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Global Future Council on Financial and Monetary Systems

Vision 2030: A Stocktake

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Introduction

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Broad and reliable access to safe and efficient financial services is essential for a resilient economy, growth and social cohesion. However, the global financial and monetary system is going through a major multi-year shake-up, driven by two seemingly opposite forces: integration and decentralization. Using the visionary document *The Global Financial and Monetary System in 2030* as a starting point, the 2018–2019 WEF Global Future Council on Financial and Monetary Systems focuses on three themes: 1) financial inclusion, 2) the emerging ecosystem and decline of cash, and 3) operational resilience in the financial sector.

These three themes are non-exhaustive and may look disparate but they have one common ingredient: Technological changes are creating tremendous opportunities, but at the same time also disrupting existing business models as well as the interactions between the private and public sectors, affecting the global and domestic playing fields.

The globalized economy relies on an international financial system. Yet increased political instability and regulatory fragmentation pose a great risk to our ability to realize the full potential offered by this efficient financial system.

Knowledge knows no boundaries, and with technological breakthroughs including digitalization, artificial intelligence (AI) and automation, it is critical to encourage joint and coordinated policy developments. In this stocktaking, council members outline views on the necessary public regulations and supervision, as well as the necessary standards for an innovative, effective and resilient financial industry.

A financial system that excludes certain individuals and businesses is failing in its purpose. Efforts to broaden access to financial services are therefore critical. More than 1.5 billion adults remain unbanked in the world. Improvements are being made: For example, the 2017 Global Findex database shows that 1.2 billion adults have obtained an account since 2011. But access to an account is only the beginning. In order to make individuals financially healthy, acquiring knowledge (financial literacy) is a prerequisite to enabling informed decision-making.

The Global Future Council of 2018–2019 decided in particular to highlight and support innovations that help individuals find, understand and use financial services that meet their needs. To this end, during spring 2019 we launched an innovation challenge to encourage and support fintech firms that enhance financial literacy in innovative ways. Fineazy won the challenge thanks to its distinct product and potential for scalability (more information about Fineazy, and the challenge, is available in the financial inclusion section of this report).

The rapid transformation of the global financial and monetary system will continue in the years to come and so will the work of the Global Future Council. Thought leadership from both the public and private sectors is more important than ever to ensure a joint approach to the necessary evolution of globally coordinated international standards that are vital to underpinning inclusive growth. We hope that this stocktaking will provide a helpful contribution.

Financial inclusion

The 2018 White Paper *The Global Financial and Monetary System in 2030* published by the members of the previous Global Future Council on Financial and Monetary Systems foresaw that universal financial inclusion and access to financial services will become a reality, enabled by the development of new technologies and decreasing intermediation by traditional banks. The current council picked up on this theme, exploring in particular the consequences of improved access. Members saw significant policy gaps, as the heightened need for improving financial literacy and education remains unaddressed and the risks stemming from access to digital financial services are not well understood. China stands out as a market that has made tremendous progress in enhancing access to financial services through technology-based solutions, and council member Wan Zhe discusses the Chinese achievements and remaining challenges in two op-eds.

The council addresses the need to increase financial literacy with a challenge that recognizes fintech firms that enhance financial literacy in innovative ways. The challenge winner Fineazy enables consumers in South Africa and Ghana to make better financial decisions with the help of an AI-powered chatbot. The challenge winner was announced in a media briefing on financial literacy at the Forum's Annual Meeting of the New Champions in July 2019 in Dalian.

The good news on pensions: sustainable equals profitable, Eric Parrado and Enric Sala
Published on the World Economic Forum Agenda Blog on 7 February 2019

> Would you be interested in investing in companies that produce nuclear weapons? Or companies that damage the environment, pollute our seas or violate human rights? Or companies that have been related to corruption scandals? If your answer is "no", unfortunately it is likely that you are investing in some way in these types of companies today.
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> How can we avoid this? The solution could be in your pension funds, given the global investments they make on your behalf. Companies with excellent certified behavior currently represent only between 20% and 45% of the total. The question for both policymakers and citizens is: would you be willing to invest in companies that avoid unacceptable behavior?
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> Many of us would be willing to sacrifice some return on our investments in order to contribute to environmental conservation, for trusting companies that are concerned about the impact on communities, and for supporting good business management. However, it seems that worrying about our future as a society is incompatible with the pursuit of personal financial well-being, because of the ingrained belief, for example, that we must choose between economic growth and environmental sustainability.

This is a false dichotomy. Being sustainable does not mean rejecting economic growth and financial well-being in any way. Sustainability, as stated in the **1987 Brundtland Report**, is "to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs".

One way to do this with a significant and immediate impact is to allow workers who are obliged to contribute to their pension fund to distribute their savings towards sustainable funds. In Chile, for instance, the current pension system allows all citizens to choose between five alternative funds with varying risk profiles, from the most conservative, in which the investments in equities are only 5% of the value of the fund, to the most aggressive, which can reach up to 80% in equity investments.

Given that financial and pension education in Chile is low, it can be a complex decision to make. In addition to reducing fund options, an easier, more committed and meaningful decision would be to offer the possibility to invest part or all of the savings in companies that behave better than their peers. This performance should be measured in terms of companies' environmental (E), social (S) and governance (G) aspects. These are the so-called ESG criteria.

The traditional form of recognizing the "social responsibility" of companies is represented by the ideas of Milton Friedman in the 1970s, stating that the social responsibility of managers is "to conduct the business in accordance with their desires (the owners), which generally will be to make as much money as possible while conforming to the basic rules of the society, both those embodied in law and those embodied in ethical custom". The downside of this argument is that it does not consider the so-called "negative externalities" that are the damaging impacts of industrial activities on third parties or the environment.

In contrast, **Hart and Zingales in 2017** incorporated the possible negative externalities in their analysis, concluding that the welfare of the shareholders is not equivalent to maximizing the market value of the companies. Companies and asset managers must follow policies consistent with the preferences of their investors to maximize their well-being, which includes not only monetary aspects, but also priorities related to environment, democracy and social well-being, among others.

Investors voting on corporate policy is one way to achieve this. This is precisely what our proposal seeks: for citizens to express their well-being and sustainability convictions through their pension funds. In the case of Chile, Pension Fund Administrators (AFPs) could maintain the traditional five risk profile funds, but could also offer in parallel the same composition of funds with ESG certification.

No other measure has as much impact on sustainability and depends directly on a personal decision as investing in sustainable funds. According to the calculations made by the Nordea Bank's sustainable finance team, moving personal savings to sustainable funds can be 27 times more efficient in terms of improving your personal carbon footprint as eating less meat, using public transportation, reducing water use and air travel combined. It seems that the solution is within immediate reach of policymakers and later on, citizens.

This proposal would create at least two important incentives. First, it would push pension funds and other asset managers around the world to subscribe and incorporate responsible investments within their portfolios. Second, it would pressure companies to play a more prominent role in addressing critical challenges associated with the Sustainable Development Goals (SDGs), such as economic inclusion, closing gender gaps, and reducing climate change. Companies with a vision of the future already understand that performance in areas associated with ESG criteria affects long-term performance.

A reasonable question is whether you would have to sacrifice monetary returns in order to invest in ESG funds. The answer is no. According to one of the best-known and global ESG stock indices, the **MSCI ACWI ESG**, its returns between September 2007-2018 were 81%, compared to the standard MSCI ACWI index return of 70% over the same period. The same MSCI company has shown that companies with ESG profiles exhibit higher cash flows, lower idiosyncratic risk and higher valuations.

Is there enough volume of ESG companies to be able to transfer those savings? The answer is yes. Investment in ESG companies is estimated at more than $20 trillion, or about a quarter of all professionally managed assets worldwide. Additionally, strong growth in sustainable assets is expected to be driven by global agreements in carbon emissions reductions, disinvestment in fossil fuels and a change in preferences, especially of women and millennials interested in investing in long-term sustainability factors.

Today, we have the opportunity to generate changes for a better future with the possibility of allocating part of our savings in pension funds to sustainable funds. Citizens can shape our future immediately, changing behavior and creating incentives for more companies to address what is important for the well-being of our current society and future generations.

China as a confidence booster amid a precarious world economy, Wan Zhe

Republished with permission from Huanqiu, original publishing date 3 July 2019

My feeling at the Annual Meeting of the New Champions 2019 in Dalian, China was that the world economy has reached a turning point.	2019年世界经济论坛(夏季达沃斯)新领军者年会正在中国大连举行，从今年笔者参加夏季达沃斯所感受到是，世界经济走到了转角处。
From the opening plenum to specific sessions, my first observation was the widespread ambivalence and anxiety that was felt among various communities. Horizontally, participants from both developed and developing countries were worried about their structural problems, indecisive policies, as well as external pressure hindering their transition and internal issues. They are also concerned about how to balance interests between developed and developing countries as well as their relations. Participants openly acknowledged the rise of protectionism around the world, but they were divided in how to address the issue, a sign of inconsistency in the policy implementation of various countries.	从主会场到分论坛，笔者的第一个感受是：对全球经济未来表现，各界人士普遍抱有矛盾心理与焦虑情绪。从横向看，无论是来自发达国家还是发展中国家的代表，都对自身深层次结构性问题、政策摇摆以及转型期间外部压力与自身矛盾的冲突存在焦虑，而发达国家与发展中国家之间的利益平衡和未来关系也让人们忧心忡忡。从公开的表述上来看，大家普遍承认保护主义正在全球兴起，但对如何解决问题，看法却不尽相同，也说明各国在政策推动过程中本身就存在自我意识上的矛盾。

Vertically, there exists a contradiction between the present and the future. The World Economic Forum's Global Future Council of which I'm a member conducted a global assessment of fintech in an attempt to identify which population groups will benefit from emerging technologies and how instrumental these technologies will be to the global economy. There was a universal consensus regarding the positive effects of new technologies, but how new technologies will support the world economy and what challenges will come with them remain open to debate.

Participants also acknowledged environmental pollution as a pressing issue, but due to economic, social and other considerations, many countries have shown a tendency to slow down in addressing environmental concerns such as air pollution and reduced biodiversity. This is even true in developed countries, as it is really elusive to balance environmental protection and development.

从纵向上看，存在现在与未来的矛盾。笔者所在的达沃斯全球未来理事会针对全球科技金融行业做了一个评比，探讨新技术兴起到底能够惠及哪些人、对全球经济有多少帮助。就新技术对全球经济的作用，大家普遍有共识，但新技术能以怎样的方式帮助全球经济，同时又会带来哪些挑战，仍然有很多值得讨论的空间。

各界人士普遍承认解决环境问题已经到了刻不容缓的地步，但很多国家所面临的经济社会等问题，使得他们在面对大气污染、多样性减少这些问题时不得不放慢脚步，即使对一些发达国家来说也是如此，环境和发展的平衡在某种程度上并不容易把握。

My second observation was that despite anxiety expressed by participants, solutions were also shared. Participants may hold divergent views, but they remain obviously committed to moving forward and have developed a deep understanding of certain issues. For example, they acknowledge globalization as an inevitable mega trend; protectionism as a detriment to international politics, economy and mankind's wellbeing; inclusion, not division, as the best way of coexistence; and innovation as a major driver of future economic growth. Now the question is how we can solidify these consensuses and translate them into actions.

In terms of fintech, a sizeable percentage of population have never been financially served. Globally, an estimated 2 billion adults remain unbanked; in developing countries, only 54% of adults own bank accounts. In this context, how can we leverage new technologies to boost financial inclusion and help expand financial infrastructure to benefit more people? How can we help the general public to improve their financial literacy, so that they can enjoy the benefits of economic and financial progress? Now some fintech companies are already combining AI with big data to enable ordinary people to grasp the basics of finance and wealth management—by providing them with intuitive tools such as an interactive AI-powered robot. Participants were all full of hope and enthusiasm about technology as a re-shaper of future.

笔者的第二个感受是，焦虑中也交织着解决问题的方案。尽管各国代表的观点看法不尽相同，但在摸索中前进的意图依然明显，对一些问题能够有深入的共识。比如承认全球化依然是大势所趋;保护主义的兴起无论对全球政治、经济还是对全人类福祉来说都是不利的;包容而非撕裂是最有利的相处方式;创新是未来经济发展的重要助力。问题是，怎么让这些共识变得更坚实并转化为实践。

在金融科技方面，全球化大潮下仍有相当一部分民众至今没有享受过金融服务，有约20亿成年人没有银行账户， 发展中国家拥有银行账户的成年人占比只有54%。怎么能在新技术帮助下突破这一困境，提高金融的包容性，帮助金融基础设施以更低成本扩容，惠及更广泛的民众，在经济快速发展的基础上帮助大众提高经济金融素质，使之更有效的享受经济与金融发展带来的福祉? 目前已经有金融科技公司利用智能技术做大数据整合，使得即使是普通人也能借助操作比较简单的工具与AI机器人对话，满足一些基础的金融素养培训和理财指南需要。对于科技创造未来，大家都报以极大的希望和热忱。

My third observation was that China plays a very positive role in boosting confidence about the world economy. Chinese Premier Li Keqiang emphasized in his speech at the opening plenum that China will unwaveringly advance its opening efforts and stay committed to developing a high-quality open economy; create a business environment based on rule of law that is market-oriented and internationalized; further unleash the potential of entrepreneurship and innovation; and champion economic globalization as well as liberal trade and investment. His speech was met with several rounds of applause. Participants acknowledged China's advocacy of an open, inclusive and sustainable approach to globalization as a confidence stabilizer as well as its concrete efforts in this regard. Currently, there is widespread pessimism about the prospects of the global economy, including the economy of the US. Sometimes, market confidence becomes too low relative to economic fundamentals, which may be driven by rising panic over so-called uncertainties. However, the open, inclusive and stable stance adopted by China has bolstered confidence amid a precarious global economy. Participants universally praised China's economic certainty and stability and expressed their optimism about its economic resilience.

笔者的第三个感受是，中国在鼓舞世界经济信心方面起着非常积极的作用。李克强总理在开幕式上发表的特别致辞中强调，中国将坚定不移推动全方位对外开放，致力于发展更高水平的开放型经济。着力打造市场化、法治化、国际化的营商环境。深入推进大众创业万众创新。坚持经济全球化大方向，促进贸易和投资自由化便利化。现场嘉宾对李克强的致辞多次报以热烈掌声。无论当前矛盾是平面的、立体的还是跨越时间的，大家都肯定中国所倡导的坚持全球化与开放、包容、可持续发展的理念，认为这起到了坚定信心的作用，同时也看到了中国在这个方向上所付出的实际努力。目前全球对经济形势的预期不佳，包括美国在内，有些时候市场信心明显低于应有基本面。其缘由可能就是所谓的不确定性加重了恐慌情绪的蔓延。而中国在当下展现出的开放、包容、稳定的状态，给风雨飘摇中的世界经济传递出信心。大家普遍对中国经济的确定性与稳定性报以较高的评价，对中国经济的韧性抱有信心和期待。(作者是中国黄金集团首席经济学家)

Dr Z's perspective: A Chinese nanny and global financial illiteracy, Wan Zhe

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It was felt at the Annual Meeting of the New Champions 2019 (AMNC 2019) in Dalian, China that the world economy has reached a turning point this year.

On the one hand, ambivalence and anxiety about the future of the global economy was felt among various communities. Horizontally, participants from both developed and developing countries were worried about structural problems, indecisive policies, external pressure hindering their transition and internal issues. They also expressed concern about how to balance interests between developed and developing countries as well as their relations. On the other hand, participants also expressed optimism about helpful changes brought about by technology. Discussions regarding every field, sector and country all point to technology as a change agent transforming our lives as well as to its potential to continue to reshape societies. Of course, how new technologies will support the world economy and what challenges will come with them are still open to debate.

In this sense, the turning point has both spatial and temporal dimensions.

2019年世界经济论坛(夏季达沃斯)新领军者年会在中国大连举行。今年的感受是，世界经济走到了转角处。

一方面，对全球经济的未来表现，各界人士普遍抱有矛盾心理与焦虑情绪。从横向看，无论是来自发达国家还是发展中国家的代表，都对自身深层次结构性问题、政策摇摆以及转型期间外部压力与自身矛盾的冲突存在焦虑，而发达国家与发展中国家之间的利益平衡和未来关系也让人们忧心忡忡。另一方面，对全球经济的未来，大家都看好科技带来的改变和帮助。从各个国家和各个行业、领域的讨论看来，认为技术已经改变我们的生活、并将继续更深入的改变我们的社会是共识。当然，新技术能以怎样的方式帮助全球经济，同时又会带来哪些挑战，仍然有很多值得讨论的空间。

可以说，所谓“拐点”，可能既是空间上的，也是时间上的。

In terms of finance, the positive impact of technology is significant and with the passage of time, people's thought has become increasingly deep and comprehensive.

During AMNC 2019, the WEF's Global Future Council on Financial and Monetary Systems—of which I'm a member—released the results of its innovative attempt, Financial Literacy Innovation Challenge.

The story of a nanny: financial inclusion and financial literacy

What is financial literacy? Why has it attracted so much attention? How can technology improve financial literacy and financial inclusion? The answers to these questions asked globally can all be found in China.

Perhaps one small example can provide clarity on these elusive questions.

This is a true story. A woman who comes from a remote rural area in a southwest province in China and is now working in Beijing once told me that she started to work in the city as a nanny about 20 years ago. At that time, migrant workers like her would return home only once a year, during the Spring Festival. The long-awaited journey was also part of an important mission—bringing home the money they had saved throughout the year, in the form of cash.

从金融方面看，科技的助力和影响也非常明显，而且随着时间的推移，大家的思考变得越来越深入和全面。

我所在的GFC全球未来理事会金融组对全球发起了一个“金融素质创新挑战”Financial Literacy Innovation Challenge，并且在年会上公布了结果。这是一个比较新的尝试。过去，GFC所做的研究多数都聚焦于Financial inclusion，有些人将之翻译成为金融普惠，我更愿意将之称为金融包容性。当然，两者紧密相关。

Financial inclusion和**Financial literacy**，保姆的故事

Financial Literacy金融素质是什么？为什么它现在这么受关注？科技如何影响金融素质和金融包容性？全球都关心的问题，而中国本身就是一个很好的例子。

从一个很微小的例子出发，或可以说明这个不容易说清的问题。

有一个真实的故事。一位在北京工作的保姆，老家是西南某省较偏远地区的乡下，她曾经告诉我，十几二十年前，她就在北京“打工”做保姆。那个时候，一般来说，大家一年到头只回一次家，自然是春节。而这一年一次的回乡，一定包含一个很重要的项目——把一年的收入（剩余）带回家。问题的在于，这个“带”，是真“带”，也就是说，都是揣着现金走的。

Sometimes they had to carry tens of thousands of RMB or even more on themselves, on slow train journeys that could take days. You can imagine how unsafe and inconvenient it was.

But it was a common practice. In fact, when telling her story, the nanny was somewhat "boastful" of her courage and cleverness in doing so.

Some people believe that the practice has its roots in Chinese' preference for cash as well as in their culture, tradition and habit. But the truth may turn out otherwise.

We can identify the reasons from three perspectives—First, what did they do with their hard-earned money left over after daily expenses were paid? Or more precisely, how did they "invest" their money? Due to a lack of investment consciousness and access to investment opportunities, nearly all of them spent their money doing one thing—building homes in their hometowns, despite the fact that most of them seldom live in them. Second, as rural residents, they had to use cash because there was no place to swipe a bank card. Even in some small cities, they found it difficult to make cashless payments. The third reason is the limited availability of bank outlets in rural areas. To withdraw cash, they would have to go long distances.

有的时候，有几万甚至更多些的现金需要携带，而回程通常是乘坐普通列车的漫漫长途。可想而知，极其之不方便又不安全。

但这种做法非常普遍。事实上，这位保姆对我讲述的时候也是以一种“自夸”的方式，表明自己勇敢又机灵。

有人对此的解释是，中国人喜欢现金，这是一种文化、传统、习惯等。

然而恐怕并非如此。

我们会发现，从三个层次看这个问题，能够找出原因。首先，好不容易挣了钱，日常花销后，钱怎么办？其实是个“投资”的问题。由于投资观念没有建立，投资渠道也不畅通，我们能够看到，当时他们几乎都把钱投向了一种资产，就是在老家盖房子。尽管大多数出来打工的人已经不怎么回去住。其次，那时候在乡下，能够用的只有现金，有卡也没法用。就算是小一些的城市，无现金支付也不是很容易。最后，银行布点较少，取现一次得跑很远很远。

China's financial story

In fact, the lack of financial infrastructure is blamed for their situation.

If we rewind 10 years, as of 2008, China only recorded 1,181,700 merchants connected with an interbank payment system, 1,845,100 connected POS terminals and 167,500 ATMs, which respectively grew by 442,500, 663,900 and 39,900 from 2007.

If we look further back, consumers could not make payments across banks offline until 2002, when UnionPay was established to provide offline interbank clearing and settlement services. Therefore, we can safely say that financial services in China before 2008 must have been inadequate in terms of both quantity and quality.

Now it's obvious that Chinese people's lack of financial literacy is a result of a combination of factors, including an underdeveloped financial infrastructure, the weak inclusion of financial services and the limited number of served people. This provides explanations for the so-called "culture" of using cash and investing solely in home building.

中国的金融故事

要问为什么？看看硬件条件就清楚了。

往十年前看，截至2008年底，银行卡跨行支付系统联网商户118.17万户、联网POS机具184.51万台、ATM 16.75万台，这个数字，已经较2007年底分别增加44.25万户、66.39万台和3.99万台。

再往前看，银联是2002年成立的，其提供线下跨行清算服务，才开始解决了当时银行卡线下跨行刷卡消费的困境。可以说，2008年以前的金融服务数量和条件，肯定更不足一些。

这么一看，就很明了。金融基础设施建设不足，导致金融服务的包容性较弱，惠及的人群规模小，自然也导致人的金融素养不足。所谓总是携带现金、投资单一等 "文化" ，其实是这么来的。

However, the past 10-plus years saw a rapid economic growth in China. According to World Payments Report 2018, the US ranks 1st in terms of number of non-cash transactions, reaching 148.5 billion transactions, followed by Eurozone (74.5 billion) and China (48 billion). China is also ranked 2nd in terms of growth speed in non-cash transaction volumes. The report also highlights the considerable potential of digital payment in China, led by Alipay and WeChat Pay, and predicts that the US will lose leadership in non-cash transaction volumes to China by 2021.

The "leapfrog" is mainly powered by the Internet. The advent of online transactions and the arrival of E-commerce took China's payments sector into a digital era, which was followed by the age of smartphones and mobile commerce that gave rise to and promoted mobile payment.

Therefore, it's safe to say that China's digital infrastructure is a supplement to its lack of financial infrastructure, which in turn has significantly enhanced financial inclusion.

A new issue: financial illiteracy

But people are always faced with a three-phase cycle of "identify an issue, solve the issue and have a new issue".

但是，在近十几年中，中国飞速发展，《2018年世界支付报告》（World Payments Report 2018）显示，在统计期内的无现金支付总次数方面，美国以1485亿次占据榜首，欧元区（Eurozone）以745亿次位居第二，中国以480亿次居第三。中国非现金交易占总结算份额增速排名世界第二。报告预测，在支付宝和微信支付的带头下，中国的数字支付力量不可忽视。在2021年前，中国的无现金支付总量将超越美国，成为全球第一。

这种"飞跃"，主要得益于互联网发展。线上交易场景出现，电子商务时代到来，国内支付行业迎来电子商务时代。接着是智能手机时代，交易场景移动化，促进了移动支付的诞生与发展。

可以说，数字基础设施建设弥补了金融基础设施建设的不足。金融的包容性就大大提高了。

有了硬件，还需扫盲

但是，事物总是遵循"遇到问题——解决问题——遇到新问题"的三段论规律。

In the age of mobile shopping and payment, nannies and babysitters, who used to have very limited choices, suddenly find themselves overwhelmed by too many options. Their previous fear of having their hard-earned money being stolen or robbed on trains now turns into paranoia about losing money to Internet theft.

This complex new era calls for improved financial literacy, a trend which is emerging globally.

Digital solutions have greatly expanded financial inclusion, allowing more and more people to access financial services.

As estimated 1.7 billion adults remain unbanked, but the world has made substantial progress in improving the accessibility of formal financial systems and mobile payment. The 2017 Global Findex database shows that 1.2 billion adults have obtained some type of financial account since 2011.

We used to focus on the interplay between technology and finance, trying to empower financial institutions and financial service providers with digital technology to make their services more accessible. But now there has arisen a more important issue—Can people really make good use of financial services at their fingertips? Are these people equipped with enough financial knowledge and skills to allow them to make informed decisions when using financial services?

到了移动交易和支付为王的时代，保姆阿姨们从过去的“太少选择不能选”转瞬来到了“太多选择不能选”的困境中。以前害怕的，是火车上的小偷、强盗把血汗钱给劫走了；现在害怕的，是网络上的骗子把血汗钱给劫走了。

面对纷繁芜杂的新时代，金融素养变得愈加重要。
这和全球发展的趋势也是一致的。

数字化解决方案使金融的包容性得到了极大提高，越来越多的人得到了享受金融服务的机会。

尽管仍有大约17亿成年人没有银行账户，但全球社会在改善正规金融系统和移动支付的可及性方面取得了实质性进展。根据2017年全球Findex数据库，自2011年以来，已有12亿成年人获得了金融账户。

过去我们关注的科技与金融的关系是，怎么能够让数字化影响金融机构、金融服务提供商，使得这些服务变得更普及。但现在除了这个，也许更重要的是，当金融服务已经“唾手可得”，得到的人是否能够用好它？人们是不是有足够的金融知识储备和技能，让他们面对金融服务作决定的时候，足够了解情况，知道自己在做什么？

A survey shows that two thirds of the global population are financially illiterate.

This is how the initiative Financial Literacy Innovation Challenge was brought into play. It was designed to identify innovative ways to help people improve financial literacy, or how we can reduce financial illiteracy with financial technology.

Education urgently needed for illiterates

Moreover, Chinese case studies point to a positive correlation between financial inclusion and financial literacy—Inadequate financial inclusion will make it impossible to universally improve financial literacy; in turn, widespread financial illiteracy will also make it challenging to boost financial inclusion.

In Africa, 72% of adults, or more than 400 million people, remain unbanked. The market is estimated to be as valuable as USD 130 billion by 2020, but financial institutions must seriously consider such risks as dormant accounts, high default rates and bad financing and investment decisions—when 67% of their clients are financial illiterates.

Companies applying to the initiative came from around the world. They are doing really interesting things.

据调查，全球三分之二的人都是“金融文盲”。

因此，这一次，“金融素质创新挑战”也是基于这个思路，想要找出金融科技公司中，能够用一些创新性的方式帮助人们提高金融素养的，或者说，金融科技怎么“扫金融盲”。

面对“文盲”，亟需“教育”

而且，通过中国的例子也能够发现，金融的包容性或者普及型与金融素养或文化其实有着双向的影响关系。当金融包容性不足，金融素养想得到普遍提高当然没戏；但反过来，当金融素养普遍不足，金融包容性也不容易得到延伸。

在非洲，72%的成年人没有银行账户，超过了4亿人。据测算，这个市场对金融服务需求的潜力可能到2020年会有1300亿美元。但是，当67%的金融服务客户都是“金融文盲”，金融机构也要好好考量，将要面临的休眠账户、高违约率、糟糕的投融资决策等等。

面对“文盲”，亟需“教育”。参选的公司来自全球，他们做的事情都非常有意思。

For example, the winner of this initiative was Fineazy, a British start-up operating in Ghana and South Africa. The company provides personalized financial education by telling local stories. It has designed a small, intuitive chatbot with which users can interact. This is a very unique way of improving financial literacy and offers much potential in scalability. The company mainly targets people in Africa and other developing countries.	比如这次挑战的最终赢家是Fineazy，一家在加纳和南非开展业务的英国初创公司。他们通过定制内容，讲本地故事和个性化学习提供金融教育。他们设计了一款小Chatbot，很容易上手，可以与之对话、互动。这种方式很独特，而且具有可扩展性的潜力。其主要对象是非洲和一些发展中国家居民。
Some other fintech companies are also developing technological tools to facilitate ordinary people's access to data and information. By directly partnering with schools, some of them have designed courses to teach children basic financial concepts.	也有其他一些金融科技公司，他们正在想办法，通过科技手段，使普通人获取数据和信息更加容易；也有的直接与学校合作，组织一些课程，尽早教育孩子们基本的财务概念。
All these are meaningful attempts, and some successful start-ups in this field have already won the hearts of investors.	所有的尝试都很有意义，而且做得好的公司也获得了投资人的青睐。
Conclusion	后记
Despite anxiety expressed by participants at AMNC 2019, solutions were also shared. Participants may hold divergent views, but they remain obviously committed to moving forward and have developed a deep understanding of certain issues.	在达沃斯，在焦虑中也交织着解决问题的方案。尽管大家的观点看法不尽相同，但在摸索中前进的意图依然明显，对一些问题能够有深入的共识。

For example, they still acknowledge globalization as an inevitable mega trend; protectionism as a detriment to international politics, economy and mankind's wellbeing; inclusion, not division, as the best way of coexistence; and innovation as a major driver of future economic growth. Now the question is how we can solidify these consensuses and translate them into actions.	比如承认全球化依然是大势所趋；保护主义的兴起无论对全球政治、经济还是对全人类福祉来说都是不利的；包容而非撕裂是最有利的相处方式；创新是未来经济发展的重要助力。问题是，怎么让这些共识变得更坚实并转化为实践。
Despite considerable debate on fintech, what people really want to know is how fintech, as have other technologies, can positively impact individuals, societies and economies?	对于金融科技的讨论一直很多，金融科技和其他科技一样，怎么能够更多更好地影响个人、社会和经济？是大家想知道的问题。
Although individuals make many finance-related decisions every day, most of them may not be aware of consequences of their decisions made without a clear knowledge of some basic concepts. This is particularly so for low-income population groups, who are more vulnerable and less knowledgeable about financial systems. The question we should think about today is how we can leverage technology to help them.	当个人每天都要作出许多与金融有关的决定，多数人却并不一定明白一些基本的概念和决策可能带来的后果，尤其是对于较低收入的人群而言。他们对金融系统更为陌生，却又更为脆弱，怎么能够用技术进步来帮助他们？这是我们今天在考虑的问题。
We are all full of hope and enthusiasm about technology as a re-shaper of future. This is because we all want to help complete the economic and structural transformation of this world—in a way that is open, inclusive, shared and mutually supportive.	对于科技创造未来，大家都报以极大的希望和热忱。那是因为，我们都希望能够以更加开放、包容、分享、互助的方式完成世界经济和结构的转型。 （作者万喆为经济学家，澎湃新闻特约评论员）

The emerging ecosystem and the decline of cash

The 2018 White Paper predicted that acceptance and adoption of cryptocurrencies will continue to spread and challenge the conduct of monetary policy with implications for financial stability. These dynamics have certainly only intensified since. The decline of cash and the changing financial services ecosystem thus formed the second focus area for the Council, and both co-chairs addressed the decline of cash and rise of cryptocurrencies in op-eds for the Forum's Agenda blog. The rapidly changing financial services ecosystem was also the focus of a detailed report published by the Bank of England in June 2019, authored by council member Huw van Steenis.

The future of crypto-assets, from opportunities to policy implications, Axel Lehmann
Published on the World Economic Forum Agenda Blog on 6 December 2018

> Crypto-assets and cryptocurrencies have soared in popularity since 2008, with more than 1,000 of the latter in existence today. Recently, large gains followed by steep declines led to intense media coverage and widespread interest. Crypto-assets have also featured prominently in recent work by the World Economic Forum's Global Future Council on Financial and Monetary Systems, which Cecilia Skingsley and I co-chair.
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> In particular, a report called "The Global Financial and Monetary System in 2030" argues that the increasing acceptance and adoption of cryptocurrencies will contribute to bringing markets, institutions and infrastructure together in a multi-polar, complex and interconnected world. This in turn will present a challenge to the conduct of monetary policy, and have implications for financial stability and financial crime prevention.
>
> Regulators and supervisors have started to take greater interest, but are still debating how best to provide a framework for this new asset class. Treatment has been very diverse, ranging from outright bans (China), warnings (US, UK) and guidance (Singapore) to liberal permissive positions (Japan, Korea). Most recently, the Hong Kong Securities and Futures Commission (SFC) outlined its new regulatory framework for virtual asset portfolio managers, fund distributors and trading platform operators, aiming to bring them under its regulatory net.
>
> Some regulators do not sufficiently distinguish between tokens used as a utility, and crypto-assets as a financial instrument based on securities. Distinguishing between the two is key, and education on the different types of tokenized assets is important. Not every virtual currency needs cryptography, nor has decentralized issuance. Not every digital token issued through an ICO is a cryptocurrency. It is important to understand what the underlying asset is.
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> The IMF and World Bank recently presented their Bali Fintech Agenda, with a set of 12 policy elements aimed at helping member countries harness the benefits and opportunities of rapid advances in financial technology, while managing the inherent risks. Regarding crypto-assets, the Bali agenda cautions that their rising spread may increase the complexity of assessing the drivers of financial interdependencies across borders. Likewise, the Financial Stability Board (FSB) noted in a recent paper that crypto-assets could have implications for financial stability in the future, should they continue to evolve, even though current risks were considered not material.
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> **Which way forward?**
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> At this stage, it is still very unclear whether cryptocurrencies will ever become a mainstream means of exchange. Technological shortcomings, such as processing capacity and the enormous energy consumption for their mining, may be solved. The potential KYC/AML concerns and requirements can be addressed so that cryptocurrencies are not used for breaking the law (e.g. with real-time transaction checks embedded on blockchain).
>
> However, the main problem with cryptocurrencies is their inelastic supply. What supporters of cryptocurrencies consider their greatest advantage - their limited supply – is in fact their greatest disadvantage. With an inelastic supply, demand fluctuations will always result in fluctuations in value, which makes cryptocurrencies unsuitable to serve as money. In other words, cryptocurrencies lack a central bank.
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> I am much more optimistic about the use of the blockchain as the main underlying technology. The potential benefits of blockchain are many. They range from real-time transactions allowing risk reduction and better capital management, to improved regulatory effectiveness, e.g. by using blockchain for Know-your-Customer or anti-money-laundering checks. I also see huge potential for integration with other emerging technologies, such as artificial intelligence and the Internet of Things, to implement the future of finance.
>
> Mindful of the paradigm shift predicated by blockchain enthusiasts, banks and exchanges will need to make joint efforts, including cross-border collaboration within the blockchain ecosystem, and sharing of knowledge and experience with the wider blockchain community.
> UBS recently cooperated with other banks on blockchain-based trade finance platform We.Trade, which allows bank customers to create trade orders easily online and manage the entire trade process from order to payment. Meanwhile, the financial infrastructure provider SIX has announced plans for a "SIX Digital Exchange",

the first market infrastructure in the world to offer a fully integrated end-to-end trading, settlement and custody service for digital assets based on blockchain. It aims to launch in the first half of 2019, subject to regulatory approval. The service will provide a safe environment for issuing and trading digital assets, and enable the tokenization of existing securities and non-bankable assets to make previously untradeable assets tradeable.

I would encourage a consistent regulatory approach to cryptocurrencies by aligning national approaches, and moving regulation and supervision to the international level, to the G20 and the FSB. Regulators and supervisors should be guided by level playing field principles, and should protect consumers without restraining innovation.

As we are at the start of the journey, crypto-assets and blockchain will continue to feature prominently in the work of the Global Future Council on Financial and Monetary Systems. To facilitate workable solutions and informed debate, we see the need for a continued close dialogue between public and private sectors.

Why Sweden's cashless society is no longer a utopia, Cecilia Skingsley
Published on the World Economic Forum Agenda Blog on 10 November 2018

The Swedish retail payment market is rapidly moving away from using cash. The outstanding value of cash in circulation has dropped to 1% of Swedish GDP. This development raises some crucial issues regarding the state's role in the payment market.

For hundreds of years, the public has been offered central bank notes and coins. If cash stopped working, it would leave all individuals to rely on the private sector for access to money and payment methods. It would be a historical change without precedence. The central bank of Sweden, the Riksbank, is therefore investigating the potential consequences of this change, including how to design a central bank digital currency, called the e-krona. But what is the e-krona exactly?

Swedish legislation makes it possible for retailers, restaurants and other companies to refuse to accept cash, for instance by putting up a sign at the entrance or by the till. Together with banks that stop offering cash services, refusal of cash is an increasingly widespread phenomenon. Furthermore, Swedes on average are happy to adapt to new technologies, so cards are widespread and the instant payment app Swish has been downloaded by more than half of the population.

By connecting a bank account in any bank with a mobile phone number, Swish has become a popular way to share a restaurant bill, distribute pocket money to children, collect money for a birthday gift at the office and to pay for goods at street markets. Settlement takes place with the help of the Riksbank's real time gross settlement system. To "swish" money has even become a verb in the Swedish language.

Within a few years, if the current trend in cash usage continues, Swedes could therefore find themselves in a situation where cash is no longer generally accepted as a means of payment.

The development raises some crucial issues regarding the state's role in the payment market. Norway is seeing a similar trend, and the two central banks are cooperating in this area. In the Eurozone, cash is still used to a high degree. The value of the outstanding amount of cash is equivalent to 10% of the Eurozone GDP, versus the Swedish equivalent of only 1%.

Introducing the e-krona

In the coming years, some hard choices will be required. One option is to do nothing, meaning we accept that the general public no longer has access to central bank money. Such a future would imply a changed scope for the public sector. The payment market would have to be regulated and supervised in new ways to meet fulfil the objective to have a safe, efficient and inclusive payment market.

A second alternative is to issue central bank money in a digital form, as a complement to cash and the money held in bank accounts. We call the concept "e-krona" – after the Swedish currency, krona. Central bank-issued digital currency is a new and relatively unexplored possibility, but it is attracting growing interest from a number of central banks.

The basic concept for e-krona is as follows: it would be digital, and have a 1-to-1 conversion with an ordinary krona held in an account at the Riksbank or stored locally, for example on a card or in a mobile phone app.

From the individual's perspective, e-krona could be held either in a value-based form like a card or an app, or in an account-based structure. For the payment industry, the Riksbank would provide an infrastructure for e-krona transactions to which payment service providers can connect and in which they can build payment services for end users.

Depending on the scope, and on design choices, there could be different consequences. Its impact on the financial system depends on how large the demand for the e-krona is in different circumstances. Whether it will earn interest or not is another key question. If the e-krona offers zero interest, which makes it equivalent to cash in this regard, it could have negative effects for conducting expansionary monetary policy if interest rates in the economy are low. On the other hand, an e-krona with interest could become a new policy tool for the central bank.

The technology to build a functioning e-krona is already available today. It is not dependent on using distributed ledger technology and it is not to be confused with cryptocurrencies.

The next step is to build a prototype that could be issued under the current legal mandate of the Riksbank. The knowledge we acquire along the way will give us room for manoeuvre in the future.

For hundreds of years, the private sector and the public sector have interacted on how to provide money that works as a store of value and as an efficient medium of exchange. In 2018, the Riksbank is celebrating its 350th anniversary, and looking back at its origins in the 1660s, when bulky and heavy copper coins were exchanged for efficient paper notes. But as technology improves, people's preferences also change – in our case away from cash. Therefore, we are looking ahead, to see how we can continue to provide society with a safe and efficient payment system for the future.

Operational resilience

The 2018 White Paper highlighted that technological progress and its rapid adoption by consumers is disrupting the essential elements of financial services. However, many financial institutions have yet to grasp the scale and depth of how digitization is transforming their industries, argues Mohit Joshi in a 2019 op-ed highlighting three technologies that will have a particularly long-lasting impact on the industry. While technology provides many opportunities for business leaders, it poses significant challenges to operational resilience. Cybersecurity is only one of the new challenges industry leaders must tackle in transforming their organizations into digital powerhouses. The Council dedicated significant time and resources to thinking through the resilience challenge and – seeing a critical need for industry leaders to formulate solutions – also put the issue on the agenda for the Forum's Annual Meeting in Davos 2019.

Technology-enabled transformation not only poses an operational challenge for business leaders but also calls the effectiveness of the current regulatory architecture into question. Building on their call for global regulatory coordination to safeguard the health of the financial architecture and global economic growth in their Vision 2030 document, Axel Lehmann and Steffen Kern have revisited their discussion in an op-ed asking whether there is a need for a global technology regulator for financial services.

Do we need a global technology regulator for financial services?, Axel Lehmann and Steffen Kern
Republished with permission from FT Alphaville, original publishing date 18 February 2019

> Consistent international standards are vital to underpin the efficient flow of capital to the best opportunities. Cross-border financial intermediation provides the necessary connection between borrowers and savers, which supports GDP growth.
>
> We saw this exemplified following the financial crisis, when the international community, through the G20 and the Financial Stability Board (FSB) developed an ambitious global response. A global crisis demanded a global reaction. International co-operation among regulators was central to making financial markets more resilient.
>
> This said, the world of 2008 was very different to the one in which we are currently operating. Increasingly, inward-focused domestic policy perspectives are shaping policy agendas. Evidence of this shift in political strategy is seen in the US "doctrine of patriotism", the UK's decision to leave the European Union, and escalating trade disputes as a few examples. The belief that going it alone yields better outcomes than international co-operation continues to gain traction.

And these tendencies are deeply concerning. Our global economy is characterised by unprecedented levels of interconnectedness and these connections have benefited many citizens, investors and corporations.

The new challenge posed by technology

While certainly not a global crisis, technology is currently positioned to cause tremendous change in financial services at a global level. Distributed ledger technologies, artificial intelligence, machine learning and other innovations have the potential to change business models and value chains across the financial industry.

A recent example of new opportunities made possible through technology is the development of digital identities (E-IDs). E-IDs are particularly significant as verifiable identities are key to the next phase of the digital financial experience. The main benefit of an E-ID will be its transportability, enabling clients to access their optimal choice of services wherever and whenever they choose in a borderless online world. Important policy advances have been made in some economies, but E-IDs will only work if there are common regulatory standards and recognition of various E-ID schemes at international level.

Aligning international regulation is not a challenge isolated to E-ID technology. Rapid technological change has the potential to usher in a new phase of financial globalisation, with benefits for investors and households in both developed and developing countries. However, making effective use of technology's potential will require a new wave of global policy co-ordination.

Why technology in financial services requires co-ordinated regulation

As new technology multiplies and becomes ubiquitous in the financial sector, new risks will need to be contained and regulatory frameworks will need to be internationally co-ordinated and upgraded.

From a risk perspective, cyber security and cyber resilience are top priorities. According to the World Economic Forum Centre for Cybersecurity, economic loss due to cyber crime is predicted to reach $3tn by 2020, and 74 per cent of the world's businesses can expect to be hacked in the coming year. Digital connectivity makes cyber crime a global threat that requires a standardised approach, yet, as recognised by the FSB, regulatory and supervisory approaches to cyber security are becoming increasingly fragmented, undermining the effectiveness of financial institutions' efforts to address cyber threats.

Additionally, new products, business models and players fall out of the current remit of existing regulatory and supervisory mandates of banking and capital markets authorities. This requires reflecting on the need for adaptation of existing mandates as well as on the necessity of aiming for a single regulatory approach to technology in financial services at international level.

Unlocking the benefits of new technology

Despite the regulatory challenges, the opportunities made possible with new technology are too great to ignore. Such changes range from product design to client interaction to back office operations to compliance and reporting. And they can translate into significant benefits for consumers of financial services as well as society in general.

Mobile and internet-based services are being made available independent of physical location. Only via co-operation will global resilience be ensured and the necessary level playing field emerge, enabling higher liquidity in financial products, safer transactions, fair pricing, lower compliance costs and less complexity — all to the ultimate benefit of corporate and retail consumers of financial services.

In terms of inclusion, new technologies also have great potential for supporting access to finance in less developed regions of the world, with mobile payment platforms in Kenya or India being prime examples. Yet, the challenges from multinational payment systems in terms of investor protection, information security and system integrity will be similar around the world and they will require a cohesive response.

Global policy co-operation on emerging technology is necessary to enable better finance

Opportunities will emerge from these technological changes. And they have immense potential. Globally aligned standards, data templates, protocols, conduct-of-business and anti-fraud rules are necessary preconditions for optimal development of new technological advances to support growth and, ultimately, societal wellbeing. The conclusions of the recent G20 Summit in Buenos Aires send a reassuring message, highlighting the commitment to continued regulatory and supervisory co-operation.

These three technologies will permanently change the banking sector, Mohit Joshi
Published on the World Economic Forum Agenda Blog on 21 January 2019

There's general agreement within financial institutions that digitization is transforming their industries in fundamental ways, but many have yet to grasp the scale and depth of these changes. Today's emerging technologies will not merely speed up transactions and reduce their cost through automation. They will also drive a significant restructuring of the entire financial sector, alter the balance of power between established players and newcomers, and change the way ordinary people manage and spend their money.

Three technologies will play particularly influential roles in this transformation.

Artificial intelligence advances

The revolution brought by AI will enable financial services organizations to better predict their customer needs and offer unprecedented levels of personalization. Most sectors, including financial services, have recognized that AI-ready business applications are becoming mainstream, and that they help accelerate digital transformation initiatives.

AI's capability to predict outcomes with a high degree of accuracy opens up new possibilities in many areas. In the lending space, for example, business applications with data-driven intelligence platforms powered by advanced machine learning are helping organizations reduce delinquency rates, boost recoveries and improve operational efficiencies. Fortune 500 banks have saved millions of dollars by intelligently automating the reconciliation of fraudulent transactions using data-processing bots and conversational AI technology.

As AI evolves, the potential to open new paths to economic development is immense. Traditionally, consumers looking for a loan are evaluated on their previous credit history, captured by companies such as Equifax, Experian, TransUnion and others. With AI algorithms, the capability to predict credit worthiness through alternative credit scoring can potentially expand the marketplace to cover over 45 million people in the US alone who have no credit score. Globally, the unmet financing needs of small businesses with no credit data is estimated at $5.2 trillion.

Blockchain benefits

Blockchain has emerged as a potential alternative mode for payments, clearance and settlement transactions and numerous other financial functions. The details of blockchain technology are somewhat complex, but the benefits for financial markets are very clear:

- **Disintermediation** – There is no middleman in a blockchain network, and the elimination of middlemen poses a real challenge to many established businesses.
- **Transparency** – Every participant in a blockchain network has real-time visibility into to every transaction, which means parties who don't necessarily trust one another can feel safe doing business.
- **Security** – Every transaction is cryptographically protected.
- **Unhackability** – While there is no system that cannot be hacked, blockchain comes very close.
- **Automation** – Blockchain has another important feature called smart contracts. Smart contracts essentially take action when certain conditions are met. This feature can be used to automate processes such as insurance claims processing, digital order fulfillment and much, much more.

Though blockchain is a promising technology, widespread commercial acceptance is still 3-5 years away. Nonetheless, some early adopters are already having success with it. For example, Infosys Finacle has formed a blockchain-based trade network, India Trade Connect, that is being used by a group of banks to run a blockchain-based trade finance-processing solution. It will enable increased automation and transparency, while helping efficiently manage risks in trade and supply chain financing operations.

Cloud computing spreads

As cloud technology evolves and becomes more sophisticated, its role in the financial sector also evolves, from a cost cutter for peripheral systems like HR, procurement and receivables to a business enabler that can bring flexibility and innovation to traditionally on-premise systems. DBS Bank, the largest bank in South-East Asia, is a case in point. The bank has moved almost 50% of its compute workload to the cloud.

The migration of core systems to the cloud is in part driven by technology giants such as Google, Amazon, Facebook and Alibaba. All of these companies (and many others) have developed proprietary cloud assets, with database, infrastructure and application offerings that are available on an "as-a-service" basis. Performance and availability service level agreements for these cloud-based offerings now rival those available from on-premise solutions, while security – which is essential in building and maintaining consumer trust – is equivalent or even better.

Another factor boosting the viability of cloud computing for financial institutions is a friendlier regulatory environment. Many cloud service providers are working with regulatory bodies worldwide to help increase cloud adoption among their members. For example, Amazon Web Services has more than 70 data centres that are now compliant with regulations in 18 geographic regions.

All of these cloud-related developments taken together will mean that consumers will have faster access to new, convenient ways of managing their money.

As we enter a global dialogue on shaping our financial and monetary systems for sustainable growth and long-term societal well-being at the World Economic Forum's 49th Annual Meeting, it's important we consider these technologies and understand how they might change our conventional thinking about the way our systems can work.

Three things I learned at Davos 2019, Huw van Steenis
Published on the World Economic Forum Agenda Blog with permission from Financial News on 29 January 2019

The mood at Davos 2019 was the most uncertain in years. Trade tensions between the US and China, slowing global growth, the backlash against big tech, volatile markets and political standoffs are sowing seeds of doubt with investors and business leaders. It's a long way from the heady exuberance of last year.

Conversation was dominated not only by who was there, but by who was not. Numerous political leaders stayed at home. One investor argued we are seeing the biggest political and policy uncertainty since the 1970s.

Behind the scenes, I found three big themes with special relevance to finance.

1. How worried should we be about artificial intelligence?

Artificial intelligence (AI) has replaced blockchain as the big conversation for executives, second only to US-China trade. There were 11 public sessions on AI, the most of any topic. Eighty-five percent of chief executives thought that AI and machine learning from huge data sets would dramatically change their business over the next five years, according to a PwC report. But when asked if AI will displace more jobs than it creates, CEOs sat on the fence: 49% think yes, 41% no and 10% don't know.

Whether China was on track to surpass the US in AI development was also a big debate. Blackstone CEO Steve Schwarzman and AI Superpowers author Kai-Fu Lee both thought it likely.

One of the liveliest discussions I attended was a closed-door session on the ethics of AI in financial services. We debated a framework so that decisions made by AI are explainable, transparent and fair to consumers. While there was broad agreement on the principles, there was less on the detail. One professor argued that AI should probably be held to an even higher standard than humans, given these tools are often learning from incomplete or already biased data sets, or because when things go wrong the size and impact can be catastrophic. The bottom line is this: if companies don't shape their own "ethical" standards, they are likely to have them thrust upon them.

2. Will big tech beat big finance?

There has been a sea change in recent years at Davos around the perceived threat from new tech-enabled models to impact banks' profits. Bankers - and some policy-makers - worry that new entrants could undercut banks' profits and leave banks exposed with expensive legacy costs.

The battle between every start-up and financial institution comes down to whether the former gets distribution before the incumbent gets innovation. The largest global banks at Davos are dramatically upping their game on digital transformation spending and cyber defences. Little wonder that many of the fintechs that haven't yet got scale are now looking to partner instead of trying to be disruptors.

But the speed of growth and size of some of the new firms is giving bankers pause for thought. In China, leading platforms have already moved into banking and insurance at scale. Chinese payment firm Ant Financial just passed one billion customers - five times more than Citigroup. It's the threat from large platforms becoming more active in financial services that keeps the finance bosses at Davos on their toes.

3. How to mainstream sustainable investing?

While many delegates were starstruck by Sir David Attenborough, I was encouraged by how some leading investors were taking practical steps to make sustainable investing mainstream.

TPG announced at Davos that it is going to share the toolkit it has created to measure the impact of its sustainable investments through spinning out Y Analytics, while Refinitiv announced a new initiative to help corporates benchmark their actions. Six hundred companies, representing $100 trillion of assets, have now agreed to publish their climate-related risks along the Task Force on Climate-related Financial Disclosures (TCFD) metrics. Meanwhile, Blackrock hosted a lively debate on the shift in its investment stance from "why?" to "why not?".

As every investor knows, if you can't measure it, you can't risk-manage it. There is still much hard work ahead to shape better, more useful and more sustainable metrics for making decisions, but the direction of travel is encouraging.

Where next?

This year's downbeat mood could be a good sign, as the Davos consensus tends to be quite a reliable contrary indicator. But it also reflects genuine vulnerabilities. One CEO of a US bank told me that he couldn't see anything in his clients' activity that suggests a meaningful slowdown; nevertheless, he thought there was an even chance of a recession in 2020.

In 2017, I returned from Davos arguing that investing in Western markets may start to have more in common with investing in emerging markets, where you need a keen focus on country risks, political economy, trade policies and currency volatility.

If we are investing in a more "uncertain" world, then the emerging market toolkit, alongside an understanding of how technology is reshaping societies and markets, may still be a useful guide.

Conclusion and outlook
by Steffen Kern

On the eve of the 2020s, the global financial system faces a multitude of structural challenges – and is looking for responses in an environment of unprecedented economic and political uncertainty.

In its vision for the Global Financial and Monetary System in 2030,[1] the Council sketched an outlook of regulation, digitization and macro risks for a financial system torn between the forces of decentralization and integration.

With a decade to go for this vision to unfold – or any other trajectory that finance may turn out to follow – the 2018–2019 Council has addressed three main drivers of the transformation ahead of us: the growing demand for financial inclusion; the emerging environment and decline of cash; and the need to promote resilience in the financial sector.

Financial inclusion as a driver for growth

Financial inclusion is a vital driver of growth, far beyond financial markets. Promoting access to finance enhances consumption, investment and employment opportunities. To maximize the benefits from this trend, putting customers and their financial health at the centre of business models is a core strategy for service providers to consider. Furthermore, new technologies can help enhance financial inclusion, as illustrated by Fineazy, the fintech application that won the GFC's innovation challenge. A focus on long-term client interests also makes a strong case for sustainability. Pension investments are a concrete example of where a shift to sustainable assets may not only support environmental and social objectives but also in fact lead to higher investor returns.

A new ecosystem for cash

The global payments system is undergoing a fundamental change, and there is more to come. As blockchain is being adopted on a wider scale, lower costs, improved risk management and higher regulatory effectiveness are coming within reach. Close cooperation between finance and technology providers will be needed to manage this transition, just as public authorities need to develop a deep understanding of the risks and opportunities ahead. Indeed, public authorities are on the case; with the e-krona project, for instance, Sweden is pioneering the translation of new technological frontiers into tangible public benefits.

Resilience as a precondition for sustainable financial development

New technologies are in the process of fundamentally changing the world of finance. Blockchain, AI and cloud computing will play a particularly influential role in this transformation. The stakes are high: There is the expectation of better financial products and services; and technology is also poised to redraw the landscape of competing financial services, between start-ups and big technology firms on the one hand and incumbent financial institutions on the other hand, but also between established and emerging financial markets.

What such technological quantum leaps have in common is that they are not bound by borders. What complicates matters further is that new products, such as crypto-assets, transcend existing regulatory perimeters, while new players, such as big tech firms, transcend industry lines. Not surprisingly, policy-makers and regulators face a challenge that far exceeds their experiences from earlier rounds of financial globalization. Global policy coordination will be indispensable in providing answers that permit these innovations to succeed in the interests of consumers and enabling effective controls where financial resilience is at risk.

Data plays a central role in rethinking resilience: It helps advance financial inclusion by identifying and understanding exclusion and by supporting the design of customer-centric services. Data can support the mainstreaming of sustainable finance by quantifying its benefits, and by putting figures on the risks and costs that could otherwise be overlooked in this transition. The data collected in response to the financial crisis, now in the hands of regulators and supervisors, enables them to identify entity and system risks earlier and take mitigating actions.

Outlook: understanding the new global financial landscape

Looking ahead, the high pace of transformation will put a premium on understanding the fast-evolving landscape of global finance. Among the uncertainties being faced, three overarching questions seem particularly pertinent.

First, how can consumer benefits be best assured? Financial inclusion, sustainable finance and technological advances should be designed to benefit consumers in the global economy. Financial literacy will need to keep pace with enhanced access to financial services, sustainable financial products will need to convince consumers in terms of their profitability and quality, and new technology-based services will need to assure the privacy and integrity of client data. Ensuring that the expected benefits materialize and reach final clients will be important in maintaining the resilience and credibility of finance as it evolves.

Second, how can technological advances optimally support financial resilience? Distributed ledgers, AI, cloud services, big data and other technologies have been praised for their capacity to disrupt traditional business models, and this is what they are delivering. What innovators and service providers will need to prove is that the new products, services and market structures that emerge can be resilient – so as to ensure a sustained positive impact on growth and financial stability.
Finally, how can policy-makers and regulators support innovation and maintain financial stability? Effective policy solutions need to accommodate the fast pace of innovation, provide legal certainty for markets and consumers, and support the stability of the system as a whole. The best outcomes will be achieved if these solutions are coordinated globally by policy-makers and the financial industry.

These questions will need to be considered by market participants and policy-makers alike at each step of development in order to channel the development of finance in a way that supports consumers, growth and stability.

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[1] Global Future Council on Financial and Monetary Systems, “The Global Financial and Monetary System in 2030”, World Economic Forum, May 2018.

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