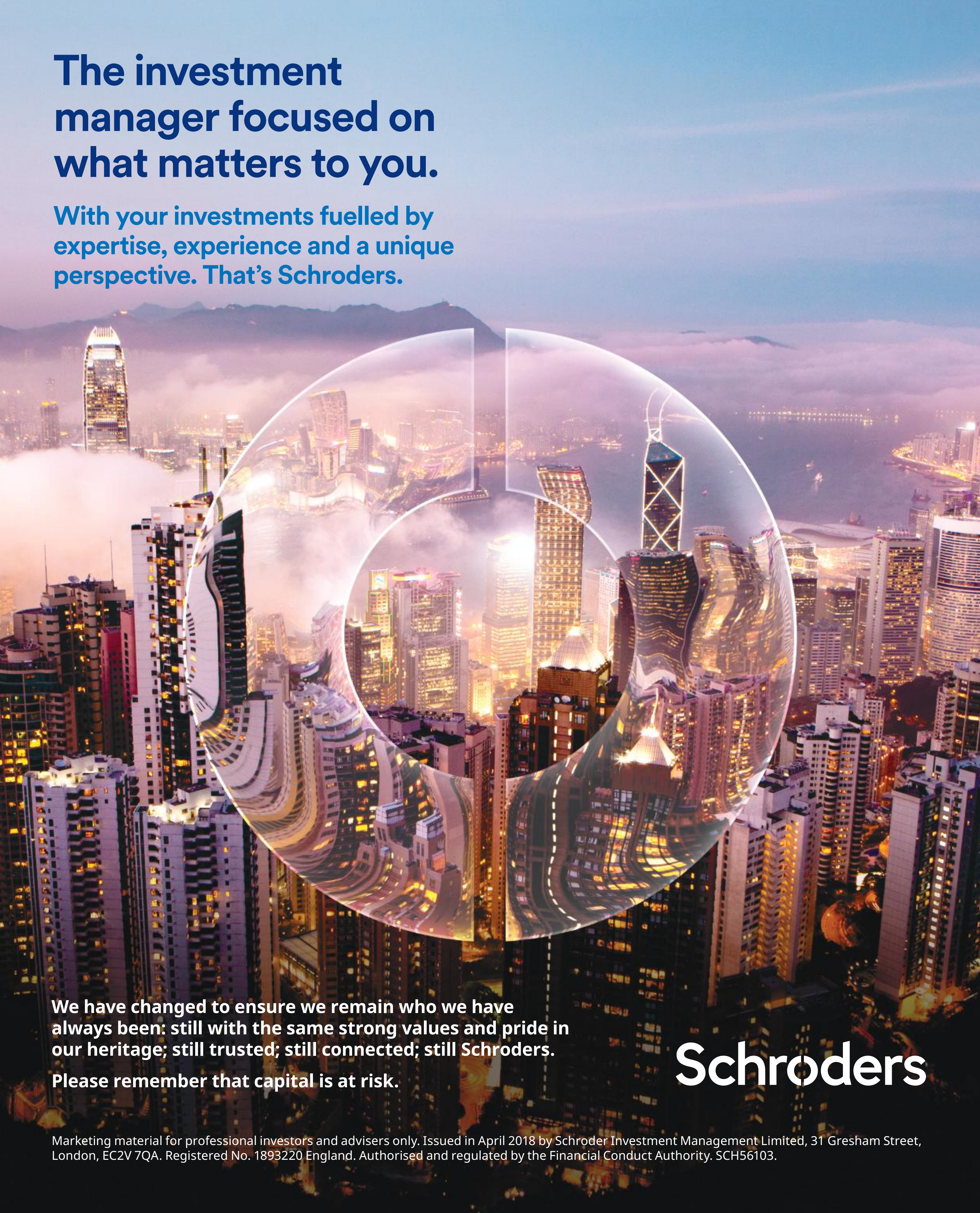
The Bulletin

OMFIF

May 2018 Vol.9
Ed.5

Exploring reserve management strategies

Post-crisis choices for central banks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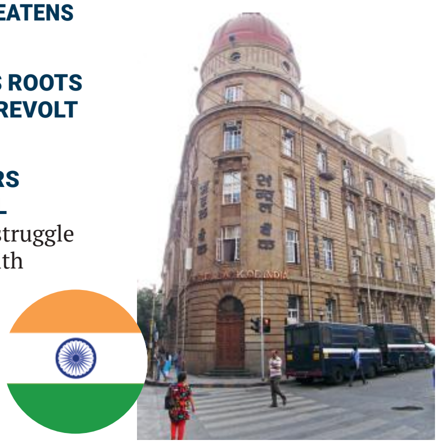

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Exploring reserve management strategies

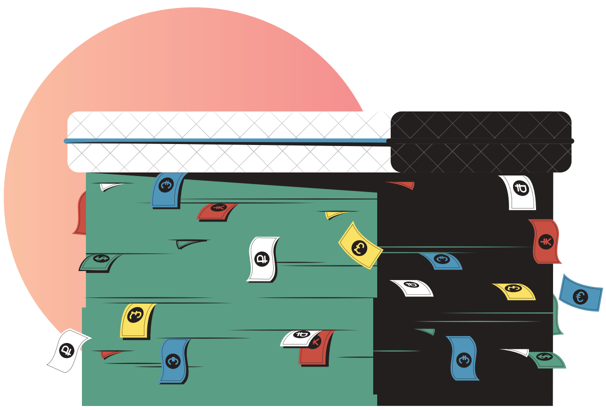
After declining gradually since 2014, central bank reserves have begun to recover. For the first time since OMFIF started tracking the assets under management of global public investors, central bank assets expanded, and did so at a pace of 8%. This trend was relatively broad-based: only Middle Eastern central banks' assets declined on average.

The People's Bank of China played a leading role, increasing its reserves by more than $100bn. Against the backdrop of a trade dispute with the US, Chinese officials will have to balance difficult issues as they shape their future strategy, particularly in relation to their significant holdings of US Treasuries, as Gary Smith argues in this month's cover story.

Other types of public investors, sovereign funds and public pension funds, also increased their assets, according to this year's *Global Public Investor* report. Norway's Norges Bank Investment Management, the world's largest sovereign fund, led the charge. OMFIF will be launching the full findings of this research on 23 May in London.

While reserves grow, the strategies for managing them are becoming trickier. Encouraged by a low bond yield environment, public investors are increasingly tempted to diversify away from traditional allocation strategies focused on fixed income and expand into a wider range of assets. There has been a particularly strong shift from sovereign funds and public pension funds into real estate and infrastructure assets, as documented in a report prepared by OMFIF and BNY Mellon, which will be launched next month.

Central banks, however, remain broadly conservative. As Joachim Wuermeling, executive board member at the Deutsche Bundesbank, argues, security and liquidity remain important criteria for defining reserve allocation strategies. While some of the factors influencing the macroeconomic landscape are slowly reversing, others are more structural. Weak demographics, slow productivity growth and persistently low long-term interest rates will continue to determine the overall framework within which public investors pursue their asset management strategies.



Danae Kyriakopoulou
Chief Economist and Head of Research

»24 April, London

ECB must not be 'only game in town'

GERMANY and other euro members should press on with reinforcing monetary union, including setting up a European Monetary Fund, so ECB policy will not be the 'only game in town' in the next crisis, said François Villeroy de Galhau, Banque de France governor, at an OMFIF City Lecture on developments in the euro area. Discussions included strengthening institutional architecture in Europe, with aspects related to the euro area budget and finance ministry, the role of the European Stability Mechanism and completing the banking union.

»17 April, New York

Economic recovery in Brazil

ILAN Goldfajn, governor of the Banco Central do Brasil, gave a City Lecture on the future of the Brazilian economy, including prospects for continued growth and recovery, fiscal reforms, and overhauling the public pension system.

»17 April, Washington DC

OMFIF-Barings panel

OMFIF and Barings organised a seminar to analyse the US economy's prospects. Speakers included Dennis Lockhart, former president, Federal Reserve Bank of Atlanta, and Tamim Bayoumi, deputy director, policy and review, IMF.

»20 April, Washington DC

Harnessing new technology

OMFIF organised a breakfast discussion in partnership with Principal Global Investors. Key topics for discussion included technology's influence on productivity, and the rise of automation and its disruptive effect on the labour market.

»16 April, Paris

The future of the euro area

EUROPEAN governments, in finding ways to reinforce monetary union, should pay far more attention to structural factors such as the persistent large German current account surplus, Jacques de Larosière, former Banque de France governor and IMF managing director, told an OMFIF seminar. The meeting looked at the institutional reinforcement of Europe's monetary union in the light of political changes in France and Germany.

»4 April, Singapore

Balancing opportunities and risk

THE fourth OMFIF Asean debate, co-organised with the Monetary Authority of Singapore, was held to coincide with the Asean+3 finance ministers and central bank governors meetings in Singapore. The debate focused on financial technology, cybersecurity and cryptocurrencies. Speakers included Muhamad Chatib Basri, former Indonesian minister of finance and Duvvuri Subbarao, former governor of the Reserve Bank of India.

FORTHCOMING MEETINGS

»Wednesday 2 May, London

The state of UK public finances

A breakfast discussion with **Nicky Morgan**, Conservative UK member of parliament for Loughborough. Topics will include assessing the Brexit negotiations and the nature of a transition agreement, as well as implications for the City of London.

»Thursday 3 May, Manila

OMFIF-Asian Development Bank seminar

OMFIF convenes a panel of experts to review the search for long term sustainable investment returns in Asia. Topics include demographic trends, expanding intra-Asian investment and attracting investment flows from high growth and mature economies.

»Thursday 3 May, London

Brazil economic outlook

A briefing with **Tiago Berriel**, deputy governor for international affairs and corporate risks at the Banco Central do Brasil. The meeting will cover the economic climate in Brazil, projected growth in the country and expected fiscal and monetary reforms.

»Tuesday 22 May, Bucharest

The euro area and accession conditions

OMFIF organises an Economists Meeting in Bucharest, held jointly with the National Bank of Romania. Key topics for discussion include the macroeconomic outlook for central and eastern Europe, monetary policy and challenges to the European banking system.

For details visit omfif.org/meetings

Exploring reserve management strategies

A decade of quantitative easing, low interest rates, slow productivity growth and aging populations in advanced economies has led to intense debate over which asset classes and strategies public investors should pursue.

Resisting temptations

Benefits from the segregation of duties

Joachim Wuermeling
Deutsche Bundesbank

At the end of March 2018, Germany's official reserve assets were €166bn ($206bn), of which €117bn, or 70%, was invested in gold and €49bn in foreign currency reserves, including the Special Drawing Right and claims against the International Monetary Fund. These assets include a large amount of gold because of the Bundesbank's obligation to act under various exchange rate regimes throughout the last century. Under the Bretton Woods system, foreign exchange purchases became necessary whenever the D-mark appreciated against the dollar.

The reserves also act as precautionary holdings and enhance confidence in the stability of the currency. In recent years, multilateral swap lines between the world's major central banks have extended their capacity to provide foreign exchange liquidity and to fund intervention, such as to alleviate tensions in the financial system.

70%

Percentage of Germany's official reserve assets invested in gold at the end of March 2018.

For some time, many central bank reserve managers have been looking at alternative currencies and instruments to improve risk/return relationships. Private market participants have championed mortgage-backed securities or corporate bonds to increase returns. These investments are often outsourced to external managers. After 2008, alternative reserve assets and currencies came into greater focus among central bank reserves managers on account of the prevailing low interest rate environment, and the use of derivatives has become standard practice.

The cost of holding reserves on their balance sheets puts pressure on reserve managers to enhance returns. There is always a temptation for portfolio managers to extend the investment to achieve a better return, as they are tasked with optimising the return within a given framework. Their willingness to accept more risk is often in contrast to the overall objective of controlling risk.

These differing views are the result of a typical segregation of duties within reserve management. Ultimately, this provides stability. Since the Bundesbank has always been guided by the principles that currency reserves must remain secure and highly liquid, it has been indispensable to perform in-depth checks before new instruments and assets are adopted, rather than quickly following trends. A deviation from these principles might have resulted in more active reserve management, investments in higher-yielding asset classes or the implementation of an optimised and active investment framework. This would have generated more credit risk, more reputational risk and, in many cases, sacrificed foreign exchange liquidity.

Avoiding risk

The investment policy within the Bundesbank's reserve management has not primarily been geared towards diversifying risk. Rather, the objective has been largely to avoid risks that are not necessarily determined by policy goals. This entails the acceptance of exchange rate risk resulting from the decision to hold reserves, and the acceptance and management of a degree of interest rate risk within currency portfolios. The experience of the financial crisis has underpinned this analysis.

Reserves need to perform under difficult circumstances and it is imperative to judge them from their performance in crisis situations. An investment policy for foreign reserves should not be procyclical. For instance, while being in line with a narrow interpretation of the IMF reserves definition, this has prevented the Bundesbank from investing its foreign exchange reserves with issuers or entities of banks in its domestic currency area. Basing an investment policy mainly on the criteria of security and liquidity could come under criticism for being too orthodox, but the resulting asset mix has served the Bundesbank well during periods of market stress.

Of course, a certain degree of optimisation was still being considered even while a careful approach was being applied. To this end, the Bundesbank reviewed its gold storage and cautiously added further currencies to its reserves – the Australian dollar was a first step.

Investment policy for the Bundesbank's foreign reserves is based on the classic tenets of security and liquidity. The Bundesbank has been relatively immune to temptations from the asset management industry to mirror private investor behaviour. The validity of the decision cannot be tested in a normal market environment. Instead, it will be tested under stress scenarios. ●

Joachim Wuermeling is Executive Board Member at the Deutsche Bundesbank and an Honorary Professor at the University of Potsdam.

Lowering Fed balance sheet

Releasing high-level collateral may have easing effect

Otaviano Canuto
Advisory Council

At its meeting in March 2018 the US Federal Reserve raised the target range of the fed funds rate by a quarter point to 1.5%-1.75%. Fed officials are projecting a steeper path of rate increases for the next two years, and recent inflation data would hint at the central bank staying firmly on track for another quarter point increase in June.

In the light of rising inflation and a tightened labour market putting upward pressure on wage growth, it in unsurprising that some analysts now expect the Fed to lift rates a total of four times this year. At the same time, the Fed's long-term plan to shrink its unprecedently large balance sheet is in its sixth month. Janet Yellen and Jay Powell, the former and sitting Fed chairs, characterised moves on both these fronts as essential on the path towards policy normalisation after years of low interest rates and quantitative easing.

The Fed's balance sheet started to grow in late 2008, when it began to acquire assets such as US Treasuries and government-backed securities on a large scale. This was initially done to avoid a deepening of the financial destabilisation and bankruptcy of solvent-but-illiquid financial institutions, and subsequently to fight economic stagnation and deflation risks as private agents deleveraged substantially. On the liabilities side, bank reserves grew to exceed regulatory minimum requirements.

Between 2008, when the quantitative easing programme began, and October 2014, when Yellen announced its conclusion, the Fed balance sheet increased to around \$4.3tn (around \$2.5tn in Treasuries and \$1.8tn in mortgage-related securities) from less than \$900bn. Beginning in October 2017, the Fed has stopped reinvesting all the proceeds it received from maturing assets, starting a gradual contraction of the balance sheet. Furthermore, in accordance with plans announced in June 2017, the initial monthly portfolio reduction of \$10bn is expected to reach \$50bn by next October, a much slower pace than if outright sales of assets were to take place. Bank reserves have diminished accordingly.

Releasing collateral

The impact of the balance sheet reduction on short-term rates stemming from lower levels of reserve balances on the Fed's liabilities will be critical. Falk Bräuning, senior economist from the Boston Fed, estimates that by January 2019, assuming a portfolio reduction by \$500bn, 'The overnight repurchase agreement (repo) spread (relative to the lower bound of the federal funds target range) will be 10 basis points higher and the fed funds spread will be two basis points higher than in October 2017.'

There are those, like Manmohan Singh, International Monetary Fund senior economist, who say the Fed's balance sheet unwinding 'may not be tantamount to tightening'. Releasing high-quality collateral such as US Treasuries to the market may have 'an easing effect' and diminish excess reserves kept by banks on deposit at the Fed. 'US Treasuries in the hands of the market, with reuse, are likely to lubricate markets, while excess reserves (or money) have remained idle in recent years,' says Singh. In the long term, higher availability and the reuse of this collateral by the market may damp interest rates.

Opposing views of QE underlie these observations on the two sides of its unwinding. On the one hand, if the expansion of the Fed's balance sheet was essential to preserve easy monetary conditions, the reduction of the former can be expected to tighten the latter. Conversely, if the Fed's asset hoarding was excessive, concerns about the macroeconomic effects of speeding up the tapering could be exaggerated. ●

Otaviano Canuto is an Executive Director of the World Bank and a Member of the OMFIF Advisory Council. The opinions expressed in this article are his own.

\$4.4tn
Current size of the Fed balance sheet

> 'The impact of the balance sheet reduction on short-term rates stemming from lower levels of reserve balances on the Fed's liabilities will be critical.'

China plays the long chess game

Beijing will adopt measured response against US tariffs

Gary Smith
Advisory Council

There has been speculation that the trade dispute between the US and China could prompt Beijing to sell down its holdings of US Treasury debt. While Chinese leaders clearly feel compelled to retaliate against Washington's recently imposed tariffs, it is unlikely that foreign exchange reserves would be used for this purpose. Progress on some of the West's legitimate complaints about China's trade practices seems remote, but so does any Chinese response that might trigger a fully-fledged financial crisis.

Chinese officials will weigh some difficult issues as they shape their strategy. Textbooks would suggest that selling dollar-denominated assets would put downward pressure on the dollar. It is doubtful that this is an outcome China would want against the backdrop of a trade dispute that, in a wider sense, would threaten its own export performance. However, the situation might be more nuanced than it first appears. Currency movements do not always conform to theory. If retaliation were intended to trigger a US financial crisis, the experience of the 2008 crisis might be worth heeding.

A decade ago, as the US housing crisis morphed into a global crisis, the dollar benefited from a 'flight to quality'. This perverse outcome was a consequence of dollar hegemony in the financing of international trade.

Beijing began the process of establishing its own currency in the global trading network partly to ensure that China would be in a stronger position in a future crisis. Any Chinese reaction that risks triggering a flight to quality onto the dollar, and which boosts dollar hegemony, would be inconsistent with the decade-long policy of internationalising the renminbi.

Moreover, there is nothing to stop the Fed from simply mopping up any Chinese sales of US debt. China, even if it were inclined to embark on a financial market skirmish, might be wise to avoid one that US authorities could neuter with minimal effort. Moreover, in 2015-16, China liquidated around $1tn in foreign exchange reserves, of which around two-thirds were probably denominated in dollars. During that period, US bond yields actually declined.

China's long-game strategy

For China, the benefits of maintaining a large and stable position in US debt instruments might be more useful than weathering the consequences of liquidating that position. In fact, doing nothing might be a winning strategy. China has been adept at filling the vacated moral high ground in international relations since the election of President Trump.

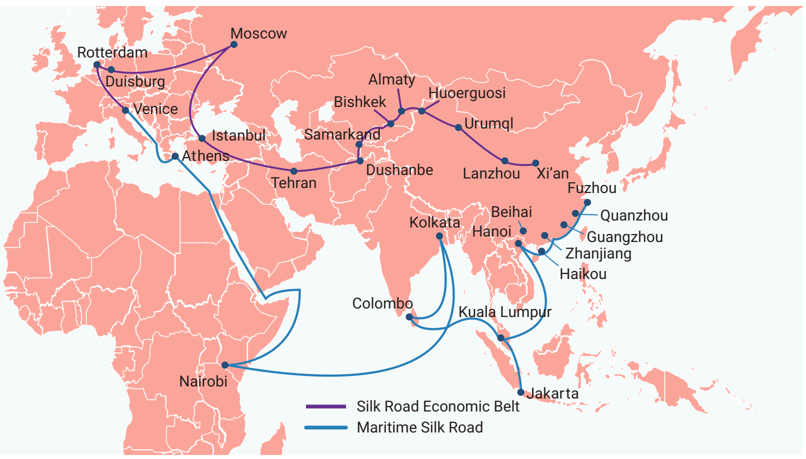
China has been keen to position itself as a defender of free trade at a time when the US is moving towards protectionism. This would also enhance China's international standing but would be consistent with the objectives of the Belt and Road initiative, which may help establish a China-centric trade network and further boost international usage of the renminbi.

The Chinese response to US tariffs will probably focus on trade and investment, including tariffs against US imports and further restrictions on US investment in China. A measured response may encourage other nations to tone down their concerns about Chinese trade subsidies or poor protection of intellectual property.

In terms of foreign exchange reserves, the views of Fan Gang, a member of the People's Bank of China and adviser to the State Administration of Foreign Exchange, a subsidiary of the central bank, are relevant. He has said that China should not buy more US debt but should instead buy real assets. From the Chinese perspective, this could be a good time to exhibit patience and skill in playing the long chess game. ●

Gary Smith is Member of the OMFIF Advisory Council and Member of the Strategic Relationship Management Team at Barings.

Belt and Road initiative shows broad trade links between China, Africa and Europe



Bank of Japan faces ETF quandary

Large presence of a central bank in the stock market must be managed well

Alexander Petrov
State Street Global Advisors

All central bank asset-purchasing programmes follow the same logic: when the price of money gets close to zero, they conduct monetary policy easing by directly increasing the quantity of money. Most post-2008 financial crisis programmes primarily purchased government bonds. Purchasing equities, via exchange-traded funds otherwise remains rare and controversial.

The Bank of Japan's programme, which started in October 2010, included a wider range of assets such as corporate bonds, equities and property funds. The BoJ had to deal with the consequences of the financial crisis as well as persistent deflationary pressures in the Japanese economy. It also had more institutional experience of unconventional monetary policy measures than other central banks.

Between 2002-03, the BoJ bought shares to alleviate the impact on major financial institutions of unwinding their cross-shareholdings in big conglomerates. However, a central bank, because of its size and influence, may distort the market when it trades the shares of individual companies.

ETFs, in contrast, allow investors to capture either the entire market or a specific theme, but do not let them choose individual stocks. State Street Global Advisors believes the 2002 legacy played a role in the BoJ moving to ETFs in 2010.

Initially, the BoJ announced a stock goal of ETFs it intends to hold. In April 2013, after the appointment of Governor Haruhiko Kuroda and the start of quantitative easing, it switched to a flow goal of purchases – ¥1tn ($9.4bn) annually. The amount was tripled in October 2014 and further doubled in September 2016. The bulk of the programme targets ETFs tracking large indices, such as the Topix.

Equities are not a large proportion of the BoJ's balance sheet. As of 31 January 2018, the balance sheet stood at ¥526.7tn, of which the 2002 stocks were ¥1tn and the later ETF purchases ¥17.7tn – a total of 3.6%.

The impact on the stock market has been more significant. As of January 2017, the BoJ owned about 2.5% of the total market capitalisation of the Tokyo Stock Exchange, which was then ¥721tn. Such a share is not necessarily alarming, but the indices purchased by the BoJ tend to include larger companies, and there are some companies where, if the indirect ownership stakes through various ETFs and direct holdings are added up, the BoJ holds over 10%.

In the ETF market, the BoJ's share is much bigger. In December 2017, the combined net asset value of Japanese equity ETFs listed on the Tokyo Stock Exchange stood at ¥29.8tn. The BoJ held ¥17.2tn, or nearly 58%.

BoJ may dominate ETF market

There is a risk that the BoJ may ultimately dominate the market to such an extent as to undermine its proper functioning. To date, such effects appear to be limited. Although the BoJ has been a large buy-to-hold ETF investor, the volumes remain healthy enough to support market liquidity and the BoJ's stated intentions for the programme did not include supporting stock prices.

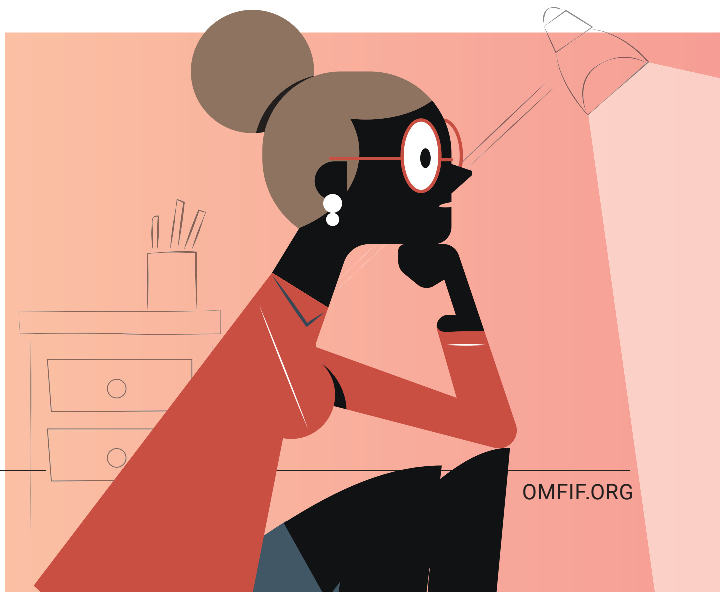
The BoJ's high share of the ETF market and continued demand have driven financial innovation and increased the use of ETFs across Japanese financial markets. The industry has had to create specialist ETFs to meet the BoJ's demand for vehicles that promote 'human and physical capital', though these have attracted limited interest from private investors.

The BoJ's presence in the stock market, chiefly via ETFs, is significant. The asset purchase programme remains open-ended and there is no explicit cap on ETF ownership.

The BoJ's use of ETFs may be considered unorthodox, but so far it has proved a useful policy tool. The BoJ's reflationary goals may take a long time to achieve, in which case asset purchases could continue over the medium term. Nonetheless, it is likely that the BoJ may want to reduce its balance sheet and divest assets including ETFs at some point.

The bank has said it will only sell ETF shares in a way that limits market volatility and does not constitute too high a loss. However, its big role in the ETF market means any sale would need to be orchestrated carefully.

Alexander Petrov is Assistant Vice-President, Policy and Research, Official Institutions Group at State Street Global Advisors.



Flexibility in allocation strategy

Build up in real assets as bond returns flag

Ben Robinson
OMFIF

Bonds have been the worst-performing asset among habitual investment classes, after commodities and hedge funds, over five-, 10- and 20-year horizons, according to PWC data. For public pension funds, which have an average allocation to fixed income of almost 40% of the total portfolio, this has created significant pressure on their returns, forcing investors to seek alternatives.

Sovereign funds, which are dependent on oil revenues for a large part of their total assets, have struggled to preserve their value in the face of the dramatic decline in oil prices since 2014. Sovereign funds' average 25% allocation to bonds, while lower than pension funds', is still large enough to present further headaches for these investors.

$334bn

Increase in infrastructure investments by sovereign and public pension funds over the next three years

This combination of forces, exacerbated by a decade of quantitative easing, low interest rates, slow productivity growth and aging populations in advanced economies, has led to heated debate over which asset classes and strategies public investors should pursue.

Recent reforms allowing great flexibility in asset allocation for European public sector investors have helped intensify the shift into alternative assets, particularly real estate and infrastructure.

From July, the Swedish pension buffer funds, which hold combined assets of more than $200bn, will be allowed to invest up to 40% in 'illiquid' assets, up from the current 5% cap on unlisted assets. The minimum allocation to top-rated fixed income products has also been reduced to 20%, from 30% of the total portfolio.

In April the Norwegian finance ministry signalled its intention to allow Norges Bank Investment Management, which has more than $1tn in assets under management, to invest in unlisted renewable infrastructure, following years of lobbying by the fund.

These developments are part of a broader trend. The value of real estate and infrastructure within sovereign fund and public pension fund portfolios has risen by 120% and 165%, respectively, since 2009. According to an OMFIF survey of public investors with around $4.6tn in AUM, more than 70% have increased or significantly increased (by up to 6%) their allocation to these assets in the last three years.

The role of real assets within the total portfolio has shifted. These are no longer viewed solely or primarily as part of a core or core-plus strategy. Value-add and opportunistic strategies are gaining in importance, affecting the types of assets investors are pursuing and the way they access them.

Some investors are targeting a higher share of private real assets, driven by factors including diversification, higher yields and lower volatility than listed public assets. This allows investors to access a wider range of projects and to specialise in non-prime real estate and other niche investments.

More complex investments

Sovereign and pension funds are pursuing larger and more complex investments and collaborating with limited partners to reach deals of sufficient scale. Interest in private equity is waning as the large build-up of 'dry power' – estimated at around $300bn in the real estate sector alone – adds to the costs.

Direct debt and equity are instead becoming more widespread as investors seek exposure to specific, carefully selected projects. They are trying to overcome the high costs of more traditional prime assets in core locations, which have been driven by strong competition from other investors.

Many institutions are bringing more of their asset management in-house. This is forcing external managers to update their value proposition by offering new fund structures, greater transparency and flexibility, and lower costs, to remain competitive. The potential rewards are substantial.

Over the next three years, sovereign and public pension funds plan to increase their investments by $334bn in infrastructure and $130bn in real estate, according to the OMFIF survey. However, matching the supply of readily available sums of cash with investment needs – estimated at more than $90tn over the next 20 years for infrastructure alone – remains the biggest stumbling block.

In view of the long-term nature of real asset investment, political, legal and regulatory certainty is vital. Improved information, benchmarking and hedging products are also needed. The hope among investors facing low returns elsewhere is that the scale of their demand for real assets spurs on these reforms, expanding the range of investable assets. ●

Ben Robinson is Senior Economist at OMFIF. The OMFIF report on real assets, in association with BNY Mellon will be available in June.

ADVERTISEMENT

Understand the implications of 5G

The next generation of mobile technology will revolutionise communications, disrupt industries and create opportunities for investors.

One trend with the potential to dramatically affect people, businesses, economies and investing is the upcoming rollout of 5G, the next generation of mobile technology. 5G will represent a drastic leap over the current 4G standard and stands to serve as a disruptor for many industries and economies.

The massive increase in connectivity speed from 5G will intensify an already hyperconnected world. By some estimates, nearly 3bn smartphones will ship in 2022 alone, 47% more than current levels. And these 5G devices will tackle increasingly data-heavy tasks.

5G will change industries

Besides connecting billions of people, the 5G transition will foster connections among trillions of 'things', as in the internet of things, a web of connected appliances and machines.

5G will foster innovation and serve as a catalyst to unlock several other technologies. Smart cities and autonomous vehicles will require the increased speed and capacity of 5G to truly engage their potential. Other industries, like manufacturing and healthcare, could see increased productivity in addition to new products and services.

By 2020, there will be an estimated 5.7bn mobile subscribers around the world. With links between mobile technology, broadband access and per capita GDP, this holds implications for economies themselves, including:

- Increases in labour productivity;
- Knock-on effects from smart cities and autonomous vehicles;
- Challenges for labour force skill;
- Increased infrastructure investment.

5G will change investment opportunities

Disruption spurred by 5G will require investors to react. The increasing pace of technological change can make established business models obsolete. Asset managers will need to prove their worth by effectively separating winners from losers.

Patterns of adoption around the world will create different investment opportunities in different regions. And the irrepressible ingenuity of people is likely to create entirely new industries that will need capital for support and growth.

Visit principal.com/technologyandinvesting to find out more:

- Discover four industries ripe for disruption from 5G;
- Learn about regional implications of 5G for Asia, Latin America and Africa;
- Explore smart cities and the potential they hold;
- Watch Jim McCaughan, chief executive officer of Principal Global Investors, and Richard Sear, senior vice-president at Frost & Sullivan, discuss technological disruption and opportunity.

Principal℠

Worldview

This month's expert analysis

Women lead UK employment boom

Current 16-24 year old cohort is first to show no difference between genders

Matteo Richiardi and Brian Nolan
Institute for New Economic Thinking

Filippo Cartiglia
Arrowgrass Capital Partners

The 2008 financial crisis and subsequent recession affected employment in the UK severely, but the number of people in employment has now soared. From late 2007 to late 2017, total employment grew by more than 2.5m, making the UK an outstanding performer internationally. Females accounted for 58% of this, and a remarkable three-quarters of additional hours are being worked by women. Wages are, of course, a very different matter.

Male employment was hit harder by the onset of the crisis, as it had always been in previous recessions. The overall employment rate for men has now recovered to its pre-crisis level, but the rate for women has reached 71%, an all-time high. This narrowing gender gap in employment rates reflects the combined effect of legislative changes, the impact of the crisis and longer-term economic, social and cultural dynamics.

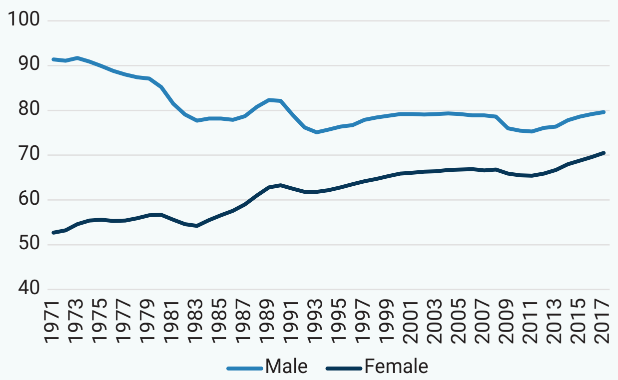
Moreover, the inactivity rate (the share of people neither in work nor looking for a job) of the working-age population, for males and females combined, has fallen to an all-time low of 21.2% in Q1 2018, pointing to a positive aggregate shift in the supply of labour.

From 2007-17, the increase in female employment in the 60-64 age group was much greater than the corresponding increase for men. Women also outperformed men considerably in the 20-24 age group, and to a lesser extent in the 30-44 and 55-59 age ranges. There was little difference between women and men in the 25-29 and 45-54 age groups. Only in the oldest, 65 or older, age group did the increase in male employment exceed that for women by a significant margin.

The picture with respect to the number of hours worked is quite similar. During peak childbearing years from 25-34, on the other hand, hours worked by womenn increased less rapidly than for men.

Women leading the UK employment boom

Employment rate by gender, aged 16-64, %



Source: Office for National Statistics

> 'The narrowing gender gap in employment rates reflects the combined effect of legislative changes, the impact of the 2008 financial crisis and longer-term economic, social and cultural dynamics.'

Employment patterns display a strong persistence, so we should expect the reduction in the gender gap to be slower for older cohorts. On top of that, the reduction in the gender employment gap for older cohorts is also influenced by an increase in the state pension age for women from 60 to 65, which is being phased in during 2010-20. The increase in the employment rate for older women has been particularly marked for those between 60 and 64, who are affected by this change.

Focusing on the young, it is striking that the difference in employment rates has disappeared. The current 16-24 year old cohort is the first one in British history where employment differences between genders are no longer to be seen. This convergence mostly reflects the fact that the share of 'Neets' (not in employment, education or training) among females has dropped sharply. At the same time, for both males and females, the share of students increased sharply in 2008-10, when employment prospects were poor, but this has not come back down as those prospects improved, despite the increase in university tuition fees.

It is reasonable to expect that the gender gap for that age range will not reappear. How the gap evolves as this cohort ages and reaches the family formation and child-rearing stage will be key to labour supply in the future. ●

Matteo Richiardi is Senior Research Fellow and Brian Nolan is Director of the Employment, Equity and Growth Programme at the Institute for New Economic Thinking at the Oxford Martin School. Filippo Cartiglia is Chief Economist at Arrowgrass Capital Partners. This is an extract from a report from Institute for New Economic Thinking, Oxford University, accessed at: www.oxfordmartin.ox.ac.uk/downloads/briefings/Briefing_Nolan_employment_2018(1).pdf

Indonesia targets innovative funding

Infrastructure projects financed completely outside government budget

Kat Usita
OMFIF

Despite the commitment of many governments to developing and improving infrastructure, limited fiscal space constrains what is being built. This is especially true in emerging economies, but as the US and western Europe have shown recently, even developed economies struggle to meet their investment needs. The infrastructure gap is one that global public investors are strategically suited to help fill.

Governments need to think of creative ways to attract outside financing, especially since infrastructure is still a new frontier for many institutional investors. Locking capital in immovable assets entails particular risks. The lengthy construction time exposes projects to political and regulatory changes, which can be difficult to quantify and which short-term investors might be unwilling to trouble themselves with. Greenfield projects also bear demand risk, or the risk that predicted usage of a facility is not met. The long-term horizons of pension and sovereign funds make them ideal investors because they are in a better position to absorb these risks.

Pina, which stands for Pembiayaan Investasi Non Anggaran Pemerintah, or Non-Government Budget Equity Financing, is Indonesia's innovative scheme for injecting private and foreign capital into national projects. In typical public private partnerships, the government taps private investors to finance the construction and operation of an infrastructure facility, and investors receive their return from the project's revenue stream. When there is a shortfall between the needed investment and expected return, the government covers it through previously agreed upon payments called viability gap funding. Pina's goal is to raise enough equity for infrastructure projects to finance them completely outside the government budget.

Financial viability is an essential criterion investors look at when selecting projects. Pina identifies the most bankable projects and offers to the market those that are expected to generate a return of more than 13%. This boosts investor confidence, making projects financially attractive even if they do not come with sovereign guarantees or the viability gap funding other projects may have.

The time it takes to design and construct an infrastructure project can deter investors looking for certainty. Pina gives investors flexible financing options. One way is through direct equity participation in an infrastructure company working on a government project; another is through the purchase of equity instruments.

An advantage of the scheme is that investors are not forced to commit to the entire project cycle. In addition, institutional investors unable to invest directly in infrastructure projects due to regulatory issues may find leeway to do so through Pina.

Aside from providing capital, Pina also accelerates project implementation by speeding up financial close. As the final step before a project proceeds, financial close can become a long-winded process when infrastructure companies are unable to lock in sufficient financing, delaying delivery.

Robust project pipeline

Launched in 2016, Pina has already facilitated financing for four projects in Indonesia, with two more approaching financial close. Together the six projects have a value of $11bn. In addition, 34 projects collectively worth $26bn have been identified for inclusion in the scheme .

> 'Designing alternative ways of drawing investment will be a crucial step for governments ramping up infrastructure spending, but a wide range of projects has to be available.'

Designing alternative ways of drawing investment will be a crucial step for governments ramping up infrastructure spending, but it is not enough. As with other asset classes, diversity is key and a wide range of projects has to be available. Energy, transport, water and other infrastructure categories may all have similar commercial potential, but will carry very different challenges and risks. A robust pipeline of bankable projects gives investors options and can attract more interest.

Countries like Indonesia should also be mindful of maintaining a healthy investment climate. Economic stability, steady growth and good governance are important factors in attracting investment.

Even with flexible and diverse options, investors are unlikely to enter markets with high regulatory barriers, significant political uncertainty and unclear growth prospects. To be sustainable, infrastructure development must move in tandem with economic expansion and improving governance.

Meeting infrastructure needs is one of the most critical tasks many countries face and will remain so in the coming decades. Fast-growing economies such as Indonesia will benefit from continued innovation in creating tools like Pina and maintaining a desirable investment climate. ●

Kat Usita is Economist at OMFIF.

The geography of money

Bitcoin highlights advantages of international currencies

Ousmène Jacques Mandeng
LSE

The quest for international currencies is not new. The 18th-century Maria Theresa thaler was one of the first international currencies and may be considered something of a model for bitcoin. The denationalised properties of the cryptocurrency have highlighted the advantages of such currencies.

The case for international currencies is based on the premise that national currencies are ill suited to serve as international ones. The dollar is widely used, but the Federal Reserve pursues national policy objectives and is accountable only to the US Congress. There is or may be a fundamental conflict of interest between the monetary needs of the US and the rest of the world, and the Fed will always address the former.

The Maria Theresa thaler was one of the main silver coins in Austria from 1741. It became a truly international currency from the middle of the 19th through the 20th century, long after it lost its legal tender status in 1852 and was withdrawn from circulation in Austria in 1892. The coin fuelled trade in Europe, the Middle East and Africa. Mints in Austria, but also Birmingham, Bombay, Brussels, London, Paris, Rome and Utrecht issued the coin and it circulated widely, from Sudan, Ethiopia, the northwest coast of Africa and Madagascar, to Turkey, Oman and as far as China. It served as legal tender in Saudi Arabia, Ethiopia, Nigeria, Yemen and Oman.

The coin was popular because of its familiarity, high standard of quality and ornate design that made counterfeiting difficult.

Bitcoin emerged in 2009. It represents a private, unreserved and convertible medium based on a pre-determined issuance algorithm. Its classification as currency remains disputed, and adoption and circulation continue to be marginal. Bitcoin aims to substitute existing monetary arrangements. It advocates strict peer-to-peer exchanges, eliminating dependence on banks, governments or other trusted centralised parties to conduct financial transactions irrespective of location.

The bitcoin network is highly decentralised. It has more than 11,500 participants, or nodes, in 105 countries that validate and record transactions in a decentralised ledger, or blockchain. Many cryptocurrencies have emerged with similar or differentiated aims.

The Maria Theresa thaler and bitcoin are private, deterritorialised currencies with decentralised issuance. The advantages of international currencies lie in internalising the transaction costs and valuation changes inherent in dealing in different national currencies. International currencies need to adapt only to changes in the international economy.

Network effects

As with the Maria Theresa thaler, network effects are critical for success. The thaler achieved adoption not by political power, as in the case of colonial currencies or treaties; the coin became a pure trading currency, in particular during the 20th century, because issuance and circulation happened outside sovereign interference.

International currencies have a natural role to play in the global economy. The supply and demand of currencies to conduct international transactions should not be constrained by national monetary policy considerations.

There is also no reason why currency areas should be congruent with national borders. Currencies can fulfil different functions, and while some may be best suited to conduct national transactions and serve common functions of money, others may take on more specialised roles.

The Maria Theresa thaler was popular because it was minted to serve international trade and not a particular geography. The new cryptocurrencies seem, in principle though not yet in practice, the better currencies to take over that old idea. ●

Ousmène Jacques Mandeng is Visiting Fellow at the Institute of Global Affairs at the London School of Economics. A longer version of this article was presented at the LSE-Reinventing Bretton Woods Committee Conference: Innovations in global financial governance and the role of emerging economies, in Buenos Aires on 18 March.

‘The Maria Theresa thaler achieved adoption not by political power, but because issuance and circulation happened outside sovereign interference.’

Marion Mandeng

Regulators face up to cryptomania

Supporting innovation while curtailing fraudsters

Mark Branson
FINMA

There is a hint of hysteria around the world of blockchain and cryptocurrencies, a heady atmosphere for financial regulators.

Regulators' goal, without compromising on the core objectives of financial supervision, should be to create an environment supportive of innovation. But they tend to have a natural conservative bias and only rarely communicate with the unproven next generation of market innovators. The system is stacked partly against innovation to the comfort of incumbents. That means regulators must be consciously self-critical when redressing the balance.

That is why FINMA, Switzerland's financial markets regulator, has cleared the way for blockchain innovation. The country's regulatory sandbox and dedicated fintech licence were ideas proposed by FINMA.

Financial technology, undoubtedly, holds great promise. Mobile banking is broadening access to financial services. Roboadvising – online investment advice based on mathematical rules and algorithms – can reap the benefits of artificial intelligence and machine learning at low cost. Crowdfunding is opening new channels for financing. Then there is the blockchain, which many financial institutions are testing. It is conceivable that parts of the financial infrastructure will shift to this technology and render existing processes, and even some players, obsolete.

Finance has benefited greatly from technological advances. However, these improvements have not been passed on as lower costs to the consumers. And they have not halted the decline in the industry's profitability.

Cyber and market risk

For regulators, fintech cannot only be about opportunity. Some of the risks associated with it are more philosophical or societal. There are questions about consumer autonomy as processes become more algorithm-based, as well as concerns about adequate privacy protection.

The most obvious risk is cyber attacks. The financial sector is the single most attractive target. Data from Melani, the Swiss reporting and analysis centre for information assurance, show that 62 out of 94 incidents reported to it targeting critical infrastructure in 2017 occurred in the financial sector.

A second important risk is the extent of outsourcing. As traditional value chains fragment, risks migrate. Many financial institutions outsource back office functions, increasingly across borders. The economic rationale is compelling, but should not come at the cost of stability. Data needs to be instantly accessible during a crisis and confidentiality protected. Equally important is the stability of third party service providers, who are mostly non-financial institutions.

Then there is market risk. Bitcoin's price rose 17-fold in 2017 and 64-fold in the last three years. Some see this as the biggest bubble in financial history. For others, this is merely a short stop on the march to an anonymous and free financial system. In my view, an anarchic, parallel monetary world is unlikely to grow to critical mass. The best way to exploit the potential of blockchain technology is to accept that innovation-friendly regulation and supervision is the best deal there will be.

Categorising crypto tokens

Initial coin offerings of cryptocurrencies erupted last year. Growing from a relatively unknown fundraising method used in the blockchain community, ICOs raised over $6bn in 2017 through almost 900 projects. Switzerland has become a hub for ICOs, with four of the six largest offerings in 2017 taking place there.

Cryptomania is everywhere. Last year FINMA was flooded with enquiries about the applicability of its regulation to ICOs. There were three basic options: anarchy, prohibition, or a third, more reasonable approach.

The third option is quite simple. In assessing ICOs, FINMA looks at the economic function

64-fold

The amount Bitcoin's price rose over the last three years

and purpose of the issued tokens, which are categorised into three types. Payment tokens are synonymous with cryptocurrencies and have no further functions or links to other development projects. Utility tokens are tokens which are fully functioning ways of providing digital access to an application or service. And asset tokens are tokens that are issued in fundraising processes and are functionally analogous to equities, bonds or derivatives. Payment tokens like bitcoin and newer utility tokens look like means of payment and are therefore subject to anti-money laundering controls. Asset tokens look like securities and therefore fall under securities law.

There is an assortment of innovators, imitators, regulatory arbitrageurs and fraudsters in the cryptoworld. It's the job of regulators to ensure that the innovators have the chance to thrive if their idea is worth it, that the arbitrageurs have nothing to gain, and that the fraudsters end up where all fraudsters should. ●

Mark Branson is Chief Executive Officer of FINMA, the Swiss Financial Market Supervisory Authority.

Fed nominees focus on inflation

Policy-makers optimistic on US economy

Darrell Delamaide
US Editor

In April, US President Donald Trump nominated two more candidates to the Federal Reserve board of governors. This brings the pending nominations to three, matching the number of members currently serving. Nominations require Senate confirmation, and Democrats are blocking Trump nominations on principle. There is one further position to be filled on the seven-member board.

As expected, Trump named Richard Clarida, a Columbia University economist, to the vice-chair position that has been vacant since last September. Clarida is also a managing director at Pimco, the global investment manager, demonstrating his ability to combine academic with market practice.

Trump nominated Michelle Bowman, the Kansas state banking commissioner, to the slot reserved for community bankers or regulators. Bowman was an officer at her family's bank in central Kansas prior to becoming commissioner in January. She previously ran a lobbying consultancy in London and worked in the George W Bush administration.

As a vice-chair with a strong economic background to complement Chairman Jay Powell's lack of academic training in this field, Clarida is likely to have the biggest impact on monetary policy. After the 2008 financial crisis, he acknowledged that he had mistakenly subscribed to the consensus view that central bankers should focus on inflation because markets would be sufficiently self-regulating.

When that proved not to be the case, he advocated intervention that went beyond what Ben Bernanke, chairman at the time, and other Fed policy-makers were willing to do: urging central bank purchases of bonds to cap long-term interest rates. It is an open question whether he would return to this view in a new crisis. For managing monetary policy, he has recommended focusing on future inflation as implied in market prices, rather than current inflation, for setting interest rates.

Fed board of governors nominees Richard Clarida and Michelle Bowman

Regional Fed views

The Washington-based board of governors is instrumental in forging consensus at the Fed, so Clarida's role will be significant. The regional Fed chiefs may express their thoughts on nuances, but policy is essentially determined in Washington. Only five regional bank heads at a time can vote on the Federal Open Market Committee, and they are outnumbered by the board of governors when at its full complement.

John Williams, head of the San Francisco Fed, expects US inflation to reach the Fed's 2% target and stay there or above for 'another couple of years'. Williams will take over as New York Fed chief in June. The head of the New York bank is a permanent voting member on the FOMC.

Williams expects at least two more rate rises this year, reflecting the FOMC consensus. 'All participants expected inflation on a 12-month basis to move up in coming months,' according to the minutes of the March meeting.

The FOMC felt the outlook for the economy had strengthened. The Fed's core inflation measure, personal consumption expenditures excluding food and energy, is at 1.6% and has lagged behind the 2% target for six years. There are indications of upward price pressures. A tightening labour market, boosted by the fiscal stimulus of the recent tax reform, will add to them.

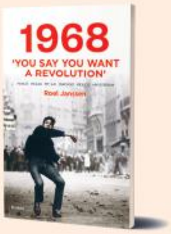
Eric Rosengren, the Boston Fed chief, believes three more rate hikes are on the cards this year. Rosengren expects economic growth to be 'somewhat stronger' even than the consensus forecasts on the FOMC. He sees a short-term risk from the administration's trade policy, which is contributing to stock market volatility and has other 'spillover effects'. Longer term, he urges keeping an eye on unemployment. A prolonged period below what economists consider a 'natural rate' could presage a boom-bust cycle, he suggests.

Loretta Mester, president of the Cleveland Fed, agrees that trade tariffs introduce a note of 'uncertainty', but otherwise sees the economy on a robust growth path. 'Assessing the impact on the US macroeconomy will ultimately depend on how other countries react, including whether they impose their own tariffs or other trade barriers in response.' ●

Darrell Delamaide is a writer and editor based in Washington.

Euro's roots in Paris 1968 revolt

Roel Janssen



In May 1968 students occupied Paris's Sorbonne university, erected barricades in the streets and fought with French riot police. A week later French workers went on strike, and the country came to a stop. The government seemed about to fall.

In secret, President Charles de Gaulle visited the commander of the French occupying forces in West Germany to ensure the support of the army. Meanwhile the French bourgeoisie carried money to banks in Switzerland.

Normality returned after the summer. Workers had gained huge wage rises and universities reopened. De Gaulle was still in power.

But the money kept flowing out of the country. This put pressure on the franc's exchange rate. The Banque de France was forced to sell $400m of its gold reserves to support the currency, and called for help from the US Federal Reserve and Deutsche Bundesbank.

In 1968 the currencies of western nations were still part of the Bretton Woods system. The dollar was fixed to the price of gold and other currencies were linked to the dollar with the possibility of exchange rate adjustments.

There was pressure on the franc to devaluate, and on the West German D-mark to revalue. In the autumn, tensions in the exchange rate system increased. At the request of the Germans, the ministers of finance of the G10 and Switzerland met in Bonn. According to one of the participants, Bundesbank Vice-President Otmar Emminger, it turned into 'the most unpleasant monetary conference' he ever attended.

The Bundesbank pleaded for a revaluation of the D-mark and a simultaneous devaluation of the franc. The French central bank accepted this. But Karl Schiller and Franz Josef Strauss, Germany's ministers of finance and economics, fiercely opposed any change to the German parity. The franc was a French problem, they claimed, and de Gaulle should swallow his national pride. He had devalued the franc 10 years earlier, vowing his government would maintain the exchange rate as a symbol of strength.

After two days of talks, France succumbed. François-Xavier Ortoli, French economy minister, agreed with an 11% devaluation of the franc. Two days later the monetary committee of the European Community convened to formalise the reshuffle of exchange rates. To everyone's surprise, Ortoli announced, 'Le général a dit non,' or, 'The general has said no.'

De Gaulle refused to accept the devaluation, as the franc's strength was essential in his crusade against the dollar. A devaluation was 'the worst kind of absurdity', he said.

In April 1969 a French constitutional referendum that de Gaulle championed failed, leading to his resignation. Money continued to flow out of France. George Pompidou, de Gaulle's successor, knew the exchange rate was untenable. In August his finance minister, Valéry Giscard d'Estaing, carried out the 11% devaluation that de Gaulle had blocked. By the end of the year, the D-mark was revalued by 9%.

The currency skirmish of 1968, triggered by the 'Events of May', as the student rebellion and labour strikes came to be called, was the first time the European Community dealt with its internal exchange rates, ushering in two decades of frequently acrimonious adjustments. It also led to the political acknowledgement that efforts to find ways to stabilise the mutual rates were desirable.

A series of attempts at monetary coordination – including 'the snake', 'the snake in the tunnel' and the exchange rate mechanism of the European Monetary System – would lead in 1999 to the linkage of the currencies of 11 countries in economic and monetary union. Thirty-one years after 'le général a dit non', the franc and the D-mark were merged into the euro. •

Roel Janssen is a Member of the OMFIF Advisory Board and the author of *1968: 'You say you want a revolution'*.

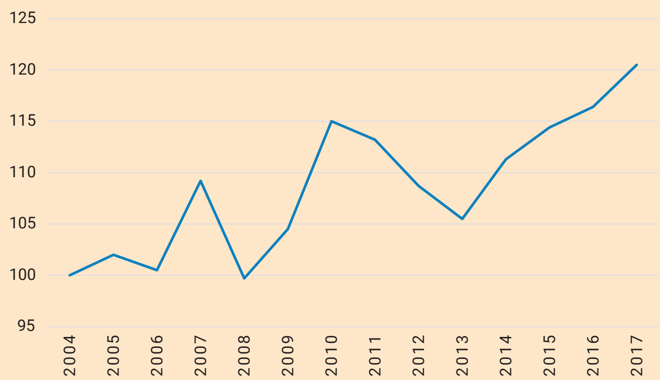
The chart

Each month we take a look at a chart from the world's central banks. This month, India.

The appreciation in the rupee's real value could be a reflection of the economy's rapid growth. However, the rising currency value and higher domestic price levels relative to other countries, seen in a higher real effective exchange rate, have hurt export competitiveness. Exports have already been growing slowly and are unlikely to bounce back if the REER continues to increase. The looming US-China tariff war could also result in a slowdown of global trade growth and raise import costs for India, potentially damaging its economy.

India's stronger currency threatens growth

Real effective exchange rate



Source: Reserve Bank of India

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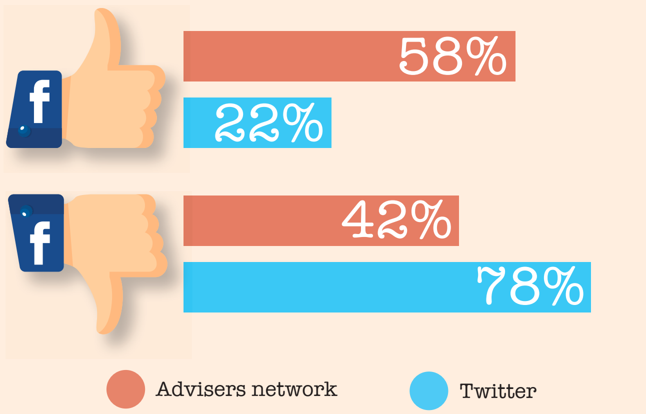
Advisers network poll

Facebook faces struggle to repair user faith

Mixed reaction on whether regulation can help prevent future data leaks

Likelihood of regulation helping Facebook maintain its consumer's faith, % of 'yes' (👍) or 'no' (👎) votes



The poll for this month focuses on the revelations that user data was withheld from Facebook users without their knowledge. Participants were asked: **'With Facebook's recent data leak, is the promise of greater external and internal regulation enough to maintain consumer faith in the company?'**

There was a split of opinion from those who responded to the advisers network poll, with 58% saying 'yes' and 42% 'no'. Reasons supporting continued user confidence in the company included factors such as consumer apathy towards data as a whole. Reasons against included the expectation of regulation having little effect. Many agreed, however, that Facebook had 'misused' its position, and that the situation had presented a 'strong case for regulation'. However, whether the controversy would have any lasting detrimental effect on the company was questioned.

The Twitter community was more confident in its opinion that faith in Facebook would be knocked, by 78% to 22%. Perhaps this was influenced by the poll being hosted on one of its social media competitors.

Incoming regulation will be irrelevant to the way consumers see Facebook. No matter what actions are taken, confidence is shaken, but at this stage probably not too severely.

Olivier Rousseau, Fonds de réserve pour les retraites

Many people will still use Facebook despite their lack of trust in the company, because they think the data related to them are not that important or sensitive.

Philippe Lagayette, formerly Banque de France

As long as there are no real alternatives, consumers will stay with Facebook. There have not been any direct consequences of the leak for individual Facebook users.

Jens Thomsen, formerly Danmarks Nationalbank

Enough will be done to ensure that the consumer continues to use Facebook, though with a fall in profitability.

Colin Robertson, SW1 Consulting

While regulation can help, it cannot compensate for a business model that sells data without consumer permission.

Irena Asmundson, California Department of Finance

As digital platforms can be misused, there is certainly a strong case for regulating social media.

Hemraz Jankee, formerly Bank of Mauritius

These statements were received as part of the May poll, conducted between 5-23 April.

June's question:

**Green bond issuance is hitting record levels this year.
Is this a sign of meaningful future growth, or simply a fad?**