers that are difficult to comprehend – trillions of dollars per year, in gaps per sector, or in regions. These large amounts can be paralysing, especially when there is no clarity on how they relate to current spending or even what exactly would be financed. One implication seems consistent: more spending is needed. The United Nations' sustainable development goals and the urgency of action on climate change add further impetus to the push to increase spending on infrastructure.

The question of how much is needed should always be accompanied by 'for what'.

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**'The focus should be on the service gap, not the investment gap. Improving service requires typically much more than just capital expenditure.'**

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That answer lies with individual countries' contexts, growth aspirations and social and environmental objectives.

This emphasis on spending can work against the goal of sustainable infrastructure services, as it focuses attention on the need to raise funds rather than on the need to improve

the way they are spent. This is regrettable. Efficiency and demand management policies can help to close service gaps much more cost-effectively than new infrastructure investments alone.

But the infrastructure finance equation is not just about trillions. On the human side, 1.2bn people live without electricity, 663m lack improved drinking water sources, 2.4bn lack improved sanitation facilities and 1bn live more than two kilometres from an all-weather road. These figures mean that children cannot study well once the sun sets. People cannot reach hospitals quickly. Vital water sources become spreaders of disease owing to lack of adequate sanitation.

### Sustainability within reach

According to a new report by the World Bank, 'Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet', developing countries could achieve their sustainable infrastructure goals by spending 4.5% of GDP per year. This would provide countries universal access to water, sanitation and electricity. Such a programme would achieve better mobility, food security and flood protection, while staying on track to limit the temperature increase to two degrees Celsius. Infrastructure investment paths compatible with full decarbonisation by the end of the century need not come at a higher cost than more polluting alternatives.

The new data show that developing countries spend between 3.4%-5% of GDP on infrastructure, with a central estimate of around 4%. This means closing the infrastructure gap – sustainably and smartly – may be more attainable than once thought.

There are some important caveats. The spending goal of 4.5% of GDP represents a preferred scenario whereby countries adopt policies accounting for long-term climate

goals to avoid expensive stranded assets later. In this scenario, countries would invest in renewable energy and combine transport planning with land-use planning. They would develop railway systems attractive to freight and deploy decentralised technologies in rural areas, such as mini-grids for electricity. Even if developing countries are collectively close to the 4.5% spending goal, this does not apply necessarily to individual countries, including many sub-Saharan countries.

The scenario-based approach demonstrates that a country's infrastructure spending price tag depends on its ambition and efficiency. A country with a modern infrastructure base and strong infrastructure-related policies may need half this amount of outlay. In other scenarios – with similar ambitions but without supportive policies – the price tag may double.

A clear message from the research is that the focus should be on the service gap, not the investment gap. Improving service requires typically much more than just capital expenditure. Ensuring that resources are readily available for infrastructure maintenance is a perennial challenge, and requires more attention. The policy recommendations coming from this research will be important to governments around the world as they look at their infrastructure needs and sustainability ambitions.

Infrastructure has a direct impact on the quality of life, business, jobs, and the environment, but too often funding has been seen as an insurmountable challenge. We are calling for a global rethink on infrastructure spending. It is achievable. To get there, we must focus on quality and more resilient investments, based on countries' individual needs and ambitions – and not simply emphasise more money. ●

**Makhtar Diop is Vice-President for Infrastructure at the World Bank.**

# The high price of growth

Importance of sustainability winning ground over economic gains



**Danae  
Kyriakopoulou**  
OMFIF

There are few things that economists broadly accept and on which governments around the world and from across the political spectrum can agree. The pursuit of economic growth as a policy priority is one such rarity. Economic growth captures an important component of a society's progress: the benefit its members receive from the way resources are allocated. A growing economy often sees more people in work and more companies posting profits. Its opposite, an economy in recession, normally means workers losing their jobs and businesses falling into bankruptcy. Reflecting this, growth has become the ultimate objective for policy-makers who pursue economic expansion as their primary goal. And while money can't buy happiness, empirical evidence generally

supports a positive correlation between prosperity and life satisfaction.

Whether this persists through time is a different question. In 1974, economist Richard Easterlin showed that despite a steadily growing US economy, Americans' life satisfaction had broadly stagnated between 1946-70. He concluded that while happiness rises with average incomes, this is true only to a point. This came to be known as the 'Easterlin paradox'. Consistency over time, however, has not always been an important consideration for economic policy-making. As John Maynard Keynes remarked, 'In the long run we are all dead'.

But the long run is no longer so distant. The social and environmental price of economic growth is becoming increasingly clear – and higher. From the 'Occupy Wall Street' protests to the smog over Beijing and the Volkswagen emissions scandal, the past decade has offered several illustrations of the gap between the pursuit of economic growth and economic welfare.

## Question of measurement

If economic growth is the goal, GDP is the radar used to track progress. In its modern guise, it was first developed in 1934 by Belarus-born American economist Simon Kuznets for a US Congress report. It was the proposed answer for a measure of growth at a time when the economy needed to expand. Five years since the Great Depression struck the US with the Black Thursday stock market crash, unemployment had soared to around 25%, investment was virtually nil, and thousands of banks had failed. The economy was plummeting, but no one could measure the extent of the collapse because no statistics were available. Kuznets developed a deceptively simple formula; a measure of what is spent in a national economy in a given

interval based on four main components: household consumption, business investment, government spending and net exports (exports minus imports).

Yet even in his own report, Kuznets included a section on 'uses and abuses of national income measurements' where he acknowledged the misgivings of GDP. He warned that 'the welfare of a nation can scarcely be inferred from a measurement of national income' and that 'distinctions must be kept in mind between quantity and quality of growth, between costs and returns, and between the short and long run.'

There are limitations to GDP. It struggles to keep up with changes in the nature of economic activity, such as the shift to services and intangibles, nor does it include informal and unpaid work, which is prevalent in less developed economies. Its most serious shortcoming is that it is a short-term flow measure that does not take account of the stock effects relevant for sustainability. While GDP is the best measure of economic activity, it reveals little about whether that activity is good for society's long-term prosperity. Sitting in traffic can boost GDP as it raises the level of fuel consumption. Not only is there no benefit to society from such an activity, it also has negative effects on the environment and mental well-being, neither of which are reflected in national accounts. Similarly, environmental and other disasters can contribute to GDP as the cost of cleaning up the damage adds to economic activity.

In response to these drawbacks, several national governments and international organisations are devising alternative measures (see table opposite).

Far from an intellectual debate on technicalities around statistics, measurement is crucial for policy: what we measure affects what we do. In the best-case scenario, a focus



on growth fails to make people better off (as in the Easterlin paradox) without necessarily making them worse off.

But it is increasingly evident that prioritising growth can come at a significant cost, as its pursuit is used to justify policies that increase GDP but have negative side-effects.

### **Sustainability and finance**

One area where the disconnect between economies' focus on growth and the pursuit of sustainable development is starkest is the environment. Economists have traditionally understood environmental degradation as a market failure, an 'externality' problem. The actors incurring the damage do not bear the full costs of it themselves, and so they pollute more.

Theoretically, this can be fixed by 'internalising the externality' – adjusting prices to fully reflect these costs. This could include, for example, a significant rise in air transport prices to ensure consumers bear the full cost of the carbon emissions produced when flying. However, a second market failure, that of time inconsistency, limits the incentives for action. Bank of England Governor Mark Carney termed this 'the tragedy of the horizon'. The impact of climate change is not felt as immediately as the costs incurred to avoid it. Therefore there are few incentives to fix the problem. Tasked with safeguarding price and financial stability, central bankers are particularly prone to this. The horizon for monetary policy extends to two to three years. For financial stability, it extends to a decade. This means, according to Carney, that 'by the time climate change becomes a defining issue for financial stability, it may already be too late.'

Climate-related risks translate to financial risks in at least three ways. First, 'physical risks' to the value of assets from natural disasters and environmental degradation. In 2018, there were around 850 natural loss events incurring a total cost of \$160bn. Second, 'liability risks' stem from those who have suffered losses and seek

compensation. Weather-related insurance losses, for example, have increased almost fivefold since the 1980s. Third, 'transition risks' arise from the disruption caused by shifting to a low-carbon economy. Insurance policies will be curtailed and more expensive. Households will have to bear part of the cost of retrofitting homes to adjust energy consumption. People will need to adapt their transportation habits. There is a trade-off between these channels. As environmental degradation worsens, so do the risks. The sooner action is taken, the less costly adjustment will be. Some central banks are beginning to incorporate the importance of sustainability in their decisions and operations. The Central Banks and Supervisors Network for Greening the Financial System, a network of 36 institutions created in 2017, aims to study and address the potential impact of climate change on the economy and financial stability.

The transition to a low-carbon economy and the efforts required to mitigate the impact of climate change will incur significant costs on households, businesses and governments. But the transition comes with important investment opportunities. The Organisation for Economic Co-operation and Development estimates that a \$90tn investment is needed by 2030 to finance the transition through the development of technologies such as carbon capture and storage and renewable energy solutions. An Intergovernmental Panel on Climate Change study estimates that the world must spend almost \$1tn annually until 2050 on energy-related mitigation investments. According to the European Union, there is a gap of €180bn per year in investments to support the transition between 2021-30.

The pursuit of growth may have dominated the priorities of policy-makers and investors over the past 50 years, but the next century could be a time when households, businesses and policy-makers focus less on income and profit, and more on sustainability. ●

**Danae Kyriakopoulou is Chief Economist and Director of Research at OMFIF.**

## **Alternative measurements to GDP**

### **WEF Inclusive Development Index**

The World Economic Forum's Inclusive Development Index assesses more than 100 countries' performance across 11 dimensions of economic progress in addition to GDP. The index deals with three pillars: intergenerational equity and sustainability; growth and development; and inclusion.

### **European Commission 'Beyond GDP' initiative**

The European Commission's 'Beyond GDP' initiative is about developing indicators that are as clear and appealing as GDP, but more inclusive of environmental and social aspects of progress.

### **Bhutan's Gross National Happiness Index**

The Gross National Happiness Index includes both traditional areas of socioeconomic concern such as living standards, health and education, and less traditional aspects of culture and psychological wellbeing. It is a holistic reflection of the general wellbeing of the Bhutanese population, rather than a subjective psychological ranking of 'happiness' alone.

### **OECD Better Life Index**

The Organisation for Economic Co-operation and Development's Better Life Index asks participants about 11 topics dealing with living conditions and quality of life – housing, jobs, work-life balance, income, health, safety, education, community, civic engagement, environment and life satisfaction.

# Impossible cost of climate inertia

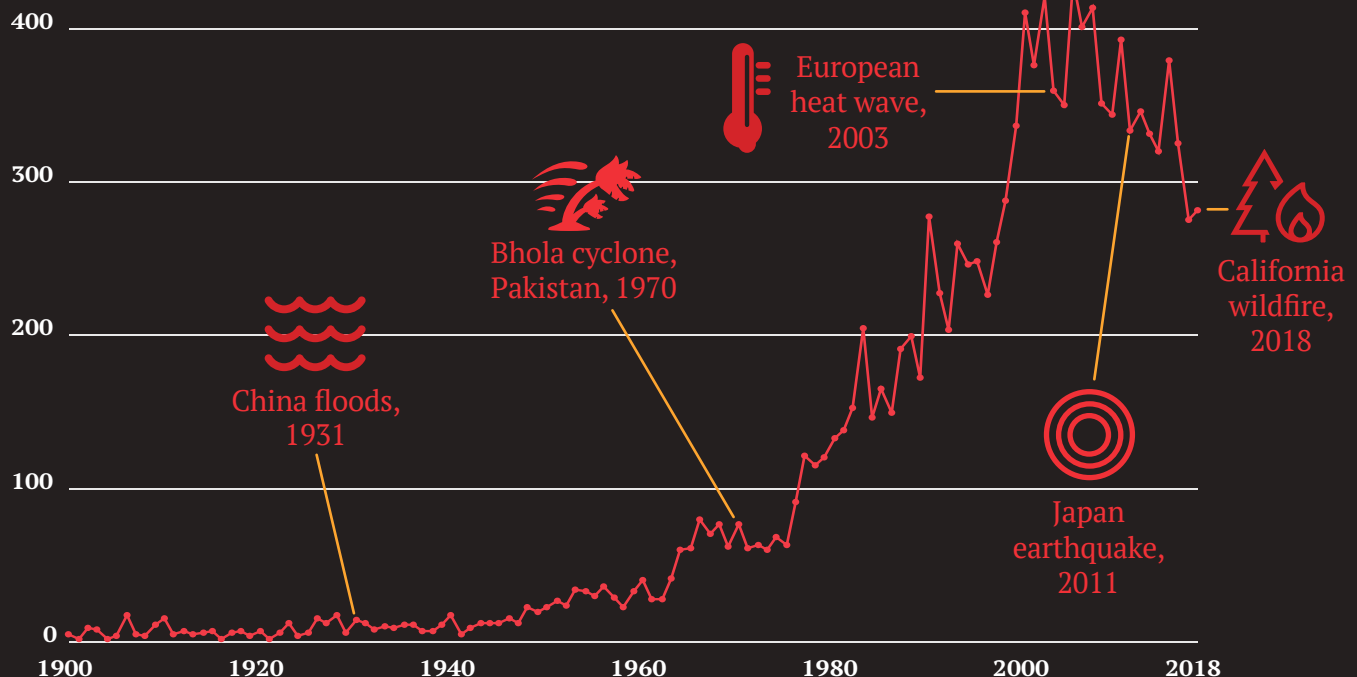


‘If development and economic growth are not risk informed, they are not sustainable and can undermine efforts to build resilience. The economic losses which often ensue from the creation of new risk or exacerbation of existing levels of risk can have a significant human cost.’

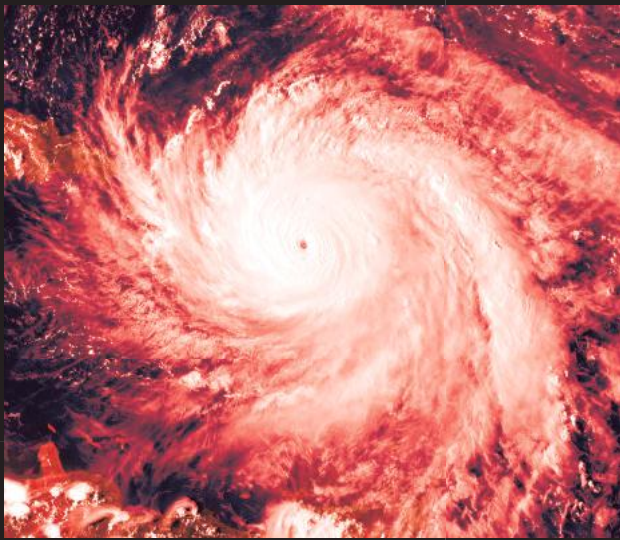
*Foreword, ‘Economic Losses, Poverty and Disasters’ report, Centre for Research on the Epidemiology of Disasters*

## 2000s peak decade for natural disasters

The number of global reported natural disaster events in any given year, includes drought, floods, extreme weather, extreme temperature, landslides, dry mass movements, wildfires, volcanic activity and earthquakes



Source: EMDAT



Overall losses from world-wide natural catastrophes in 2018 totalled **\$160bn**. This is below extremely high losses in 2017 of **\$350bn**, which reflected mainly the record hurricane damage suffered that year.



Between 1 January-10 June 2018, there were **25,437** wildfires in the US, according to the National Interagency Fire Center. Around **1.8m acres** of land were burned in this period.

## Hurricanes most economically damaging natural disaster

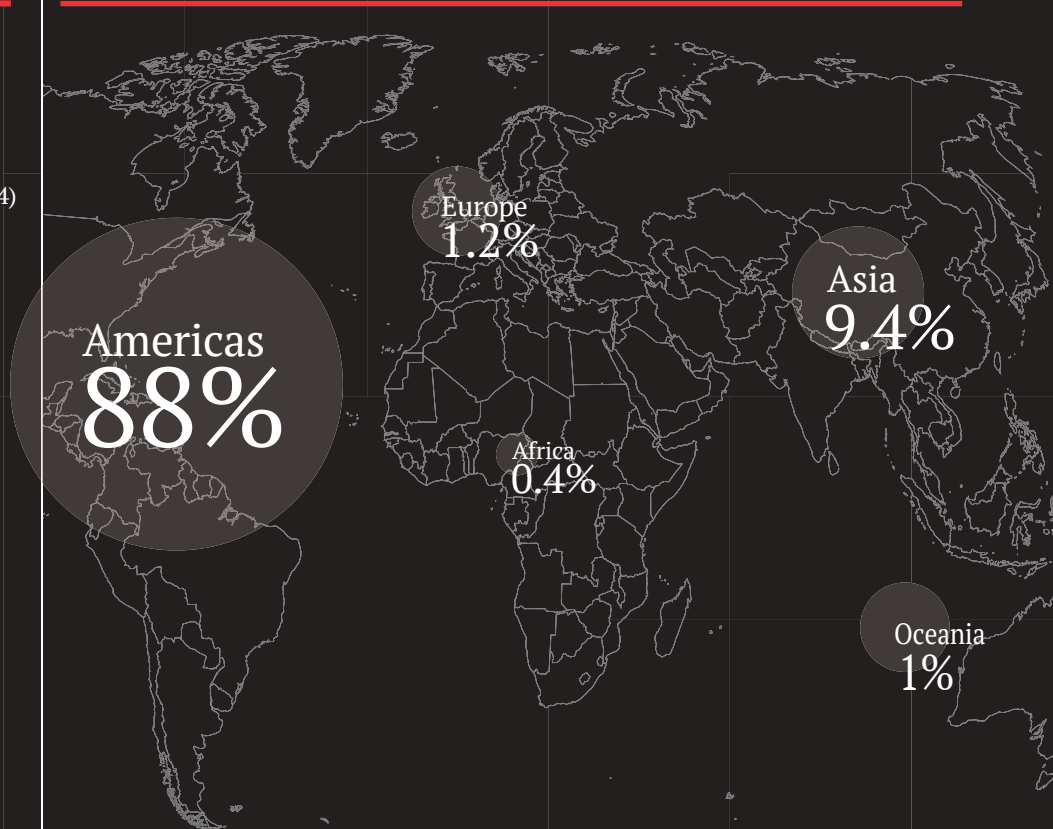
Disasters dealing the most economic damage (\$)

|                                                     |                                                    |
|-----------------------------------------------------|----------------------------------------------------|
| Japan earthquake and tsunami (2011)<br><b>360bn</b> | Hurricane Maria (Caribbean, 2017)<br><b>63bn</b>   |
| Hurricane Katrina (US, 2005)<br><b>125bn</b>        | Northridge earthquake (US, 1994)<br><b>44bn</b>    |
| Kobe earthquake (Japan, 1995)<br><b>100bn</b>       | Thailand flooding (2011)<br><b>43bn</b>            |
| Hurricane Harvey (US, 2017)<br><b>85bn</b>          | Hurricane Ike (US, 2008)<br><b>38bn</b>            |
| Sichuan earthquake (China, 2008)<br><b>44bn</b>     | Japan earthquake (2016)<br><b>31bn</b>             |
| Hurricane Sandy (US, 2012)<br><b>69bn</b>           | Chile earthquake and tsunami (2011)<br><b>30bn</b> |
| Hurricane Ima (US, 2017)<br><b>67bn</b>             |                                                    |

Source:  
Munich Re

## US and Latin America have biggest economic interest in adopting risk-informed policies

Share of economic damage wrought by natural disasters by continent (%)



Source: Centre for Research on the Epidemiology of Disasters

# Deceleration angst in advanced economies

## Low money growth signals risk of deflation in 2020

**Juan Castañeda and Tim Congdon**  
Institute of International Monetary Research

Low rates of growth of money in the six major world economies continue to be the norm, adding to risks of below-trend output growth or at least one quarter of falling output. Fears of deflation in 2020 in some countries are not misplaced. Central banks are right both to discontinue further measures to tighten conditions and to consider moves towards further monetary easing.

Fortunately the Federal Reserve's 'normalisation' policy has been put on hold. The Fed reduced its monthly asset run-off to \$15bn in May, and will finish it in September, while reductions in federal fund rates may occur in coming months. In addition, the easing of regulatory pressure on US banks in the last two years has allowed them to grow risk assets and thus expand their balance sheets quite quickly. In this more benign monetary scenario, the amount of money in the US may be able to grow at an annual rate of 4%-5% in 2019, compatible with a moderate annual GDP growth of around 2%-3% and

inflation below the Fed's 2% target.

In the euro area and the UK the scenario is more worrying. Broad money growth (M3) in the euro area showed a significant increase during the three months to March 2019 (with an annualised rate of 4.6%). Credit rates are growing faster than expected, while pressure from regulators to increase capital ratios has subsided. However, the Italian economy and its fragile banks pose, along with persistently high Target-2 imbalances, a threat to euro area financial stability. The risk of a default or a banking crisis – with contagion spreading across the bloc – cannot be dismissed.

In the UK, the sluggish rate of growth of broad money has largely been overlooked. The annual growth rate of the M4x measure of broad money increased slightly to 2.8% in April from 2.2% in March. Despite the increase in money growth in April, the slow rate of growth of money will harm output growth regardless of the outcome of Britain's exit from the European Union. With the government searching for a replacement for Bank of England Governor Mark Carney for January 2020, it should impose as a prerequisite that

candidates acknowledge the pivotal role played by changes in the amount of money in explaining macroeconomic outcomes. As obvious as it sounds, the institution in charge of preserving price and financial stability should pay much more attention to changes in money balances than it has done in the past.

Money growth is low or moderate in most advanced economies, which suggests that negligible inflation or even deflation can be expected in 2020. Central banks have the tools to prevent the current deceleration in money growth in some countries from persisting. Overall, the current money growth figures mean a recession should not be anticipated, but a marked slowdown is under way. Below-trend growth in world output may continue into 2020, unless central banks ease up further. ●

**Juan Castañeda is Director and Tim Congdon is Chairman of the Institute of International Monetary Research. For a more detailed analysis of the latest money trends, see the IIMR monthly report at <https://www.mv-pt.org/monthly-monetary-update>.**



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# China's bond market too big to ignore

## Untapped territory for global investors



**Jianwen Zhang**  
China Securities  
Credit  
Investment

**V**alued at \$13tn, China's onshore bond market is the third largest in the world, making up 11% of the global bond market. Despite its massive size and potential, China remains one of the least penetrated bond markets by global investors. According to the People's Bank of China, at the end of 2018 foreign investors accounted for 2.3% of the market in terms of value. However, this is starting to change.

Bloomberg has begun including Chinese government bonds and policy bank securities in its \$54tn Bloomberg Barclays global aggregate index. Inclusion in major global benchmarks

is expected to attract trillions in foreign inflows and reshape global capital markets in the coming years. Many investors see Chinese bonds as too important to ignore.

Foreign investors own more than 8% of China's central government bonds outstanding. Yet increased participation in the country's debt markets by overseas investors will depend on how comfortable they can become with expanding purchases beyond the relatively safe bonds set for inclusion in the Bloomberg index.

China's onshore bond market is not only large but also diverse. Compared to government bonds, the credit market – already the second largest in the world – is where significant excess return can be generated through active management of the risks

associated with each issuer. In 2018, China's credit bond market was among the best performing sectors in the global bond market, and foreign investors have started buying into it.

### Unlocking the market

This market can be challenging for global investors. They may lack the necessary expertise to decipher policy implications. The opacity of the market can sometimes limit effective information gathering and analysis.

Often, an offshore trader based in Hong Kong will receive important information two days later than their Shenzhen onshore peers, despite being just 14 minutes away by high-speed train. Independent, on-the-ground credit research and real-time information gathering are

essential for navigating the opportunities and challenges that China's credit market presents.

As one of the country's leading integrated credit-tech services providers, China Securities Credit Investment is the ideal partner for international investors as they increase

**'Valued at \$13tn, China's onshore bond market is the third largest in the world, making up 11% of the bonds market globally.'**

their allocation to China. Our local expertise is reflected in our comprehensive, real-time database for China's capital markets. We work with a credible and intelligent credit evaluation model and carry out effective price discovery.

Unlocking China's credit bond market could be transformative for global capital markets over the next decade. With our extensive expertise in providing professional credit rating services, customised credit risk solutions and credit tech-based asset management services, CSCI endeavours to help global investors seize the opportunities in China's bond market. ●

**Jianwen Zhang is Chief Strategy Officer at China Securities Credit Investment.**



# Fed policy requires radical realignment

## Wanted: Yellen's economics plus unconventional thinking



**Darrell Delamaide**  
OMFIF

The two-day Federal Reserve conference in Chicago in early June was titled 'The Fed Listens'. That must have come as a surprise to President Donald Trump, since his admonitions of policy-makers have fallen on deaf ears.

The summit's subtitle – a 'Conference on Monetary Policy Strategy, Tools and Communication Practices' – would also have surprised a president who abjures long-range planning. But he was probably not the only one scratching his head about what policy-makers hoped to achieve with a year-long review of strategy practices. The Chicago conference was one in a series that will lead to a report next year.

This is not how the Fed or other central banks usually do business. When the financial crisis broke in 2008, the Fed had no time for long-term strategy planning, but had to adopt a programme of extraordinary measures on the fly.

There was no way to plan that strategy ahead of time and the current review has less to do with the future and more to do with the past that the crisis has left as a legacy – especially an absence of inflation that skirts the risk of deflation.

Recent experience suggests

the last thing the Fed needs is a long-term strategy. Rather it needs the type of nimbleness and imagination it demonstrated at the height of the crisis. In the past year and a half, the Fed has made some badly mistaken calls by locking itself into a strategy that not only failed to adapt to incoming data, but clung to theories that apparently have been rendered obsolete.

### Path of patience

Because economic models based on historical assumptions told them to raise interest rates, the Fed embarked last year on what it called a steady path of rate increases. It stuck to that strategy even though there was little sign of inflation meeting its 2% target, let alone exceeding it. Because it must demonstrate its independence, the Fed ignored Trump's rebukes. Monetary policy-makers later admitted, albeit quietly, that some of these criticisms were valid.

The Fed adopted a policy of patience, which proved to be equally wrong. Instead of keeping its options open to adapt to the impact of trade negotiations, the Fed stuck to this mantra until markets forced it off that course.

Events have shown that long-range planning does not seem to work very well. So now the Fed wants to tinker with its inflation target. New York Fed chief John Williams proposes an 'average inflation targeting' that to the layman looks a lot like the

'symmetric inflation target' the Fed says it has been following. The only apparent difference is that this time they might really mean it.

### 'Bullard and Kashkari have been pushing for a radical realignment of policy for years and consistently argued against rate increases in the absence of inflation.'

The Williams paper calls for above-target inflation when policy is 'unconstrained' – that is, when there is no risk of inflation getting out of hand – and keeping interest rates lower for longer to make sure expectations do rise. In short, what policy-makers should have been doing for the past 18 months.

### Ideal qualities

The lessons of the past couple of decades suggest that who is making the decisions matters a lot more than what strategy they are following. Former Fed Chair Alan Greenspan was a slave to his ideological conviction that markets are self-correcting and led the entire policy-making panel down with his disastrous agenda.

Ben Bernanke followed the Greenspan playbook of ignoring brewing crises until they actually broke. Fortunately, because of his

in-depth understanding of the Great Depression, he was able to avoid the worst with some bold and imaginative policy-making. His successor, Janet Yellen, who combined the best qualities of a central banker in a virtually ideal fashion, was well on her way to institutionalising this flexibility when Trump made the fateful mistake of not renewing her term as chair.

There may be a place on the Fed board for someone with Jerome Powell's qualifications, but it is not as leader when the board desperately needs Yellen's combination of economic understanding and monetary policy practice.

With a weak chair and a board that may not reach its full complement of seven for months, it is time for the regional Fed presidents, such as St. Louis's James Bullard and Minneapolis's Neel Kashkari, to push harder for unconventional thinking.

Bullard and Kashkari have been pushing for a radical realignment of policy for years and consistently argued against rate increases in the absence of inflation. It doesn't matter whether they happen to be voting members on the Federal Open Market Committee in any given year, but whether they can convince their colleagues to accept that they have been right all along. That is who the Fed should be listening to. ●

**Darrell Delamaide is US Editor at OMFIF.**

# Asset tokenisation could soon take off

## Rate of adoption depends on two key challenges



**Carlo Cocuzzo**  
ING

More than 10 years ago the pseudonymous Satoshi Nakamoto designed the first prototype of bitcoin. With its highly secure cryptographic algorithm and ability to operate without a trusted intermediary, bitcoin's bold promise was to disrupt the global financial industry and allow people to transact with one another without the need to 'shake hands'.

Today, as central banks combat deflationary pressures stemming from the digital economy, economists are struggling to come up with a

consistent framework around digital currencies and assets, and the implications for the global economy and capital markets industry.

### Versatility of tokens

Asset tokenisation – the splitting up real-world assets and converting them into their digital equivalent on the blockchain – could take off within the next three to five years. However, despite advances in ground-breaking technology and the potential to unlock new pots of liquidity in previously illiquid assets, there are sizeable hurdles to overcome.

Security tokens are programmable, digital crypto-assets. They can follow business-driven logic statements. They

are a digital representation of an existing real-world asset and fully encrypted in a distributed ledger environment. Similar to what happens with initial coin offerings, security tokens are issued through security token offerings, but with one key difference. Security tokens are often sandboxed within the existing financial securities regulatory framework, and as such they are affixed to a set of legally binding rights for buyers and obligations for issuers, sellers and trading platforms. This special blend is what could make them more appealing to investors and regulators alike.

With tokenisation, it is possible to segment the value of an asset – property, for example – into 'digital tokens' and sell a

minor stake to investors. It offers a 'liquidity premium' for the underlying asset and facilitates market access to new types of investors.

**'Developing the technology is only the first step. Shaping the economic and regulatory landscape is a much bigger challenge.'**

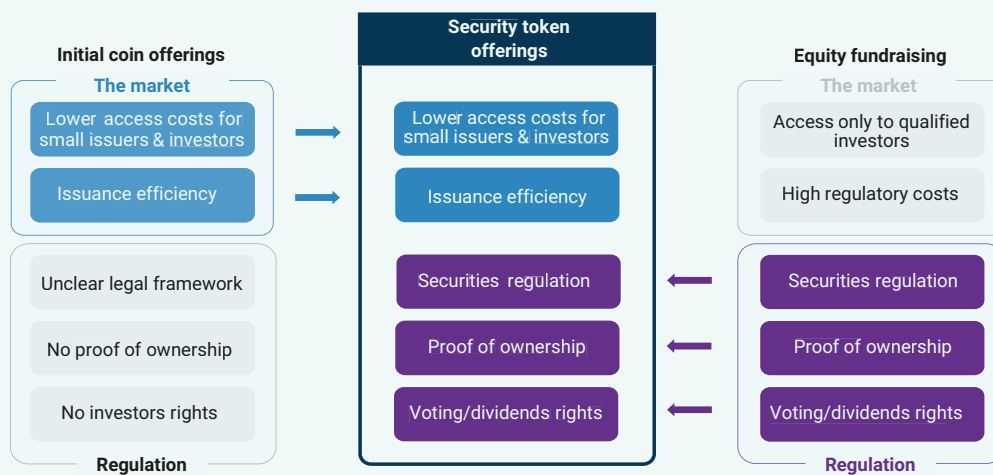
Security tokens could unlock new opportunities and pots of liquidity for issuers and investors alike. They are versatile, as they can be used for tangible assets (including commodities, shares, real estate, properties, artworks) as well as intangible assets (such as music property rights). But before this can happen, the capital markets industry must catch up with technology, moving away from paper-based manual-intensive workflows and clearing, and settlement processes that can take days to complete.

### Barriers to adoption

Undeniably, security tokens could elevate the capital markets industry. But their rate of adoption depends on two key challenges.

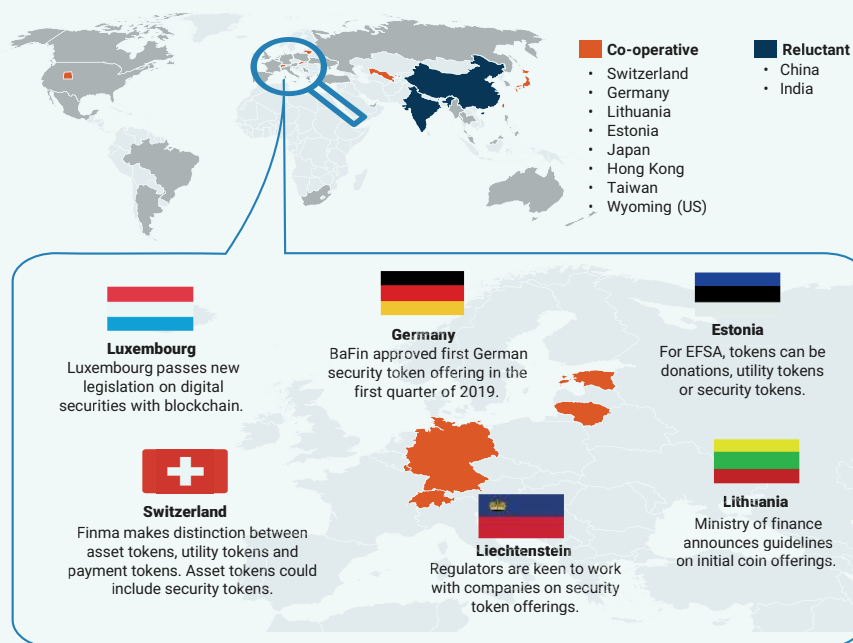
The first relates to regulation. Because security tokens fall within existing

**Figure 1: Security tokens differ from initial coin offerings or shares**



Source: ING elaborations; PwC

**Figure 2: Regulators moving fast in Europe**



Source: ING elaborations; PwC

regulation, their pace of adoption should accelerate. There are increasing signs that regulators are willing to catch up quickly, with Germany, Switzerland and Luxembourg leading the pack in Europe. But equally, the lack of global standards for securities casts doubt on their cross-border development. To be clear, the regulatory challenge of cross-border transactions is as daunting for security token offerings as it is for any other security.

The second challenge concerns tokenisation itself. Although fractional ownership could

unlock more liquidity, it will not generate necessarily a higher demand for those assets. From an economic standpoint, what security tokens make possible in the current regulatory landscape is what is already made possible by investment funds. Funds are able to invest in illiquid assets, and can make them available to (retail) investors. They can divide their asset portfolio into a number of units or shares of their choice. And while it is true that tokenisation could expand significantly the pool of assets, crucially, the investment fund is an intermediary.

The current regulatory framework requires an intermediary (liability, responsibility, single point of contact). Therefore, for security tokens to fit in within the existing regulation, they must act as an intermediary. Funding models for security token offerings may become more decentralised, and regulation could evolve to accommodate, but this will take time.

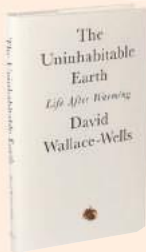
Developing the technology is only the first step. Shaping the economic and regulatory landscape is a much bigger challenge. As the intermediary

**‘The lack of global standards for securities casts doubt on these tokens’ cross-border development.’**

disappears, the unit-holders become direct fractional owners, directly responsible and liable. This begs a number of economic and legal questions, not least on asset valuations, verification of ownership and marketability of the tokens. The Financial Stability Board, for instance, has warned against the risks posed by the rise of tokenisation, such as the potential liquidity mismatch between the token and the underlying asset or the overestimation of the degree of liquidity of traditionally illiquid assets during periods of market stress.

Ultimately, finance is the business of trust. Without trust, an investor is unlikely to engage in a transaction. Even in a fully decentralised world where transactions take place on a public blockchain ledger, there needs to be trust in the algorithm, or the coder who designed it. It is difficult to see how a fully decentralised model might work given these issues, which then leaves the door open to trusted intermediaries such as banks and investment funds. ● **Carlo Cocuzzo is Economist at ING.**

# Calling an end to 'climate kabuki'



The 'state of half-ignorance and half-indifference', David Wallace-Wells argues, 'is a much more pervasive climate sickness than true denial or true fatalism'. *The Uninhabitable Earth* is a mortar-shell of a book, bearing enough force to dash whatever apathy (deliberate or otherwise)

readers may feel about climate change.

It is a subject of such complexity that proper comprehension of its scope and terrifying consequences seems impossible. Wallace-Wells, thankfully, has no patience for such complacency in this erudite tome. It is tremendously well sourced – there are 65 pages of Notes in the 310-page hard-back edition – evincing the author's journalistic pedigree. He is deputy editor of 'New York' magazine, in which *The Uninhabitable Earth* began life as a long-form article.

Wallace-Wells paints an 'emergent portrait of suffering' across 12 early chapters detailing the variety of climate catastrophes that will befall us. Rising sea levels are a preferred topic when discussing climate change, but he affords as much attention to the other evils unleashed from that Pandora's box – 'roiling typhoons, unprecedented famines and heat waves, refugee crises and climate conflicts', to name just a few. Even the wealthiest parts of the world will not escape the hellish reality. The photograph on the cover of this magazine was taken in December 2017 in Ventura County, California, one of the richest states in the world's pre-eminent advanced economy.

One figure that sticks in this reader's mind relates to that least cinematic of terrors: air pollution. Wallace-Wells writes, 'Already, more

than 10,000 people die from air pollution daily. That is considerably more each day – each day – than the total number of people who have ever been affected by the meltdowns of nuclear reactors.' Looking ahead, '150m more people would die from air pollution alone in a two-degree warmer world than in a 1.5-degree warmer one', though the United Nations Intergovernmental Panel on Climate Change considers even that figure to be conservative. 'Numbers that large can be hard to grasp,' writes Wallace-Wells, 'but 150m is the equivalent of 25 Holocausts.'

Between the awe-inspiring data and brutal descriptions of climate catastrophes, Wallace-Wells is able still to conjure a bit of much-needed (albeit dark) humour. He sends up in equal measure those who deny climate change is man-made and the plutocrats who believe technology alone will solve all humanity's problems. He is more kind to those environmentally conscious people who espouse the virtues of veganism and decry the demise of adorable animals – still, one would rather see these individuals pay at least as much attention to the damage wrought on their own species.

## Moral multipliers

On the topic of personal consumption, Wallace-Wells is unequivocal, writing that meaningful cuts to carbon emissions will not be achieved 'through the dietary choices of individuals, but through policy changes... Eating organic is nice, in other words, but if your goal is to save the climate your vote is much more important. Politics is a moral multiplier.' Virtuous consumption might make individuals feel better about their carbon



footprint, but, truthfully, it is mostly a cop-out, and no substitute for political action.

The scale of the problem means that radical renovation of existing, unsustainable economic models is necessary. But Wallace-Wells finds little to like in this respect from recent decades' political classes. While climate change has appeared to be climbing institutions' agendas, reflected in the plethora of conferences, accords, proclamations and press releases that they like to promulgate – 'acts of climate kabuki', as Wallace-Wells calls them – carbon emissions have continued to grow relentlessly.

Some pundits like to lay a large portion of the blame for the current state of the world on the actions of our ancestors during the industrial revolutions of the 18th and 19th centuries. This argument is ludicrous, as though the passing of guilt could in any case expunge the present age's policy-makers of their responsibilities to citizens. The data are clear on this front: 'More than half of the

‘Eating organic is nice but if your goal is to save the climate your vote is much more important.’

carbon exhaled into the atmosphere by the burning of fossil fuels has been emitted in just the past three decades. Which means we have done as much damage to the fate of the planet and its ability to sustain human life and civilisation since Al Gore published his first book on climate than in all the centuries – all the millennia – that came before.’

The cost per unit for renewables has fallen to such a great degree over the last 25 years that it is preposterous even to try to measure today’s prices using the same scales. And yet, since the turn of the century the share of worldwide energy use derived from renewables has not grown in the slightest. As Wallace-Wells puts it, ‘Solar isn’t eating away at fossil fuel use, in other words, even slowly; it’s just buttressing it. To the market, this is growth; to human civilisation, it is almost suicide.’

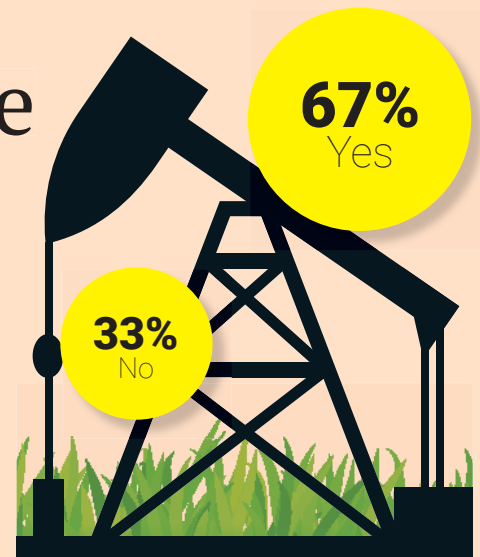
The magnitude of our short-sightedness over recent decades is almost unfathomable. Some people still need to be convinced of the economic validity of carbon taxes, public investment in renewables and the phasing out of dirty energy, even when we ‘know that it will be much, much more expensive to not act on climate than to take even the most aggressive action today’.

The first line of *The Uninhabitable Earth* reads, ‘It is worse, much worse, than you think.’ It may surprise some, then, that Wallace-Wells’s conclusion is optimistic. Because, no matter how bad things have become, ‘if humans are responsible for the problem, they must be capable of undoing it.’ To pursue the alternative philosophy – of apathy, fatalism and political nihilism – is tantamount to countenancing genocide. ●  
**Julian Frazer is Senior Editor at OMFIF.**

# Ensuring sustainable investing

**In the light of increasingly frequent climate change-related catastrophes around the world, ought global public investors be mandated to divest from fossil fuels and support investments focusing on sustainable and renewable energy solutions?**

*Poll of OMFIF website users, OMFIF advisory board and Twitter users.*



‘Yes. It is inconsistent policy to invest in fossil fuels for profit while spending public money to mitigate the impacts.’

**Irena Asmundson, California Department of Finance**

‘There is evidence that divesting from fossil fuels compared to lowering carbon exposure is both less effective environmentally and produces lower investment returns. This supports the argument for mandating global public investors to incorporate climate change in their decision-making without being unduly specific.’

**Colin Roberston, SW1 Consulting**

‘I strongly support the case for fossil fuel disinvestment and clean energy investment. There is not just a moral call to climate action. Increasingly, institutional investors are showing greater commitment to divest from fossil fuels. Policy-makers should aim to create an enabling environment with a clear mandate for clean energy investments supported by the necessary legislation.’

**Hemraz Jankee, formerly Bank of Mauritius**

‘For the purposes of maximising investments, they should not need such a mandate, because public policy on the back of sustainability concerns will cause investments in fossil fuels to underperform, and those in sustainability and renewability to outperform. On the other hand, these are powerful investors. Any such instructions should both put pressure on fossil fuel producers and reinforce investment performance.’

**Andrew Large, formerly Bank of England**

‘I believe it would be economically short-sighted to mandate that global public investors divest assets involving fossil fuels. But I do think support, in the form of financial incentives, should be offered to induce such investors to support sustainable and renewable sources of energy.’

**David Cameron, Yale University**

‘No! Public policy should use incentives, not disincentives.’

**Ted and Tracy Truman, Peterson Institute for International Economics**

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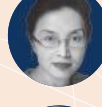
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# Becoming a 'marked man' in Montenegro

## Momentous 1999 currency reform was first step in secession



**Steve Hanke**  
The Johns  
Hopkins  
University

While still part of the rump Yugoslavia, Montenegro in 1999 dumped the hapless dinar and replaced it with the mighty German mark. Then-President Milo Đukanović engineered this dramatic, daring and dangerous move. It will go down as one of the 20th century's most significant currency reforms, setting Montenegro on a path towards independence, membership of the North Atlantic Treaty Organisation, and what might one day be entry into the European Union.

During the 1990s I spent a great deal of time operating as

an economic adviser in what was, at one time, Yugoslavia. In Montenegro, I served as state counsellor, a position that carried cabinet rank, and as adviser to Đukanović. In that capacity, I determined that the replacement of the Yugoslav dinar with the German mark was both feasible and desirable.

I assisted in developing the architecture for the official introduction of the mark as legal tender in Montenegro, where today the euro is the coin of the realm.

During the summer and autumn of 1999, I assisted the president in formulating an economic strategy designed to create the conditions for Montenegro to become a fully independent republic.

In 1999, Montenegro was still, along with Serbia, part of the Federal Republic of Yugoslavia. Strongman Slobodan Milošević was the president of Yugoslavia and had control of the army. On 2 November 1999, Đukanović made a decisive move that would set his country on a course towards independence: he granted the mark legal tender status. This all but eliminated the dinar from circulation in Montenegro. It also infuriated Milošević. Although he refrained from unleashing the Yugoslav army, he was reported to have given serious consideration to that idea.

### Comedy of the absurd

Milošević's operatives did, however, engage in a great deal of mischief. For one thing, I became a marked man. Goran Matic, the Yugoslav information minister, produced a steady stream of bizarre stories. These were disseminated through Tanjug, the Yugoslav state news agency. Among other charges, I was accused of being the leader of a smuggling ring that was destabilising the Serbian economy by flooding it with counterfeit dinars. The most spectacular allegation, however, was that I was a French secret agent who controlled a hit-team code-named 'Pauk' ('Spider'), and that this five-man team's mission was to assassinate Milošević.

In addition to this comedy of the absurd, there was a serious

side. I knew this was the case because, although we were kept in the dark about the specific nature of the threats, Đukanović's office always assigned my wife and I proper security when we travelled to Montenegro's capital of Podgorica – a difficult destination that often required a flight from Zagreb to Dubrovnik, Croatia and then a long trip through the mountains.

In any case, the adoption of the mark was Montenegro's first secession step – one that the US and its allies eventually supported. On 4 November 1999 I, with the help of Senators Steve Symms and Trent Lott, arranged a meeting at the US capitol in which Đukanović and I made a case for Montenegro's currency reform. The members of congress in attendance warmly received our message. As a result, Washington ended up supporting Montenegro's currency reform.

Even after 20 years the scene remains, in many ways, the same. For one thing, Đukanović is again president, and independent Montenegro remains at the centre of geopolitical tugs-of-war, as it has for centuries. As I watch today's give-and-take and look back on the country's currency reform, I can confidently say it was momentous. ●

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Milo Đukanović



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