WORLD COMMERCE REVIEW

SUMMER 2017

Marek Dąbrowski examines the rationale behind a multi-speed European Union and the potential risks

Shanker Singham looks at President Trump's trade policy, and what the Administration means by 'free and fair' trade

Patrick Minford on why the consensus of economics opposed Brexit and why no deal is the best deal

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The mixed blessing of the 'multi-speed' EU

Marek Dąbrowski examines the rationale behind a multi-speed European Union and the potential risks that could encourage anti-EU sentiments

The UK decision to leave the EU kicked off the debate of how the remaining 27 member states want to repair and further advance a European integration project. The 60th anniversary of the Rome Treaty celebrated in March 2017 provided an additional impulse to this discussion. In particular, the European Commission (2017) published the White Paper on the *Future of Europe* followed by the Rome Declaration of the EU27 leaders issued on March 25, 2017 (European Council, 2017).

While their language concentrates on declaring EU unity, setting vision of prosperous Europe and willingness to resolve today policy problems it remains less concrete in respect to reform measures required to achieve those goals. However, the process of preparing both documents and, partly, their content triggered a new round of debate on the 'multi-speed' EU[1].

Potential rationale of the 'multi-speed' EU

The deep political and institutional roots of the 'multi speed' EU[2] lie in the voluntary and consensual character of the European integration process. That is, delegation of any new portion of national sovereignty to the EU governing bodies via changes in the EU Treaties must be approved by national parliaments or referenda in all EU member states. This makes the EU very different to other federations and confederations, including the US, which have been created, at least partly, as result of wars, conquests, colonization or other means of coercion.

As result, those new integration steps that did not enjoy unanimous support of all member states required granting concessions to the sceptical governments. Quite often, they took the form of waivers to those who opposed, allowing them for non-participation in a given project. Technically, various legal routes were used such as permanent opt-outs, temporary derogations, mechanism of enhanced cooperation and separate intergovernmental treaties.

The examples of permanent opt-outs include the Treaty's provisions, which allowed the UK and Denmark remaining outside the Economic and Monetary Union (EMU) and the UK and Ireland – outside the Schengen free-travel zone.

Temporary derogations have been applied to the new EU entrants in respect to various pieces of *acquis communautaire*, for example, free movement of capital and labour as well as to their EMU and Schengen membership (which required meeting various technical criteria to become a member).

...further development of the 'multi-speed' EU... may also involve serious risks to the consistence and transparency of the EU institutional architecture and eventually encourage rather than discourage anti-EU sentiments

The Article 20 of the Treaty on European Union (TEU) and Articles 326-334 of the Treaty on the Functioning of European Union (TFEU have introduced the institution of enhanced cooperation. It concerns areas of non-exclusive EU competences, requires participation of at least nine EU member states and shall remain open to others at any time. So far, this mechanism has been used only in respect to minor initiatives such as a divorce law.

Another possibility to initiate new integration areas between the interested EU member states is to conclude separate inter-governmental treaties, formally outside the TEU and TFEU but often resulting in setting new mandates and tasks for the EU governing bodies, in particular the European Commission.

The recent examples of such initiatives include the Treaty on the European Stability Mechanism (ESM, operational since October 2012), and the Treaty on Stability, Coordination and Governance in the EMU (the so-called Fiscal Compact, in force since January 1, 2013).

The variable geometry allows moving forward with integration process despite objections of some member states. If the particular initiative proves successful, it can create positive demonstration effect and encourage originally sceptical countries to join later (Moeller and Pardijs, 2017). The good example is the Schengen area, which originally (1985) started as the intergovernmental agreement of five member states to become eventually part of the Amsterdam Treaty in 1997.

In the post-Brexit environment, with the euroscepticism on the rise, some analysts believe flexibility might be the best approach to new integration initiatives (Adebahr, 2016; Grabbe and Lehne, 2016; Moeller and Pardijs, 2017). Such an approach was also proposed as one of the five scenarios in the European Commission's (2017) White Paper: this was the Scenario 3 called *"Those who want more do more"*.

Indeed, if a new integration initiative is limited to those who are interested and ready to join, perhaps this can help soften opposition of other member states and counteract the populist anti-EU backlash.

And its risks

However, further development of the 'multi-speed' EU, beyond we have now already, may also involve serious risks to the consistence and transparency of the EU institutional architecture and eventually encourage rather than discourage anti-EU sentiments.

First, selected membership in important integration projects can create durable divisions within the EU. This exactly has happened in the case of the EMU and Schengen. Formal and informal opt-outs do not serve solidarity within the EU to address common challenges (as demonstrated by the European financial crisis and refugee crisis) and often lead to self-isolation and alienation of opt-out holders in respect to common policies (the example of the UK, which eventually led to Brexit).

In an extreme-case scenario, a 'multi-speed' integration may lead to an 'integration à la carte', with strong incentives for individual member states to focus on short-term political interests rather than long-term integration benefits, and the weakening and even partial institutional disintegration of the EU governing bodies, as various narrower integration circles will require their own management and coordination mechanisms.

Finally, potential political benefits of 'flexible' integration can be overestimated as the biggest opposition to the idea of the 'multi-speed' EU has come so far from the non-euro area member states who are afraid to become marginalized by a deeper integration within the common currency area.

How to avoid marginalization?

Looking from the perspective of EU members who have not adopted a common currency yet their opposition to the closer integration in the euro area (to the extent, which such an integration is justified by institutional and policy complementarities – see Dabrowski, 2015) is not necessarily an optimal long-term strategy.

Instead of opposing completion of the euro area integration architecture to make it more resilient to future shocks, they should think about joining the EMU over the next, let say, five to ten years. There is a number of arguments in favour of going in such a direction.

Politically, remaining outside the EMU means accepting the political status of a second-category member state with limited impact on several EU policy decisions taken within the so-called Eurogroup. If one assumes further deepening of EU economic and political integration within the euro area is unavoidable the degree of marginalization will increase (see above). Furthermore, after the Brexit the bargaining power of euro 'outs' in the Council will substantially decrease.

Legally, all EU member states except the UK and Denmark are obliged to join the EMU. Their membership is only subject of temporary derogation, until they meet accession criteria. Although accession timetable is not legally determined, they should not postpone euro area accession indefinitely.

Economically, a common currency is an integral part of the single market architecture even if, for political reasons, it is considered as a separate integration project, subject to different membership criteria. The limited membership in the euro area is an important source of cross-border transaction costs within the EU, often more serious than typical trade protectionism instruments.

As long as national currencies continue to exist within the single market, one cannot rule out intended or unintended competitive devaluation with the harm to other member states (currency depreciation in individual member states is a zero-sum game for the entire block). Furthermore, instability of national currencies can lead to financial crises in euro 'outs' (as it happened in 2008-2009) with negative implications for the entire EU.

Looking from the perspective of potential entrant, flexible exchange rates impose additional transaction costs what means less trade and investment creation and less participation in the common market for financial services and capital market, other things being equal.

Even if according to the theory of an optimum currency area exchange rate flexibility can serve as an adjustment tool in case of macroeconomic imbalances or idiosyncratic shocks, in the contemporary environment of financial globalization exchange rate movements are not always driven by changes in trade and current account balance; more frequently they respond to changes in global capital flows.

That is, in case of a small open economy exchange rate flexibility will not necessarily deliver the desired direction of exchange rate adjustment in a given period. In a long run, exchange-rate flexibility cannot replace microeconomic flexibility, ie. substitute structural reforms.

Furthermore, a larger-scale currency depreciation can easily damage financial sector stability and balance sheets of non-financial corporations and households.

EMU enlargement as a tool to reduce 'multi-speed' integration

Historically, EMU membership proved the most powerful factor of a 'multi-speed' integration, leading to an increasing degree of internal differentiation between euro 'ins' and 'outs'. Thus, adopting a credible strategy of EMU enlargement on both the national and EU level could reduce the demand for a 'multi-speed' integration and associated dilemmas of how optimally manage this process.

Working out such a strategy will not be an easy task in those non-euro area member states where local politicians invested a lot of effort in building up irrational fears and prejudices, for example, that the euro project will eventually collapse (it will not) or that introducing euro leads to across-the-board price increase (it does not).

Of course, the new EMU entrants must meet all the criteria required to adopt the euro. The EU institutions and incumbent EMU members should encourage them going in this direction rather than discourage (as it happened on few occasions in the past). ■

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Endnotes
1. This commentary partly draws from Dabrowski (2016)
2. It is often referred to as a 'multi-speed' Europe
(see http://eur-lex.europa.eu/summary/glossary/multispeed_europe.html),
'flexible' integration (Warleigh, 2002) or 'variable geometry' (Dabrowski, 2016).

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China's new world order

Fraser Cameron reviews the BRI and considers whether China can manage internal transformations and provide the leadership to transform the countries between China and the EU

Introduction

China certainly knows how to put on a good show. After the Beijing Olympics, the Shanghai Expo and the Hangzhou G20, President Xi's Belt and Road Forum on 14-15 May brought together a staggering array of world leaders including Vladimir Putin, Recep Erdogan, Michelle Bachelet, Christine Lagarde and Antonio Gutteres.

Speaker after speaker lined up to laud President Xi's vision for a new Silk Road. It was a 'win-win project' that would bring economic prosperity and 'mutual benefit' for all countries involved. The project would build roads, railways, ports, pipelines, energy and telecommunications infrastructure linking China to Central and South-east Asia, Europe and Africa by land and sea.

What is the Belt and Road Initiative (BRI)?

Since its announcement in 2013, the BRI has become the core of China's economic diplomacy and can be regarded as the country's new opening-up strategy, developed in response to changing domestic and international circumstances. Some view it as a means for China to deal with its over-production capacities, to reduce regional imbalances by promoting economic development in the Western part of the country, and to utilize its vast, albeit declining, foreign exchange reserves to secure access to new sources of raw materials and promote new markets for Chinese goods.

Some consider it will improve China's energy security while others see it as a master-plan to increase Chinese influence at a time when American leadership in Asia is questioned. China should also gain more influence in Central Asia, often viewed as Russia's backyard.

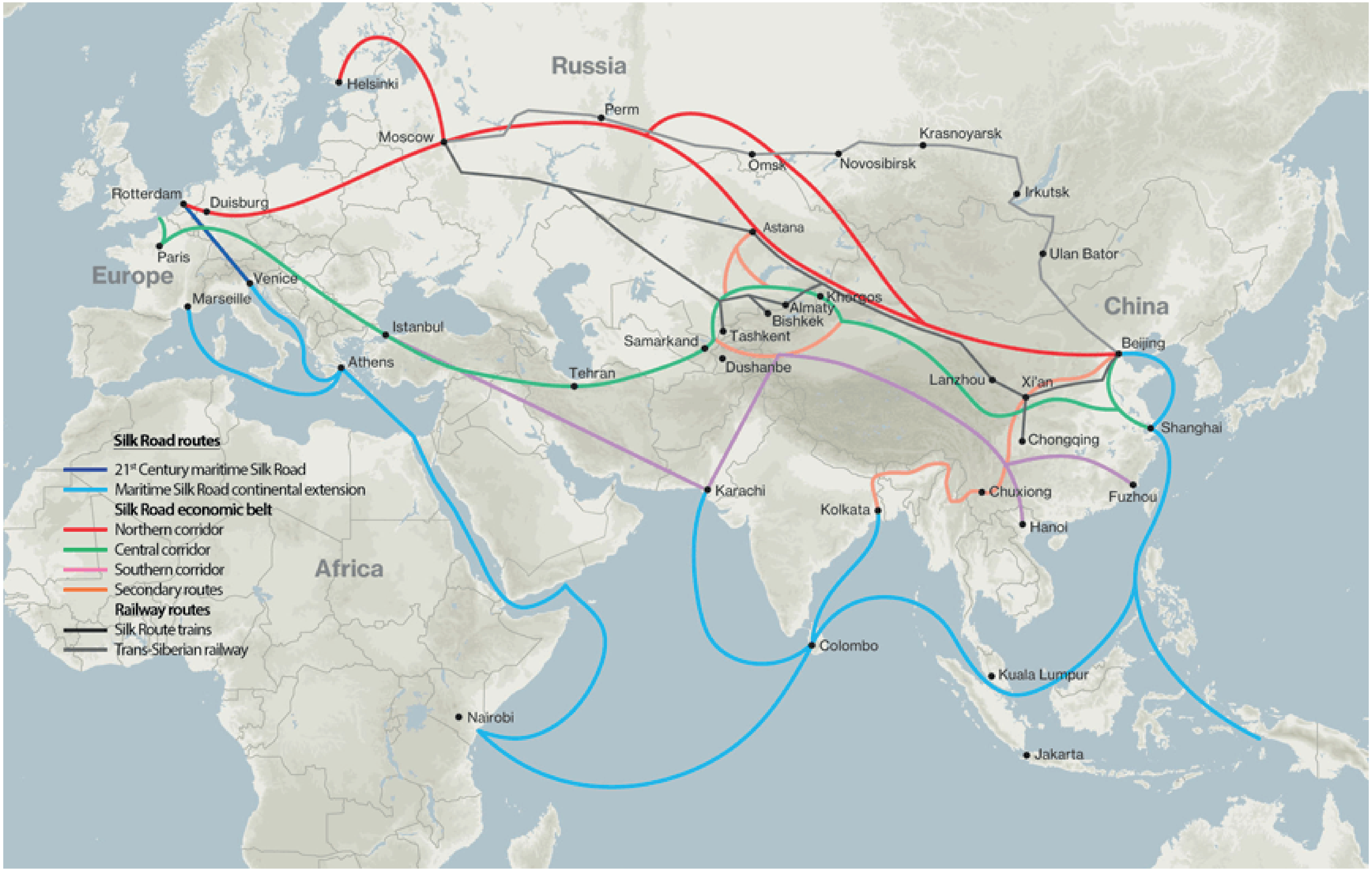
Some see it as a clever attempt to divert attention from Chinese activities in the disputed South China Sea. Others take a more altruistic view comparing it to the Marshall Plan launched by the US after the Second World War to help restore the battered economies of Europe.

Risks

China launched BRI with little examination of possible risks and threats. This was strange as many of the countries along the route are politically volatile and economically vulnerable. 26 out of 66 are Muslim countries and some have serious problems with jihadist elements. They vary enormously in size, development, history, religion, language and culture.

While financial assistance will be provided to countries of the BRI through AIIB and other mechanisms, capital cannot provide the stability or security necessary to see these projects through, nor guarantee that counterparts will hold on to their end of the bargain. Moreover, it cannot control public opinion.

The popularity and success of the BRI initiative... will depend not only on the economic gains and benefits, but also on successful cooperation on issues such as culture, tourism and people to people exchanges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Paris
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Marseille
Khorgos
Almaty
Bishkek
Tashkent
Samarkand
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Beijing
Dushanbe
Athens
Tehran
Lanzhou
Xi'an
Shanghai
Chongqing
Karachi
Chuxiong
Fuzhou
Kolkata
Hanoi
Colombo
Kuala Lumpur
Nairobi
Jakarta
Silk Road routes
21st Century maritime Silk Road
Maritime Silk Road continental extension
Silk Road economic belt
Northern corridor
Central corridor
Southern corridor
Secondary routes
Railway routes
Silk Route trains
Trans-Siberian railway

Chinese companies using Chinese labour are not always welcomed with open arms, and the flooding of Chinese goods and exports likewise can become a source of local disgruntlement and resentment. Developing countries are littered with cases of failed, stalled, or at least troubled Chinese projects due to local opposition, corruption, regulatory issues, and legal problems.

Domestic concerns

So far, the vast majority of China's foreign investment has been done through state owned enterprises (SOEs). Since SOEs answer to government shareholders and enjoy state financial support, there has been little incentive for these Chinese companies to carefully assess cost, benefits, and risks. As a result, investment returns have been low.

For instance, the head of China's mining association in 2013 estimated that up to 80 percent of China's mining ventures overseas had failed. China has stated that the BRI will 'give play to the decisive role of the market.' In reality, it is more likely that projects will continue to go to big players and state-affiliated enterprises.

Overcapacity of course is just one among a plethora of economic and geopolitical motives for China, some of which include the internationalization of the yuan, creating alternative options in the international financial system in need of reform, shaping a more pliable regional security and political environment for itself, and finding alternatives shipping routes.

In these aims, the BRI could very well prove to very successful in enhancing China's regional and geopolitical clout. But as far as direct economic gains go, the benefits may be ironically both too shortsighted with regards to shedding capacity, and too long-sighted in terms of investment return. Much will also depend on whether Xi's successor will remain committed to BRI.

While the world has so far experienced rule-based regional integration arrangements, the Chinese way to regional integration tends to be less rule-based and more coalition-based along country-specific interests. As such, the BRI could have profound implications on global governance and more specifically for the EU, as the latter is the ultimate destination of the vast network of land routes and sea-lanes starting from various Chinese provinces. It will also impinge on Russia's Eurasian Economic Union (EEU) and it is little wonder that Moscow has been suspicious of China's motives in what it regards as their backyard.

Until the May summit, there had been very little detail about the BRI from the Chinese side and Chinese officials and experts were struggling to define the concept and to come up with concrete projects. There is no deadline and there seems to be no exact geographical confines with projects in Africa, Australia and even Latin America all being placed under the BRI umbrella. There is also an attempt to include free trade agreements that were started long before the BRI initiative.

The summit

At the summit, President Xi announced a massive boost in financial support (nearly €20 billion) for the initiative and more than 30 cooperation agreements were signed during the forum. But he also said it was not a mere development project but rather should be viewed as a stimulus to trade in a world challenged by rising protectionism.

The final statement included a list of major outcomes with 76 projects approved under the initiative. There was a strong commitment to fighting protectionism, defending the multilateral trading system, supporting plans for innovation, e commerce and supply chain connectivity. To the surprise of some there was even a mention of the importance of democracy, the rule of law, good governance and human rights. The EU's traditional mention of the need for 'a level playing field' was also included.

More than 300 Chinese and over 50 foreign think tanks were present for a parallel meeting aimed at injecting some intellectual capital into the project. Many have joined a Silk Road network to carry out research on the project. A follow up summit is planned in Beijing in 2019.

Some of China's big neighbours including India, Japan and Korea remain sceptical about the Belt and Road Initiative. But President Moon of Korea and Premier Abe of Japan both sent high-level envoys. At the last minute, following the surprise trade deal between China and the US, President Trump sent the Asia Director from the National Security Council.

EU reactions

On the European side there has been a cautious welcome for the BRI but political and business leaders have been waiting for evidence of concrete projects, which they could support. Speaking at the summit, Commission Vice President Jyrki Katainen emphasised it was important to ensure that the initiative was embedded in and supportive of the multilateral system. He called for greater transparency as regards procurement and financing as well as more attention to social and environmental sustainability. The EU, he stressed, 'was in the business of building bridges, not walls.'

The EU-China Connectivity Platform is the main institutional arrangement where dialogues currently occur between the EU and China about how to coordinate large and long-term infrastructure projects, so that the Trans-European Transport Network (TEN-T) develops in a way consistent with the aims of the BRI to reach Europe from Asia.

The Platform will promote cooperation in areas such as infrastructure, equipment, technologies and standards, and it will be done in cooperation with the EIB. China also plans to contribute to the Commission's €315 billion Investment Plan for Europe and has recently joined the EBRD.

Conclusion

Although the geographical limits of BRI have never been defined, the initiative has a domestic as much as an international context. It aims to close development gaps within China, provide an outlet for surplus capacity, and also improve connectivity between China and Europe. It is part of the overall Going Global strategy. BRI enjoys strong support at the highest levels in China whereas European opinion is more cautious and waiting to see whether concrete projects materialize.

No one doubts the need for massive infrastructure investment in the many countries between China and the EU but the BRI initiative could face many potential pitfalls including political instability, terrorism, corruption, high costs, harsh terrain, long distances to the market, and tensions with other great powers. It is clear that far greater attention should be paid to political risk analysis for the successful implementation of the BRI.

The Chinese should be wary of over-selling the BRI. Some official commentaries have tended to exaggerate the achievements to date. Certainly the vision for BRI is ambitious, and if well implemented, it has the potential to benefit the various countries and societies along the road, not least in promoting sustainable development. The popularity and success of the BRI initiative, however, will depend not only on the economic gains and benefits, but also on successful cooperation on issues such as culture, tourism and people to people exchanges.

The BRI is thus an ambiguous tool of Chinese domestic and foreign policy. It is powerful example of Chinese soft power. How China develops the BRI will help define the very nature of China as an actor in the 21st century. Another important aspect is whether the BRI will outlive President Xi as it is very much his baby.

There is some disaffection in China, especially in the more prosperous coastal cities, that the BRI is distracting time and effort that should be focused more on how China can move up the value chain. Most experts agree that this will require a more open and liberal education system if China is to develop the innovation and creative industries it will need to jump to the next level of development.

In the last twenty years the rise of China has been the most significant geo-political and geo-economic development. It has brought over half a billion people out of poverty and been the engine of global growth. It now faces further challenges in reforming its economy while paying more attention to its damaged environment.

Whether it can manage these internal transformations and at the same time provide the leadership to transform the countries between China and the EU is an open question. But one cannot criticise China for lack of ambition. ■

Fraser Cameron is the Director of the EU-Asia Centre and attended President Xi's Belt and Road Forum

China cannot finance the Belt and Road alone

Alicia García-Herrero writes that other partners should consider financing some aspects of he OBOR initiative as they have a lot to gain from the project

The One Belt One Road initiative holds great promise for the global economy, but will need a huge amount of finance. Initial presumptions that China would be able to provide all the finance are now unrealistic. Other partners should consider providing finance for some aspects, especially Europe - which has a lot to gain from the project.

There is no doubt that Asia needs infrastructure. The Asian Development Bank (ADB) recently increased its already very high estimates of the amount of infrastructure needed in the region to 26 USD trillion in the next 15 years, or 1.7 USD trillion per annum (Chart 1). The great thing about the China driven Belt and Road initiative is that it aims to address that pressing need, especially in transport and energy infrastructure. But this is easier said than done. The a-priori is that the financing will be there thanks to China's massive financial resources.

Chinese authorities have come up with their own estimates of the projects that will be financed. The numbers start at USD 1 trillion and go all the way to USD 5 trillion in only 5 years. In the same vein, the official list of countries does nothing but increase over time to more than 65 countries today.

But there is a limit to how much China can finance

Such a-priori was probably well taken when China was flooded with capital inflows and reserves had nearly reached USD 4 trillion and needed to be diversified. In the same vein, Chinese banks were then improving their asset quality if, anything, because the economy was booming and bank credit was growing at double digits.

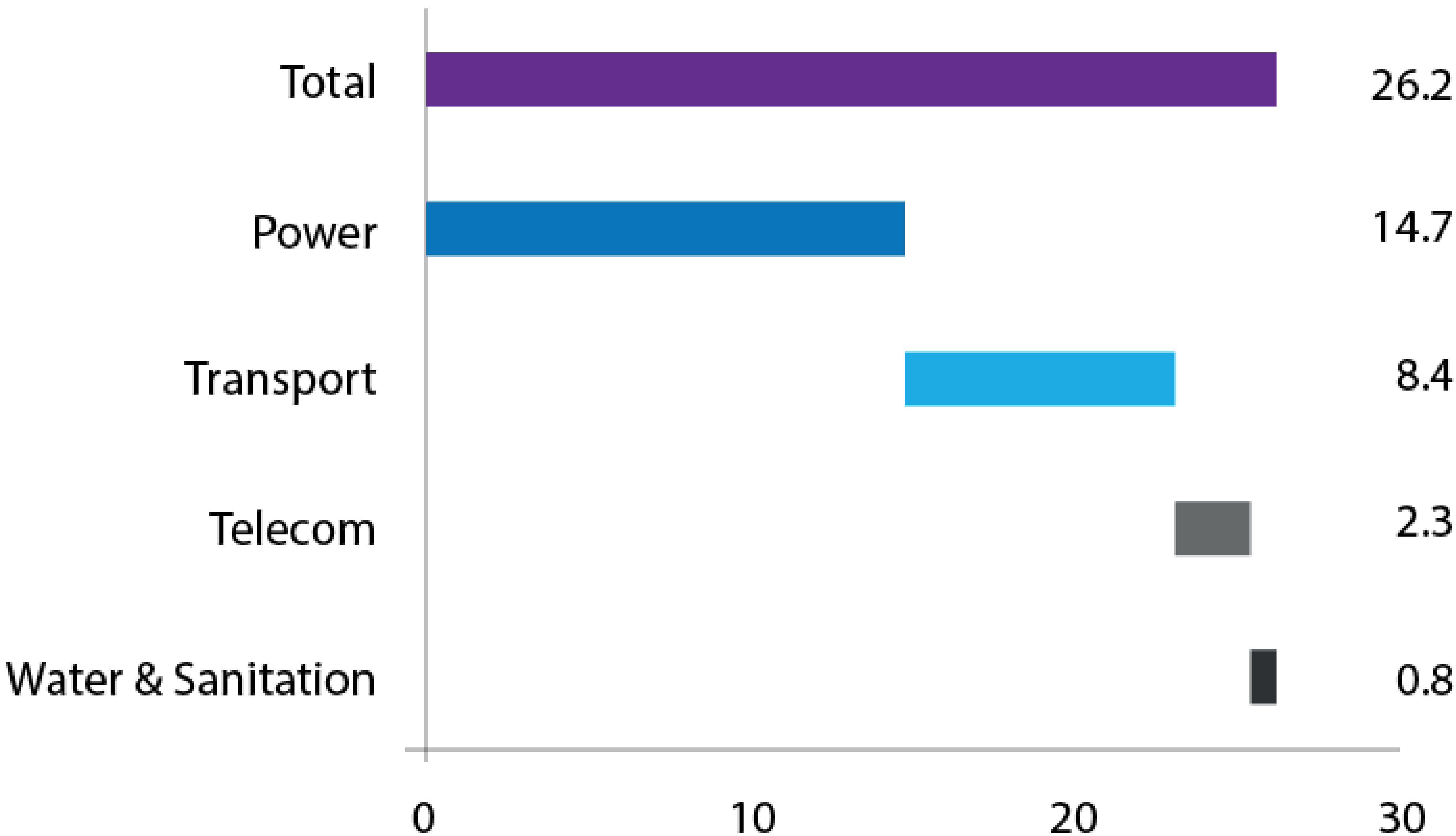
The situation today is very different. China's economy has slowed down and banks' balance sheets are saddled with doubtful loans, which keep on being refinanced and do not leave much room for the massive lending needed to finance the Belt and Road initiative.

This is particularly important as Chinese banks have been the largest lenders so far (China Development Bank in particular with estimated figures hovering around USD 100 billion while Bank of China has already announced its commitment to lend USD 20 billion). Multilateral organizations geared towards this objective certainly do not have such a financial muscle. Even the Asian Infrastructure Investment Bank (AIIB), born for this purpose, has so far only invested USD 1.7 billion on Belt and Road projects.

As if this were not enough, China has lost nearly USD 1 trillion in foreign reserves due massive capital outflows. Although USD 3 trillion of reserves could still look ample, the Chinese authorities seem to have set that level as a floor under which reserves should not fall so that confidence is restored (Chart 3). The obviously reduces the leeway for Belt and Road projects been financed by China, at least in hard currency. Against this background, we review different financing option for Xi' Grand Plan and their implications.

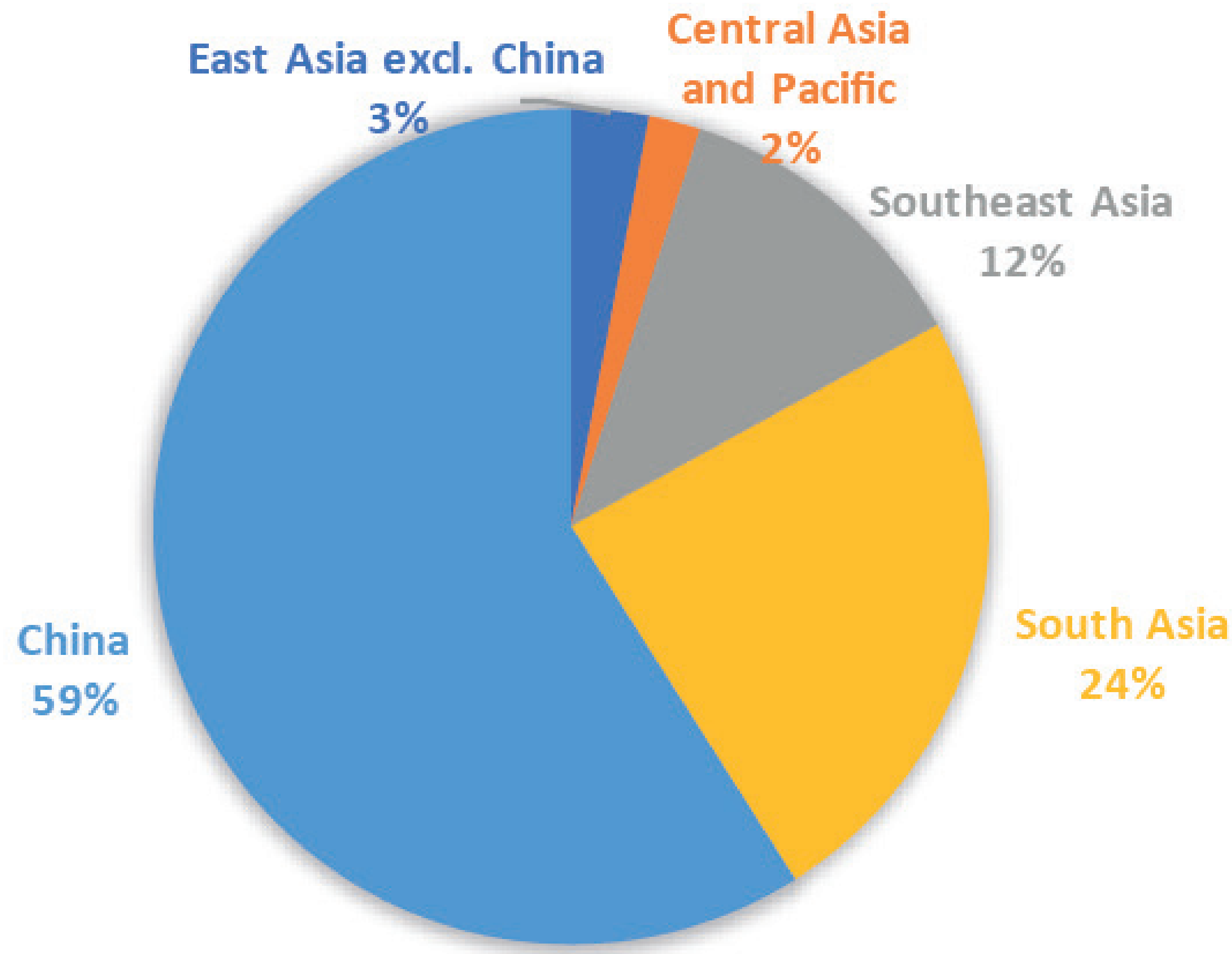
The great thing about the China driven Belt and Road initiative is that it aims to address that pressing need, especially in transport and energy infrastructure

Chart 1. Asia investment needs by sector (2016-2030 USD trillion)



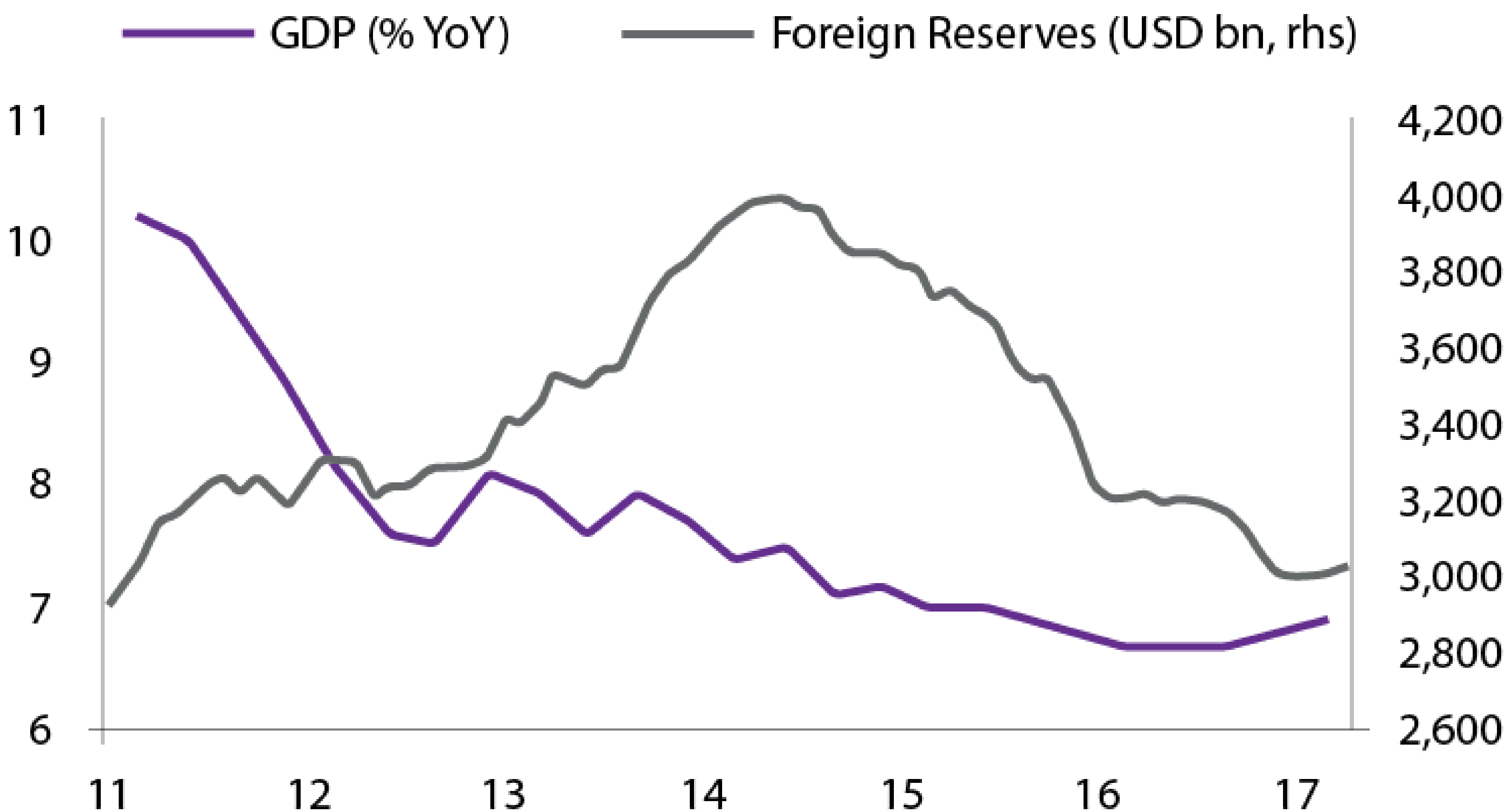
Source: Nalixis, ADB, nb. climate-adjusted estimates

Chart 2. Asia investment needs by country (2016-2030)



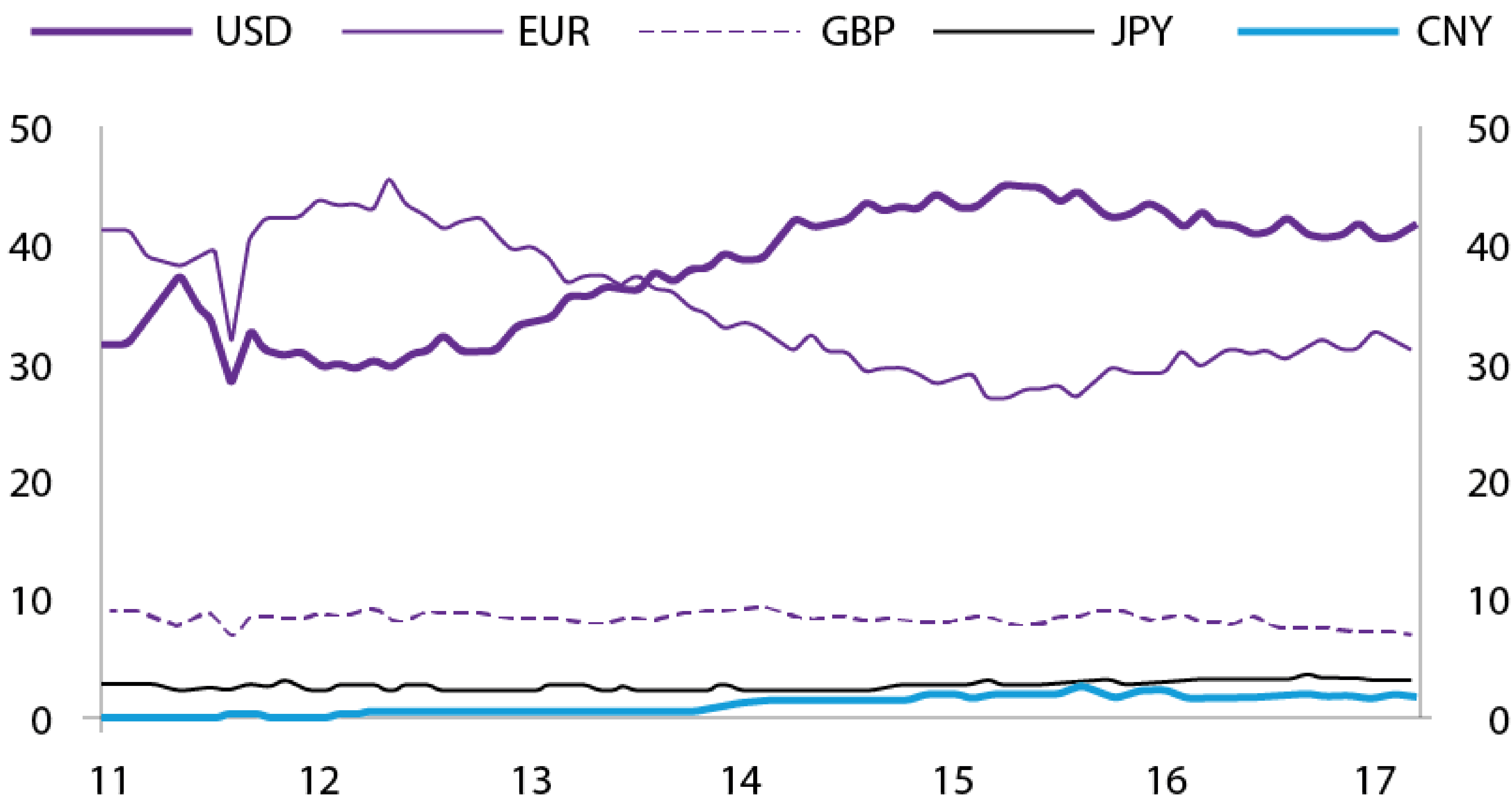
Source: Nalixis, ADB, nb. climate-adjusted estimates

Chart 3. Growth and foreign reserves



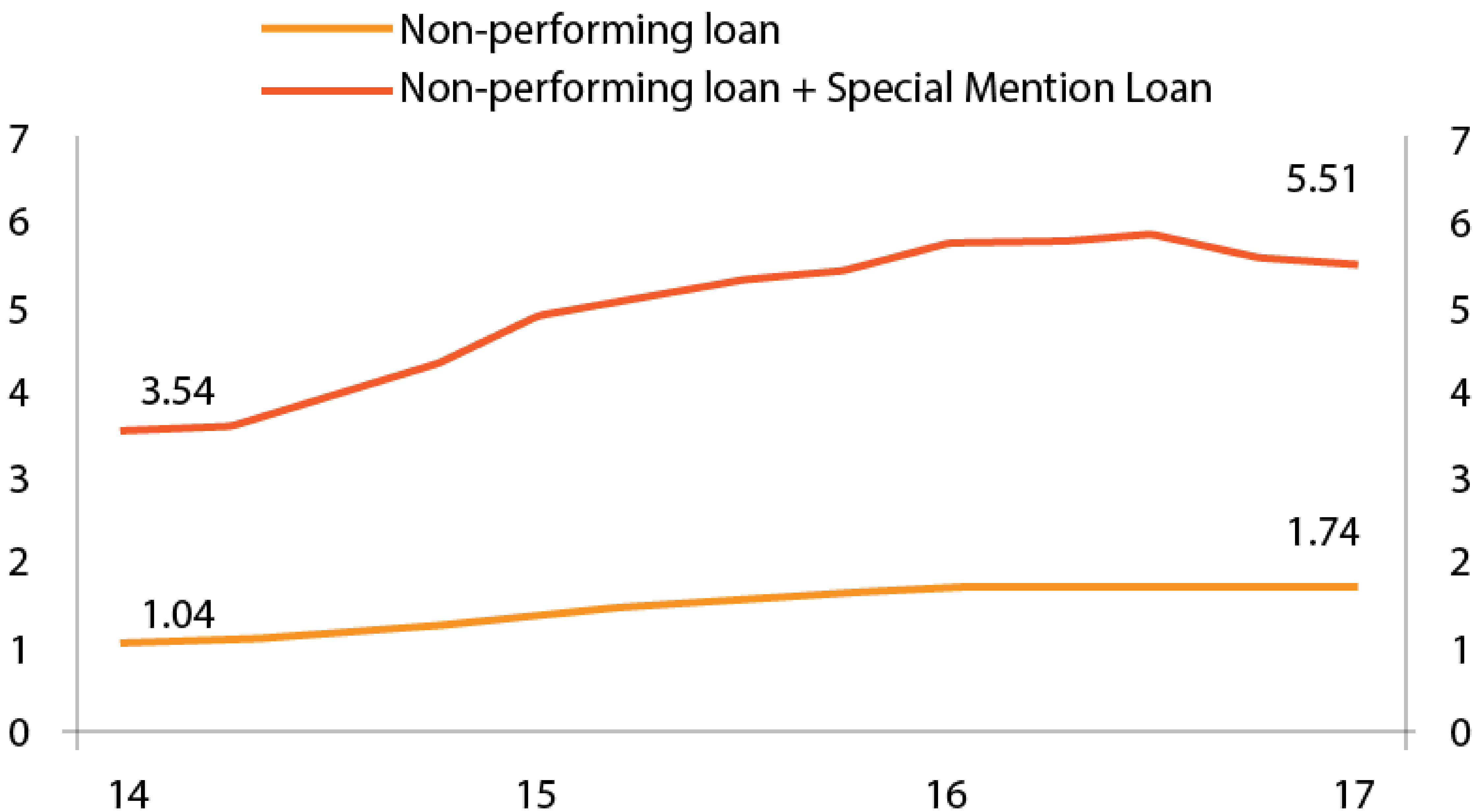
Source: Nalixis, Bloomberg

Chart 4. Share as international payment currency (%)



Source: Nalixis, Bloomberg, SWIFT

Chart 5. Stressed loan (%)



Source: Nalixis, CEIC

How to finance the Belt and Road?

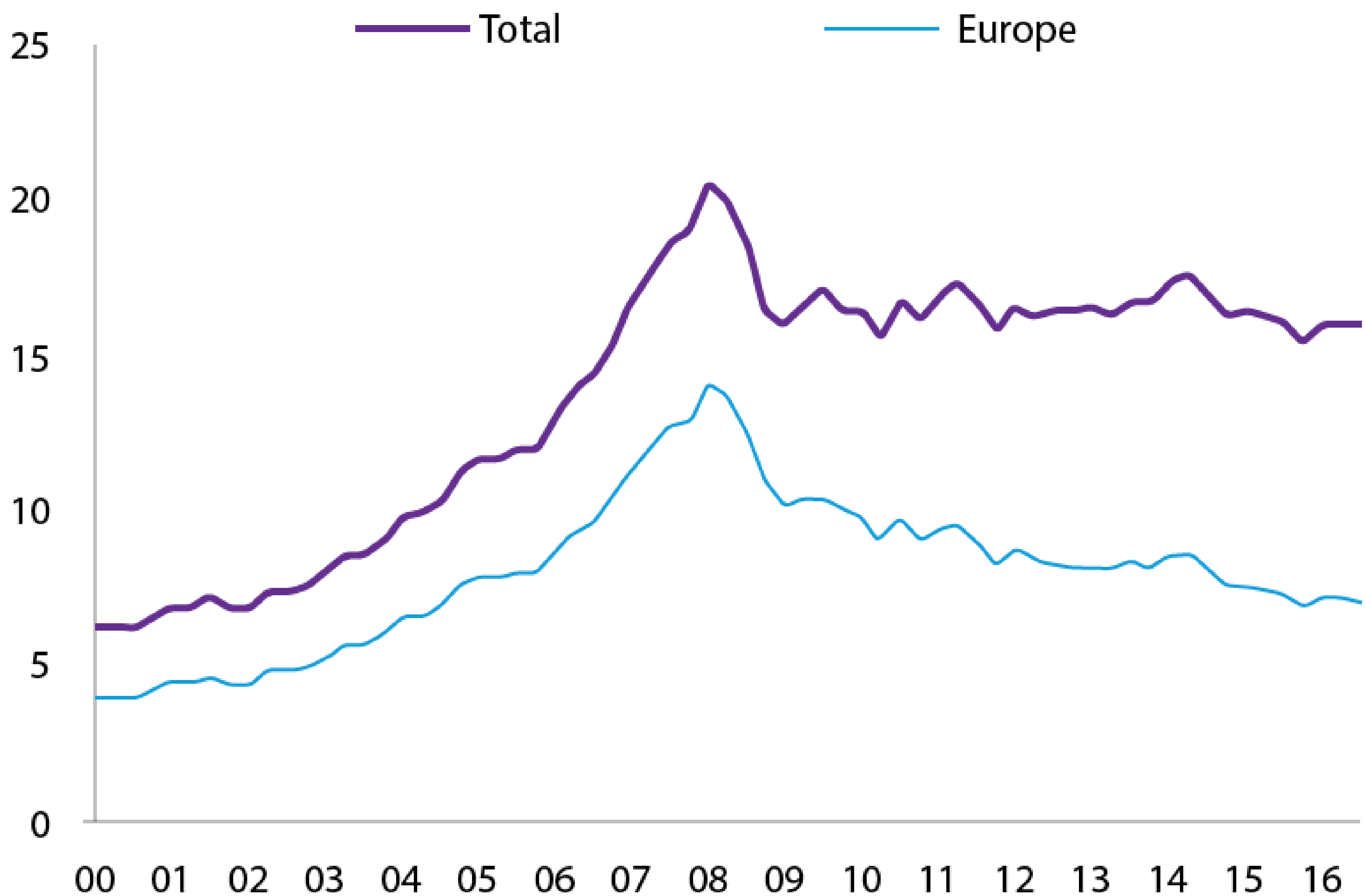
The first, and least likely, is for China to continue such huge projects unilaterally. This is particularly difficult if hard-currency financing is needed, for the reasons mentioned above. China could still opt for lending in RMB, at least partially, with the side-benefit of pushing RMB internationalization. However, even this is becoming more difficult.

First, the use of the RMB as an international currency has been decreasing as a consequence of the stock market correction and currency devaluation in 2015 but still some of the Belt and Road projects could be financed in RMB in as far as the borrowing of a certain host country would be fully devoted to pay Chinese construction or energy companies (Chart 4). This quasi-barter system can solve the hard-currency constraint but poses its own risks to the overly stretched balance sheets of Chinese banks. In fact, their doubtful loans have done nothing but increase during the last few years, which is eating up the banks' room to lend further (Chart 5).

A second option is for China to intermediate overseas financial resources for the Belt and Road projects. The most obvious way to do this, given the limited development of bond markets in Belt and Road countries as well as the still limited size of China's own offshore bond market is to borrow from international banks. Cross border bank lending has been a huge pool of financial resources, especially in the rune up to the global financial crisis. Since then they have moderated but the stock of cross border lending still hovers above 15 USD, out of which, nearly half is lent by European banks. Out of the USD 15 trillion, about 20% is already being directed to Belt and Road economies, with European banks being again the largest players (Chart 7).

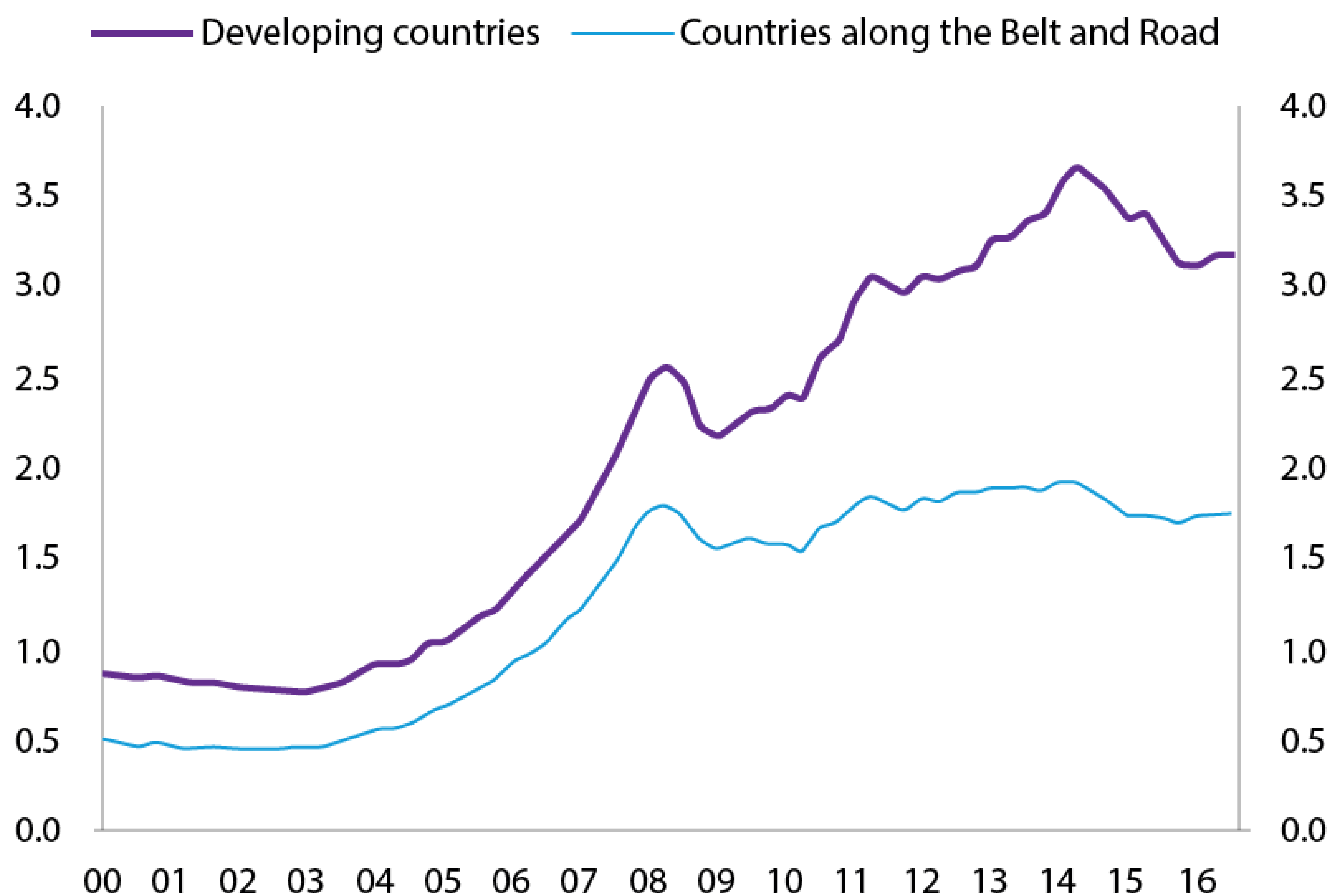
Still, in order to finance the USD 5 trillion targeted in Xi's grand plan for the next five years, you would need to see growth rates of around 50% in cross-border lending. While such a surge in cross-border lending is not unheard of (in fact, it happened in the years prior to the global financial crises), the real bottleneck would be the rapid increase

Chart 6. International claims (USD trillion)



Source: Nalixis, BIS, nb. locational statistics used for China, available from 2015 Q4

Chart 7. Borrowing countries (USD trillion)



Source: Nalixis, BIS

in China's external debt, which would go from the currently very comfortable level (12% of GDP) all the way to more than 50% if China were taken on the debt, or something in between if co-financed by Belt and Road countries.

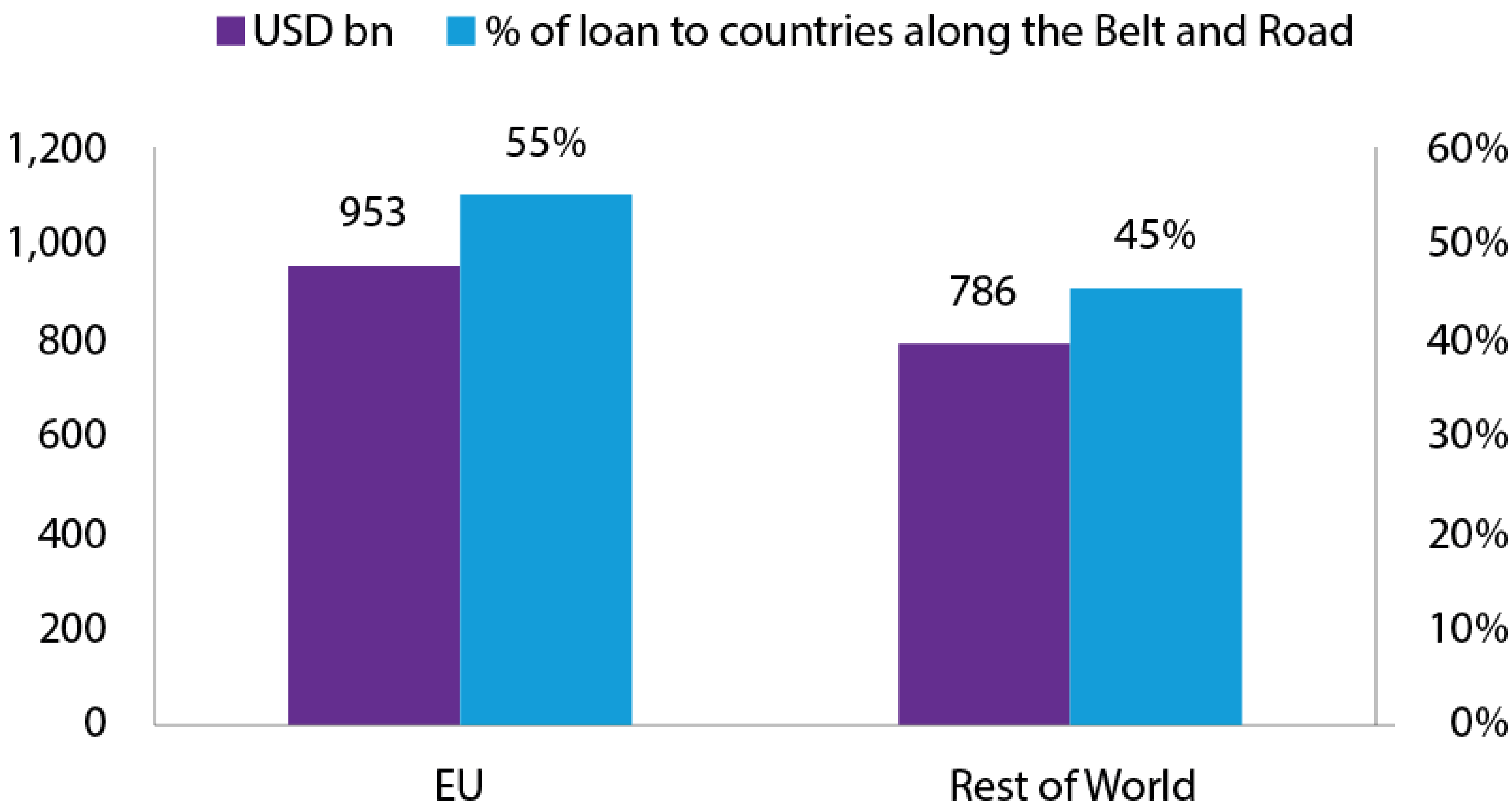
A mix of option 1 and 2 lies on the use of multilateral development banks to finance the Belt and Road projects. In fact, China is a major shareholder of its newly created multilateral banks (AIIB and New Development Bank) but less so in existing ones (such as ADB, EBRD or the World Bank). This means that the financing burden can be shared (to a lesser or larger extent) with other creditors, while still keeping a tight grip on the construction of such infrastructure (at least in China-led new organizations). While apparently ideal, the problem with this option is that the available capital in these institutions is minimal compared to the financing needs previously discussed (Table 1).

Table 1. China lending to the world through multilateral banks

	Capital	Announced	Disbursed
	240 USD billion	17-23 USD billion	< 3.1 USD billion
Asian Infrastructure Investment Bank (AIIB)	100 USD billion	10-14 USD billion	1.7 USD billion
New Development Bank (NDB)	100 USD billion	5-7 USD billion	1.4 USD billion
Silk Road Fund	40 USD billion	2 USD billion	-

*Source: Natixis * Estimated from the proportion of cross-border lending (excluding Europe) to OBOR/total lending*

Chart 8. Loan to the Belt and Road countries (2016 Q3)



Source: Nalixis, BIS

It seems that China cannot really on its banks only – no matter how massive – to finance such a gigantic plan. The key source of co-finance would logically be Europe at least as long as bank lending dominates, which will be the case for quite some time in the countries under the Belt and Road. In fact, European banks are already the largest providers of cross border loans to these countries so it is only a question of accelerating that trend. Furthermore, the geographical vicinity between Europe and some of the Belt and Road countries could make the projects more appealing (Chart 8).

In addition, the European Union has its own grand plan for the financing of infrastructure – among other sectors – namely the Juncker Plan, which could serve as a basis to identify joint projects of interest to both EU and China. In this vein, EU-China connectivity platform was launched by the European Commission in late 2015 exactly to identify projects of common interest for the Belt and Road and the EU connectivity initiatives, such as the Trans-European Transport network. All of this bodes well for Europe to become an active actor in China's Belt and Road initiative, not only to provide the financing but also to identify projects of common interest.

It goes without saying that other lenders, beyond Europeans, are welcome to finance Belt and Road projects as the ensuing reduction in transportation costs and improved connectivity should be good for the world as a whole. However, Europe's particular advantage in this project should make it a leader on the financing front bringing the old continent closer to China.

All in all, the Belt and Road is great for supporting high demand in Asian infrastructure, but there is a limit on how much China can finance. The slowdown of the economy and the limits on the use of foreign reserves are some of the impediments. Furthermore, Chinese banks balance sheets, the largest source of financing so far, are increasingly saddled by doubtful loans, which limit their lending capacity. As for official multilateral development agencies, their funding sources remain limited for the extent of the project.

Against this background, European banks-the largest cross-border lenders in the world – are well placed to step their already large financing to Belt and Rod countries. Furthermore, Europe's proximity with some of these countries can make some of these projects more appealing for Europe as well. Thus, we should expect private and public European co-financing of Belt and Road projects to increase over the next few years and, with it, European interest for Xi Jinping's Grand. This should bring Europe closer to China. ■

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This article was originally published on Bruegel


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USTR Lighthizer introduces the Trump trade doctrine

Shanker Singham looks at President Trump's trade policy, and what the Administration means by 'free and fair' trade

Trade played a significant role in the recent G7 discussions, and based on what happened after the last G7 meeting where the US famously withdrew the usual paragraph committing G7 members to 'no new protectionism', there was much speculation about what the US would say, especially since a new US Trade Representative is now in place. The key words in this G7 was the reference by US officials including USTR Robert F Lighthizer to 'free and fair' trade.

During the campaign, and since taking office, President Trump has made a number of statements that suggest that Trump trade policy will be highly protectionist. He announced the withdrawal of the US from the Trans Pacific Partnership (TPP), and also signalled his intent to pull the US out of, or to substantially renegotiate the North American Free Trade Agreement (NAFTA).

On the other hand, early rhetoric on China has not been matched by protectionist actions, and indeed a recent deal the administration did with China purported to fix many of the trade barriers that have plagued the US-China relationship for many years (notably in financial services generally, and credit card market access in particular). What is the Trump trade policy, and what precisely is meant by 'free and fair' trade.

Free and fair trade

Fair trade is a term that has been used extensively since the 1999 WTO trade ministerial. Indeed the rise in the use of the word also coincided with the decline in the overall free trade consensus. The approach generally taken is that trade cannot be fair unless the key inputs to the cost of production are the same in the two trading nations. Hence, the desire by some to artificially increase the costs of labour and environmental protection for developing countries in trade agreements with developed countries.

The problem with this approach is that not all countries should have identical labour costs and indeed low cost labour is one of the key comparative advantages of some developing nations (in some cases the only way they can rise up the development ladder). The challenge is to isolate out those differences that are truly unfair and take steps to change those things that are bad for trade, and bad for domestic consumers where the distortions occur.

That new USTR, Robert F Lighthizer used the G7 to try to explain what he meant by fair trade, and to identify those practices that adversely affect trade in ways that damage international trade (his particular concern being producers in the US). While this might not be a concern to the Trump trade policy, it bears pointing out that consumers in the markets where the distortions occur and global consumers occur also suffer when markets are distorted in anti-competitive ways. In his speech, we see the beginnings of a Trump doctrine on trade based more on reciprocity and the totality of a country's trade barriers, not just those at the border.

The Trump trade policy is still emerging. It is vital that what emerges moves the world forwards towards freer trade and more competitive markets, lifting people out of poverty and creating wealth

Breakdown of the free trade consensus

For Lighthizer and other members of the Trump team such as Commerce Secretary Wilbur Ross[1] and President Trump himself, fair trade means that what happens inside a nation's borders does have an impact on trade and must be dealt with as part of a comprehensive trade agreement. If we do nothing about economic distortions inside borders, then we merely import them into our own economies with devastating, and yes, unfair results for our own producers. It is important to note that this is not protectionism in the classical sense.

Indeed, it is the logical application of free trade and free markets to the US *and* to the countries that it does business with. What the US wants to see is a systematic reduction of the domestic distortions that damage trade while at the same time driving down border barriers between nations. It is crystal-clear that countries that refuse to lower their internal distortions will not benefit from US tariff reduction or US trade agreements. For now, the US administration believes it can achieve its goal most effectively through bilateral deals.

However, the Administration may come to realize that agreements with like-minded countries (ones that agree that distortions are bad) could also yield benefits, and should not be ignored. Supply chain efficiencies can only realistically be achieved by larger groupings. The Administration will have a first taste of what these possibilities are in the NAFTA renegotiation process as they seek to add provisions on state-owned enterprises, and stronger disciplines on competition policy into the agreement.

Selling free trade: an old paradigm

In the past, free trade has been sold by its proponents in the following way. Free trade is good because it makes your clothes, food and other essentials cheaper. There are winners and losers. Tough. Protectionism has been sold equally simplistically. Free trade is bad because it will mean you will lose your job. We will protect you from free trade with tariff protection that will keep cheap imports out.

Both of these statements are false. Free trade is not really free if one country is artificially lowering the costs of its producers (be they state-owned or not) so that they can outcompete a domestic producer. Keeping cheap imports out merely increases price and pushes people into poverty as the price for basic goods goes above the market price. Instead, politicians must come up with a more nuanced view of trade, at a time when behind the border barriers, regulatory and other economic distortions are the most pernicious barriers in international trade.

This is the view that the Trump team are reaching towards, and it supports our own work in this area.[2]

The new paradigm: free trade and free and competitive markets

In the papers referred to we argue that economic distortions that lessen competition (which we describe as Anti-Competitive Market Distortions or ACMDs) need to be dealt with both offensively in trade agreements in order to discipline countries not to introduce them, and to lower the ones they have, and also defensively by imposing a tariff based on the scale of the distortion if in fact it can be shown that an ACMD exists and that it has affected trade and damaged a particular industry.

We identify the types of practices that could be regarded as ACMDs. For example, rules that artificially increase the costs of certain producers by setting unnecessarily high capital adequacy requirements for banks, or providing regulatory protection for certain processes for producing products can substantially lessen competition, and lead to consumer welfare losses. In addition, by giving producers in the home market an artificial edge they can prevent exporters competing fairly, or can allow those producers an artificial benefit in reaching the other market. Both cases damage producers and consumers alike (albeit in different markets).

We also set out an offensive and defensive mechanism. Offensively, we can include disciplines on competition, and also on domestic regulation such as those found in the Reference Paper on Competition Safeguards in the WTO (part of the Basic Telecommunications Agreement), or by building on the state aids provisions of European Union law.

Defensively, we argue that the US can build on existing trade laws, such as section 337 to exclude or tarifficate ACMDs, as a species of unfair competition (which that statute specifically applies to, in addition to violations of intellectual property). As we have noted in our paper, *Trade Tools for the 21st Century*:

> *Section 337 condemns as illegal imports (1) that violate US intellectual property (IP) rights related to a US industry (including patents, copyrights, trademarks, and certain designs), or (2) that involve 'unfair methods of competition and unfair acts' that cause harm to a US industry.*
>
> *The US International Trade Commission (USITC), an independent federal agency, is required to investigate allegations of Section 337 violations and to direct the exclusion of the articles concerned when a violation is found, unless it deems that specified public policy conditions counsel against exclusion. The USITC may also issue 'cease and desist' orders in lieu of exclusion orders. The US president may disapprove ('for policy reasons') a USITC Section 337 exclusion or cease and desist order within 60 days of receiving it from the USITC, but in practice, this right has very seldom been exercised.*[3]

In practice, this provision has been very sparingly used in the case of acts of unfair competition, but more so in cases of intellectual property violations. However, the Trump administration may find in Section 337 a mechanism which could be focussed on acts of unfair competition, and might be the basis for actions that they may wish to take to correct for unfair trade.

A coalition of the willing

Countries like India, Brazil and China have long argued that international trade liberalization stops at the border. Indeed, they have resisted any attempt to reduce behind the border barriers, and successfully fought off major initiatives such as the Singapore issues on trade and competition, and trade and investment, and the Free Trade Area of the Americas ('FTAA'). These countries will generally not be supportive of the new US trade policy.

While the above countries are unlikely to support the Trump initiative, there are many countries who recognize that the goal of pursuing trade liberalization and markets whose organizing principle is competition is an extremely important one both systemically for the trading system itself, and for their national economic objectives. Unsurprisingly these countries are those that generally have open trading systems and competitive and undistorted markets.

This would include countries like Australia, New Zealand, Singapore, the UK (out of the EU), the NAFTA group, and possibly the Pacific Alliance countries of Chile, Peru and Colombia. This would not be an insignificant grouping, representing at least half of world trade. The critical thing would be to ensure that this is a high standards agreement and the level of ambition for liberalization and competition is not diminished in any way. One lesson from the TPP negotiation is that if agricultural subsidizers are brought in too early into the agreement, the level of ambition will be diminished.

What is at stake?

Adoption of this type of mechanism would go a long way in fixing the perceived unfairness in international trade which is being picked up by producers in developed markets and the people they employ. Many of these people are the ones who sense that the economic game is rigged against them, and who voted for an anti-establishment candidate. The alternative to the mechanism we propose is not a return to the status quo, but rather a full embrace of protectionism with all the damage it will inflict on people – a perfect case of the medicine being worse than the disease.

It is clearly important, and in the interests of all trading nations and their people that we find a mechanism to help us deal with the very real distortions that have an impact on the supply chain, and on trade flows. Failure to do so will unleash the forces of protectionism which will destroy the huge economic gains which were made after the second world war with the GATT system.

The Trump trade policy is still emerging. It is vital that what emerges moves the world forwards towards freer trade and more competitive markets, lifting people out of poverty and creating wealth. It is equally vital that what emerges is not the protectionism which destroys wealth from economies and pushes people into poverty. ■

Shanker A Singham is Chairman of the Legatum Institute Special Trade Commission

Endnotes

1. Donald Trump will make trade fair again, Wilbur Ross, Financial Times, 4 April, 2017

2. In particular, see
http://www.li.com/activities/publications/trade-tools-for-the-21st-century and
http://www.li.com/activities/publications/introduction-to-anti-competitive-market-distortions-and-the-distortions-index

3. Trade Tools for the 21st Century, Shanker A Singham and A Molly Kiniry, Legatum Institute, October, 2016

A renewed approach to competition law

BusinessEurope aims to encourage businesses to develop and apply competition compliance and awaken antitrust authorities to the importance of supporting companies' compliance efforts, Guido Lobrano writes

Developing and sustaining a competitive commercial environment in the EU is at the core of business interests. Competition provides the best incentive for business efficiency, encourages innovation and guarantees consumers the best choice. Antitrust law is crucial in this context and its enforcement is fundamental to creating and sustaining a competitive economy.

Why is competition law such a critical topic? First of all, it affects many business and strategic decisions. Respecting competition rules is fundamental to healthy, well-functioning markets. And finally, violations of competition law are very heavily sanctioned.

BusinessEurope, the biggest organisation representing European companies of all sizes and all sectors, wants to promote competition compliance by identifying general principles and supporting companies in their actions in this area. Full compliance with antitrust rules is not only a legal obligation, but is also an attitude and a culture that can positively impact a company's business. Remaining compliant with rules and maintaining a strong reputation are fundamental matters for every enterprise.

We believe that a lot can be done in this area through encouraging business to develop and apply competition compliance in their daily activity, providing them with general guidance to do so, and awakening antitrust authorities to the importance of supporting and encouraging companies' compliance efforts.

This should also be complemented by an efficient redress system for consumers. Effective and easy access to justice for those harmed by breaches of EU rules is paramount. This is key to boost consumer confidence in the Single Market. It is in the interest of companies that adequate redress mechanisms exist and function well.

This does not mean that policy-makers should actively seek to increase court proceedings. This is probably not the best way forward and such an approach would run counter to the public policy of many EU member states, which are currently trying to minimise litigation. Effective redress for those concerned by breaches of EU law does not necessarily have to be achieved through courts only. Other, non-judicial redress mechanisms are available and should be taken into consideration very seriously.

BusinessEurope competition package

On 24 April 2017, BusinessEurope launched a new competition package for companies. It is composed of the guide *Making Sense of Competition Law Compliance* and the blueprint *Alternative Dispute Resolution for Antitrust Damages*.

The *Compliance Guide* is designed for companies, especially SMEs, and aims to avoid competition breaches in the first place. It can be described as a 'first aid kit' providing elementary guidance to businesses on competition law compliance; its main objective is to encourage basic actions to improve compliance.

Improving awareness and knowledge of basic competition law principles will help prevent or tackle at an earlier stage any issues that might arise within the company

The Blueprint *Alternative Dispute Resolution* for antitrust damages cases aims to provide, whenever possible, a way to address antitrust damages cases without going to court. The availability of a non-judicial route is particularly important for businesses as well as consumers. In addition, private actions for damages are likely to be more frequent than it has been the case until today, due to ongoing legislative developments.

The objective of the BusinessEurope package is two-fold. Firstly, to demonstrate the business community's commitment to compliance with competition rules, encourage entrepreneurs to take concrete compliance steps and provide a practical tool to achieve that. Secondly, we would like to address those situations when violations still take place and provide a pragmatic avenue for companies and consumers to deal with compensation.

The key drivers of competition compliance

We believe that to achieve effective results, it is important to understand the motivation for competition law compliance within businesses.

The basic legal responsibilities of a company's management include supervising and ensuring compliance with the law, including antitrust rules. Company leaders should make sure that any breaches of the law are prevented or discovered and remedied early enough, so that the company can avoid administrative and civil liability, protracted proceedings and high legal costs.

Improving awareness and knowledge of basic competition law principles will help prevent or tackle at an earlier stage any issues that might arise within the company. This can substantially diminish the risk of liability that might have otherwise derived from misconduct. It can also avoid or decrease costs related to external legal advice.

Not the least important, ensuring observance of antitrust law enables the company to prevent reputational and/or financial damage. With compliance being a manifest requirement of doing business with suppliers and customers

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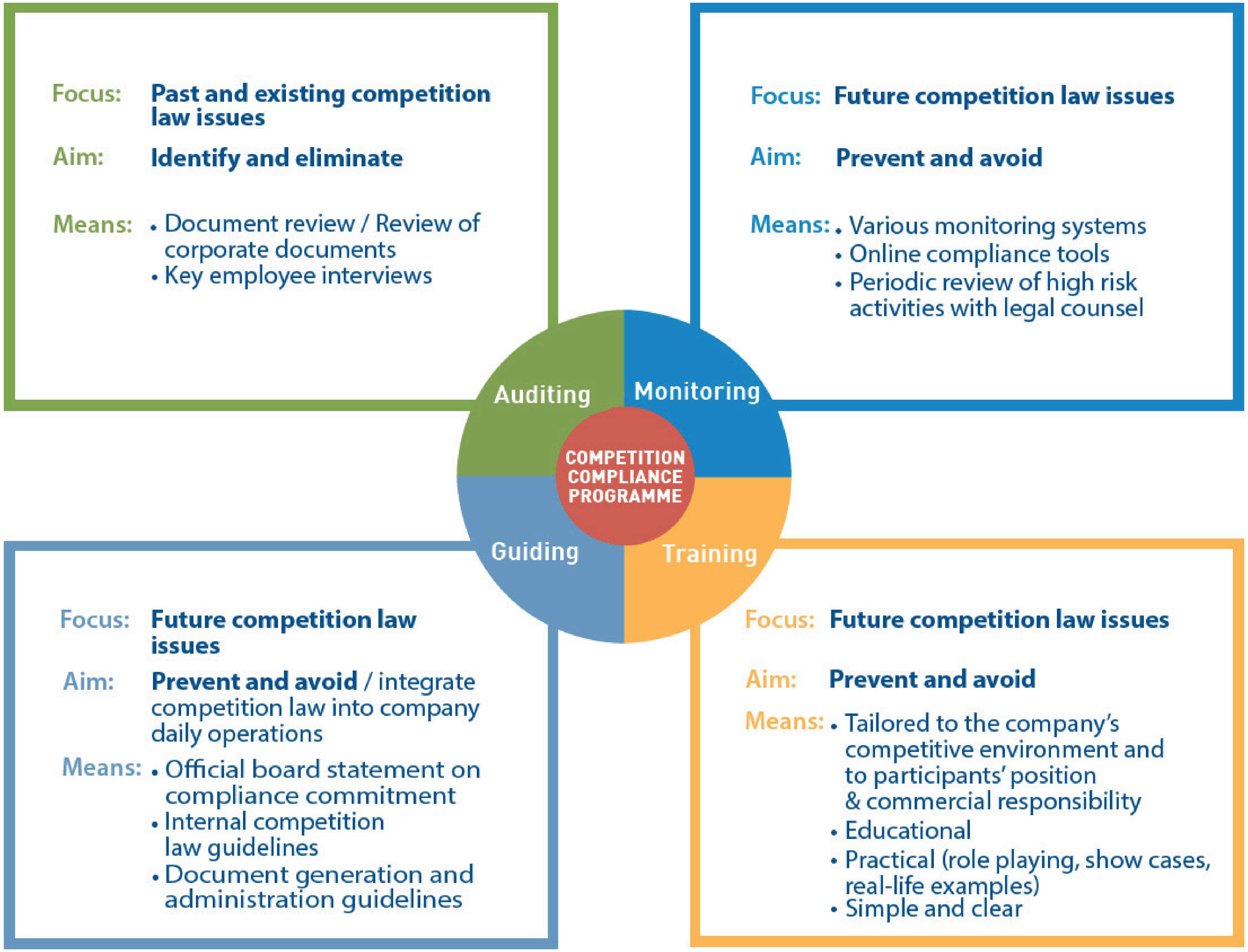
Focus: Past and existing competition law issues
Aim: Identify and eliminate
Means: • Document review / Review of corporate documents
• Key employee interviews
Focus: Future competition law issues
Aim: Prevent and avoid
Means: • Various monitoring systems
• Online compliance tools
• Periodic review of high risk activities with legal counsel
Auditing
Monitoring
COMPETITION COMPLIANCE PROGRAMME
Guiding
Training
Focus: Future competition law issues
Aim: Prevent and avoid / integrate competition law into company daily operations
Means: • Official board statement on compliance commitment
• Internal competition law guidelines
• Document generation and administration guidelines
Focus: Future competition law issues
Aim: Prevent and avoid
Means: • Tailored to the company's competitive environment and to participants' position & commercial responsibility
• Educational
• Practical (role playing, show cases, real-life examples)
• Simple and clear


5 steps to a successful competition law compliance programme
COMPANY MANAGEMENT DECISION
• Risk of violations to be covered?
• Instructional model and key content?
• Target?
• People in charge?
• How / when to communicate on the programme?
BY WHOM
• In-house lawyers / legal department?
• Outsourcing to external experts and outside counsel?
FOR WHOM
• Key individuals / teams involved in the programme?
FOCUS
• Relevant areas of concern?
INTERNAL COMMUNICATION
• Always have proper, careful and positive communication on the programme within the organisation / company!

in many countries, it makes good business sense for companies to take action to meet legal requirements. The immediate consequences of non-compliance are severe - heavy penalties, reputational damage and loss of customers.

The image of the company is a key factor. A business actively engaged in compliance will project the image of an ethical business, which will add substantially to its corporate image. Active engagement in antitrust compliance will also inspire trust from customers and consumers at large. It should not be forgotten that an antitrust infringement – especially in cartel cases – involves questions about the ethics and business model of the company. The potential economic impact deriving from reputational damage can be even greater than the risk of a penalty as it can lead to customer and financial loss.

Since failure to comply will result in strict sanctions and fines, along with possible media and public scrutiny, companies recognise compliance as one of their priorities. Bad press can cost a company much more than taking a few steps to improve its compliance and limit the risk of violations.

Thus, the next question is: how does competition law compliance work? How should a compliance programme look like to achieve prevention and elimination to a satisfactory extent? What are its main components, and the main practical aspects that need to be taken into consideration when preparing and implementing competition law compliance programmes? Are expert lawyers indispensable?

The guide suggests answers to these and many other questions. It helps understand the importance of competition law compliance in general and helps executives and company officers – in particular those of SMEs which often do not have in-house legal advisers – determine the best ways to cope with their duty to prevent, identify and stop potential competition law violations within their organisations. Our guide is a toolbox that provides fundamental considerations and suggestions regarding any corporate competition law compliance programme.

Alternative dispute resolution for antitrust damages

Litigation is in most cases very costly, long and time-consuming, and damaging to a company's image. When breaches of competition law occur, alternative dispute resolution (ADR) can provide a cheaper, shorter and less confrontational avenue to address disputes related to damages claims from those harmed by the violation (for example, consumers or clients and business partners).

BusinessEurope's package outlines the possible application of ADR to antitrust damages cases and how an ADR scheme could work in practice in this field.

This is especially relevant in the context of the new EU rules on antitrust damages actions that also aim to facilitate consensual dispute resolution, for example by suspending limitation periods for damages action for up to two years when the parties are involved in consensual dispute resolution. Competition authorities may also take into account the result of an ADR when setting fines. This could be justified by a public interest in facilitating compensation through incentivising ADR.

ADR should be specifically targeted at proposing a just, equitable and effective outcome, acceptable to all parties, and providing a speedy resolution of claims at low procedural cost.

Especially when a company has already been found responsible for a breach of competition law, it would have a business interest in drawing a line under the affair and restore its reputation by making direct redress to its affected customers. It would at the same time avoid lengthy litigation and drastically limit legal fees.

The blueprint is aimed at describing the main concepts of how an antitrust damages claim could be addressed by an out-of-court system. It is by no means the only possible way but it is aimed at providing inspiration and encouragement to companies and authorities involved in antitrust damages claims.

Final remarks

Companies and circumstances are different and so are the solutions that suit them best. There may be other, different ways to deal with both the compliance activities and possible out-of-court schemes. It is up to companies and their legal advisers to pick the right tools and use them correctly in order to craft the optimum solution and implement it successfully.

BusinessEurope competition package is a tool that does not replace expert knowledge and legal assistance where appropriate. At the same time, it will help companies identify those situations where legal assistance may be the best option.

Companies are invited to find and use free of charge BusinessEurope package here. ■

Guido Lobrano is BusinessEurope Deputy Director, Legal Affairs and Internal Market

The economics consensus about Brexit

Patrick Minford examines why the consensus of economics opposed Brexit, why they are wrong and demonstrates that no deal is the best deal

Why did the consensus of economists oppose Brexit? This is an important question because after this election once the negotiations with the EU begin, that same consensus will be rooting for a 'deal' that is as close as possible to the status quo. The May government has said that 'no deal is better than a bad deal' and committed itself to leaving the single market and the customs union, taking back its laws, and resuming control of its borders. If the EU makes any trade agreement conditional on acceptance of EU Single Market regulation and the 'four freedoms' which include free migration, then there will be no deal and that economics consensus will be in full attack mode again.

So why? I have spilt a lot of ink[1] in detailed examination of several consensus cases: especially that of the Treasury and of the LSE group, which was heavily consulted by the Treasury. But there were many others. A partial list includes PwC for the CBI, Oxford Economics for various business clients, the IMF, the NIESR and the OECD. I also reviewed these cases in less detail. I should mention Open Europe which produced an assessment ranging from a small negative to a small positive according to a variety of policy assumptions: this was the only modelling assessment, apart from ours, which was not uniformly hostile to Brexit and as such was not in the consensus.

The consensus assumptions about Brexit policies

There is one main reason for this consensus hostility to Brexit. These modellers all, without exception, assumed that under a full Brexit where there was no deal with the EU, often called the 'WTO option', the UK government would continue with existing EU trade barriers against the rest of the world and would not alter its regulative approach from that of the EU.

Some modellers went further and assumed that the immigration policy would greatly reduce skilled immigration. Yet they made these assumptions knowing that they represented bad policy: continued protection against the rest of the world plus protection against the EU, no regulative improvement from well-known EU failures, and in some cases a bad immigration policy not currently followed on non-EU migrants.

During the referendum, when challenged about making them, the various groups somewhat embarrassedly could not justify them but simply argued that this was 'inevitably' what policy would be for 'political reasons'. Plainly these groups were campaigning against Brexit in the referendum and so had the motivation to paint a grim picture; now

There are two routes to free trade: a negotiated route via free trade agreements, with the EU and then with significant others - and the route of unilateral elimination of our own protection, such as happened in 1846 when Peel abolished the Corn Laws however when they like the rest of us must be concerned to make a success of Brexit, this position will not do, especially as the government is setting out policy positions that are quite different - namely free trade with the rest of the world, regulative reform and an immigration policy that will target unskilled immigration with its large costs to the taxpayer and enable skilled immigration needed to supplement our native skills.

Since none of these modelling groups have to date costed such optimal policies we do not know what difference it would make to their assessments. However, we can get an indication from one solitary exercise carried out by the LSE group, in which they assumed the UK unilaterally abolished the EU average tariff on manufactured goods, around 3% on their calculations. They found that this would add 0.3% to UK GDP, against losses from the WTO option of 1-2.5% of GDP. LSE dismissed this as trivial, barely changing their overall assessment.

Yet I have pointed out at various times that this is a massive underestimate of the EU protection we would abolish by moving to free trade with the rest of the world. My research team's estimates of EU protection of manufactures is around 20%, made up of significant non-tariff barriers in addition to those low tariffs; these estimates are based on very detailed estimates of price differentials against world suppliers. They also tally with direct estimates of non-tariff barriers cited by LSE.

But this is only the half of it. LSE also ignored the massive tariffs on agriculture which have the effect together with the rest of Common Agricultural Policy intervention of raising farm prices by 20% also; this is the standard estimate from the OECD of 'Producer Subsidy Equivalent'. Together with the manufacturing total barriers these two pieces of protection raise consumer prices by around 8% according to our modelling. But even in the LSE model they multiply the gain from unilateral free trade by nearly 7 (20/3) which raises it to about 2% and more or less offsets the worst end of their range of losses from Brexit.

What one gets out of this calculation is rather the conclusion of Open Europe using a model from the same general stable: the gains or losses under the WTO option could be quite small in either direction, depending on the choice of Brexit policy. It is interesting that as we move towards actual policy choices in this Brexit era the rhetoric from the consensus is becoming more muted. In a recent interview with Ambrose Evans-Pritchard of the *Telegraph* the leader of the LSE group, Prof. John van Reenen, candidly admitted that for a largescale regime change like Brexit he could not be too certain of the outcome.

We can also note a variety of detailed ways in which the various groups calculated the losses from the Brexit departure have been criticised, taking their modelling approach as given. For example Ken Coutts and colleagues at the Cambridge Centre for Business Research have noted that the way the EU effect was estimated by the Treasury relies heavily on other countries' experience and is unlikely to be accurate for the UK. In my original critique of the Treasury study I noted a number of similar points about estimation, as did David Blake. Much of this critique carries over to the other studies to a more limited extent.

The general modelling approach of the consensus and the 'gravity model'

However, this is all to take the general modelling approach of the consensus as correct in principle. We come then to the other major reason for the hostility of the consensus towards Brexit: the way that they think about the origins of trade.

The classical view of trade, going back to Ricardo, John Stuart Mill and later Heckscher and Ohlin, is that it originates with differential supplies due to comparative advantage. Ricardo had wine and cloth in his famous example: Spain produced wine relative cheaply, Britain cloth. The later economists went behind these relative cost facts to argue that they in turn came from the supplies of 'factors' or resources native to each country, whether it was the 'land' (including the weather) or the skilled labour or the capital. These 'resources' would include such things as the climate for investment and property rights since these would enhance the effectiveness of the factors in production. We can think of this analysis as being a 'supply-side' theory of trade.

Of course demand has a role in just how much is traded; but the broad pattern of what a country supplies and so exports after satisfying domestic demands compared with what it does not supply and so imports to meet home demand is set by supply forces. In these classical models if a country faces a trade barrier in another market it simply diverts any supply that is not sold there to another market, all markets being governed by competition across the world, so producing 'world prices'.

Now of course if you join the EU which is a vast customs union, you find it advantageous to switch your output entirely into that market wherever you can, since its trade barriers against the rest of the world will raise the prices within it above world prices. In the classical literature on customs unions, it was shown that while in general everyone would be better off with completely free trade, a particular country could gain from the customs union if it produced much larger amounts of the protected goods than it bought: this was because the gains to its producers from higher prices exceeded the losses for its consumers.

Unfortunately the UK is in precisely the opposite situation: it buys much more of the protected food and manufactures than it sells! Hence in the last referendum my LSE mentor, Prof. Harry Johnson, vocally opposed the UK's joining of the EU.

Now contrast this with the view that dominates the current consensus - often known for short as the 'gravity' principle. What dominates trade is demand from countries that are large and also close by, because transport costs rise with distance ('gravity' equals size/distance). So the picture is of consumer markets in which a lot of different goods, with differing 'brands', are sold by producers from around the world supplying those brands. The prices of those brands are raised by transport costs the more distant the supplier. Consumers choose between them all and buy most from the cheapest sources. Clearly big countries have a lot of demand and as producer your share of those markets will depend on your price and so your transport costs. Tariffs and other trade barriers are simply one element in these 'transport costs'.

Now take a country like the UK: it sells exports to its trade partners according to how expensive its goods are in those markets. So if the EU puts up barriers to UK exports it will sell less. Carrying out FTAs with 'distant' markets is unlikely to replace the loss of sales to the close-by market of the EU. Now consider import trade: the UK buys from other countries according to its GDP and if it leaves the EU, its imports from the EU will go up in price while under FTAs its imports from the rest of the world will go down in price but overall its imports will not be changed much. So because exports will go down overall trade will fall.

This demand-side effect is then compounded in these models by the assumption that foreign investment and also R&D depends on trade and so demand. The resulting fall in FDI and R&D then lowers productivity. So what we have is a model of trade and production that is dominated by demand.

There is an interesting parallel between these current demand models of trade and the Keynesian models that once dominated macroeconomics after the second world war. In those too there was no role for supply. In both cases the suppression of supply came about because of the assumption of rigid prices and generalised lack of competition, 'imperfect competition', which underpinned this price rigidity. In current trade models competition plays very little role as the responses to relative prices are generally low.

It is a curious fact of economic thought that just as Keynesian models were rightly displaced by models based on classical principles where supply is dominant except in the short run, their sister-models in trade came into fashion, even though their assumptions plainly contradict those of modern macro thought and appear totally unsuitable for the long run. In trade theory the focus is on the long run because trade regimes work themselves out over this time frame and the regimes last for a very long time: so it is particularly odd to find that demand is dominant over what amounts to a decade or more.

If we revert to the obvious facts of world trade and competition, we can see that there is free entry into globalised world markets and that brands are frequently brutally displaced by competition: note the experience of Nokia and Blackberry, or the way in which Amazon has come to dominate retailing, or Google to dominate internet search.

In whole areas of consumption such as the car market there is upheaval ('disruption') as the entry of electric and driverless, computerised, cars threatens to destroy the main car producer model. Then there is the steady grinding out of weak performers in worldwide supply chains. It has never seemed more appropriate to assume world competition, as in the classical model.

Now think about the UK's trade trends. The UK is now one of the world's major export supplier of services; for example, in foreign currency trading it has the largest share of the world market. Back in the 1970s the City was a small part of the UK economy and of little consequence worldwide. Manufactures were 35% of UK employment, now only 8%. Have these changes had anything to do with demand from the EU or the world?

Plainly not. They are the result of the UK's own policies during the 1980s to transform the economy in the direction of free markets and competition. Workers left inefficient manufacturing industries, and new workers acquired skills whether in education or services and supplied competitive service products to the world economy. Capital flowed in from abroad after the abolition of exchange controls.

Then consider how UK industries would respond to some EU protection. 60% of our car industry's exports by value already go to world markets, outside the EU's protected market. With the UK only 3% of the world economy it is really not difficult to imagine those exports being somewhat expanded either in existing or in new markets around the world, at world prices just like now.

On this view the demand side is essentially irrelevant: supply will seek out demand where existing demand falls back.

Which models are consistent with the facts?

One rather amusing claim made by these gravity modellers is that their models must be right because they 'fit the facts' as found in the 'gravity equations'. Yet what these modellers have done is fix ('calibrate') their models precisely so that they mirror these equations! These equations do indeed summarise certain facts about trade, as has been well-known since the 1950s when they were estimated by Jan Tinbergen.

As we have seen demand will affect trade; and where supply has an effect it will be captured in these equations by ad hoc additions such as varying constant terms. The 'gravity models' are little more than a demand structure that produces these gravity relationships at a small remove. The gravity equations in no way 'test' these models by their consistency - since plainly they have been set up precisely to be consistent.

Similar claims were made back in Keynesian times about the models fitting the facts. So indeed they did: modellers simply looked at the macro facts of consumption being associated with income for example and estimated models that gave back these facts. But what we learnt from brutal later macro experience is that these were not causal explanations of the facts; and so when policies or the environment changed so did these 'fact' relationships. We concluded that these Keynesian models were simply not proper causal models.

In much the same way these gravity models are not at this stage full causal models. Full causal models need a full treatment of supply, competition and pricing for the long run. To test them we also need a much wider range of data than just the trade shares covered in gravity equations: for example the behaviour of a country's production sector shares also has to be accounted for. Whereas we have now acquired the tools to test and reject proper causal macro models, these tools have yet to be applied in trade theory, partly because they have such a long-time perspective that long tracts of data are ideally required. However, such testing is overdue and we academics need to get on with it.

While this academic process is going on, policymakers need a robust and plausible theoretical framework to make policy with. The classical model of trade and comparative advantage provides an approach that does explain the main trade developments of a medium-sized country like the UK and its assumptions of high competition and free entry in global markets are plainly in line with recent experience.

What does such a model say about the best policy for the UK to pursue?

The best trade deal is no deal - echoes of the Corn Laws

The key element is the high rate of EU protectionism on food and manufactures, which erects a peripheral wall around the EU keeping up the prices of imports from the rest of the world and so raising prices to EU consumers for not just imports but all EU-made products competing with them. In both sectors the protective rate (from tariffs and non-tariff barriers) is as we have seen around 20%, raising UK consumer prices by around 8%. This in turn artificially boosts farming, the price of land and the inefficient parts of the manufacturing sector. By removing it with Brexit and going to free trade we reverse this and in the process raise consumer welfare and productivity, with a 4% boost to GDP.

There are two routes to free trade: a negotiated route via free trade agreements, with the EU and then with significant others - and the route of unilateral elimination of our own protection, such as happened in 1846 when Peel abolished the Corn Laws. He got fed up with foreign recalcitrance over reducing trade barriers and simply struck out with unilateral free trade. We too could well get fed up with similar recalcitrance today as the mercantilist EU insists on special demands for its industries or its migrants and even other countries hold out for demands we cannot meet. The FTA route to free trade depends on others cooperating in genuine free trade.

It might just work and go well. But realism suggests it could get bogged down and derailed. So suppose it falls at the first fence with no EU deal. What is the UK's best option? It is to go unilaterally for free trade, with the gains described above. We simply say to the EU: look we abolish these barriers against you anyway and by implication under WTO rules we will do so against all others too. We so reduce consumer prices, increase competition and productivity and boost GDP.

The EU would no doubt levy their tariffs on our exports; and other countries too would maintain their existing tariffs against us. But in a competitive world market where we are now selling at world prices, this has no effect on our national welfare. The reason is straightforward, as explained above: these world prices reflect world demand and supply and the EU tariffs we are speaking about do not affect the EU's total demands and so do not affect world prices at all. All they do is cause EU demands to move towards home products away from us, but as they do so their home output is now not available in third markets where we will make up the deficit.

The EU tariffs are noted earlier rather low - around 3.5% on manufacturing industry. Edgar Miller and I have estimated[2] that they can easily absorb this cost in the short run when sterling is low and boosting their profits; and in the long run they can raise productivity to offset it.

As for our farmers, they will after Brexit face world prices: protection of the CAP and high EU tariffs will be removed. They will sell on world markets for food instead of on EU markets where prices are artificially raised. So EU tariffs on our farming are simply irrelevant. We will revert to helping struggling farmers whose activities are necessary for the rural environment directly from the public purse. We have many large and efficient UK farmers who will change their practices, and adapt by raising productivity.

So no deal is better than a bad deal. Indeed what the above shows is that no deal is better than any deal! But of course we will try to get a sensible EU deal in good faith, simply to maintain good relations even if it is not so good in pure economic terms. ■

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Endnotes

1. See the relevant publications on www.economistsforfreetrade.com

2. 'What shall we do if the EU will not play ball?' on www.economistsforfreetrade.com

Brexit fork in the road

Angus Armstrong asks if it really is the case that the UK can 'take back control' and be better off at the same time?

It is said that history is written by the victors. Since winning the Brexit vote, campaigners for leaving the EU have coalesced on 'take back control' as their 'big idea'. They argued that Britain would benefit economically from taking back control of its borders and trade policy. By creating a trade policy that best suits its needs, Britain would sell more and so be better-off as a result. It could restrict immigration and at the same time save £350 million per week.

The government has chosen to interpret 'take back control' as leaving the jurisdiction of the European Court of Justice (ECJ). Since the ECJ is the final arbiter over the Single Market, this means leaving the biggest market in the world. All options of associate membership have, for now, been set aside as 'failing to deliver'. This includes returning to the European Free Trade Association (EFTA), the UK's status back in 1973. That some of the most high profile Brexit campaigners made clear that the UK would stay part of the Single Market is now ancient history.

But whenever someone offers the best of all worlds, it is usually wise to check the small print. Victors may write history, but they don't re-write economics. One can certainly argue that any economic loss that results from taking back control is a price worth paying. But is it really the case that we can 'take back control' and be better off at the same time?

The UK can strike a tariff free trade deal with the EU almost anytime. The drama of whether we can or not is pure theatre. We have been doing trade deals since 1860 and there are over 400 regional trade deals in force today. We start from a position of free trade with the EU so there has to be no agreement on tariffs or painful adjustment to the new regime. This could be done very quickly. But while all politicians say they want a tariff free trade agreement, the devil really is in the detail. Can we really strike powerful trade deal while 'taking back control'?

First, making a trade agreement, by definition, means sharing some sovereignty. There is simply no way around this. It commits a country to abide by certain rules or face review and sanctions imposed by a foreign body. For example, if a nation violates World Trade Organization rules then they may be subject to a dispute resolution procedure. Any comprehensive trade agreement between advanced nations will have an independent dispute resolution procedure.

Second, after the UK leaves the Single Market, suppose that the UK were to promise to keep to EU rules and regulations. Being outside of the EU, there would need to be some regulations verification process and enforcement mechanism. The UK is one of the most complex economies in the world. It is central to many global supply chains across industries and many nations. So introducing the smallest verification cost would damage its competitiveness.

There are challenges to overcome in offsetting trade losses from leaving the EU. Countries always sell more to neighbours than the other side of the world

Third, of course the UK will eventually use its repatriated powers - perhaps get rid of some allegedly overbearing EU laws or subsidise its car or steel industry again. But since the core idea of the Single Market is a single set of rules to create a level playing field, deviating from the single set of rules will inevitably lead to a loss of market access over time. One of the curiosities of the referendum was the lack of specific examples of laws that would change in the event of leaving the EU. Perhaps most of the changes will be to conform to requirements for new trade agreements elsewhere in the world. Whether the devil we don't know is better than the one we do remains to be seen.

Fourth, not all trade agreements are created equal. Today's trade limitations between advanced economies are mostly 'behind the border' rather than 'at the border' or tariff restrictions. Modern trade agreements are increasingly broad in terms of sector coverage, institutional arrangements, regulatory convergence, competition and even social policies. Economists at the World Bank show that the broader the trade agreement, the bigger the impact on trade and ultimately welfare. European trade agreements are generally by far the broadest in the world. Intrusion is the price to pay for getting the most from a free trade agreement.

Fifth, we trade because we are interested in higher living standards. This means higher domestic wages and profits, or domestic value added. Yet the UK is a particularly services orientated economy. More than eight out of ten jobs in the UK are in the services sector and our services exports have a higher domestic value added than our goods exports.

Selling services is different to selling goods. They are mostly consumed at the point of sales. For example, education, dentistry or enjoying the arts generally require us to consume at the point of sales. Either foreigners must come here (immigration), or we have to set-up establishments overseas to export our services. Both require agreeing and abiding by rules and regulations. Setting up establishments overseas requires rules to protect investments in foreign countries. The UK is the third largest beneficiary of foreign direct investment in the world (behind the US and China). New dispute settlement systems will be required once out of the EU.

These five points show that the question of whether the UK and EU can agree a free trade agreement is not the point. It is whether the UK is willing to accept sharing sovereignty and control to the extent necessary to have beneficial trade agreements that play to the UK's strengths. At a minimum, this will require rowing back on the rhetoric of 'take back control'.

Some Brexit advocates accept some loss of market share with the rest of the EU is inevitable. But they see this as a virtue because they believe leaving the EU will allow the UK to strike better trade deals around the world. We hear more and more of the plan to strike new trade deals with New Zealand and even the US. It is worth pointing out that only 18 per cent of the UK's total export markets (including the EU itself) do not have an existing agreement with the EU or are not currently negotiating with the EU for a trade agreement.

There are challenges to overcome in offsetting trade losses from leaving the EU. Countries always sell more to neighbours than the other side of the world. Ireland is the UK's fifth biggest export market despite only having the 124th largest population in the world. New Zealand has a similar population and close cultural connections but they are barely a top 50 trading partner. If the UK lost 1 per cent of its market share in goods exports to Ireland, it would have to increase its market share in New Zealand by 30 per cent just to offset this.

The UK can try to replace the loss of EU market share by striking new deals around the world. But this will require accepting many broad and intrusive trade agreements, just to have a chance of standing still. UK total trade with the US and European Economic Area (EEA) countries is 15 per cent and 53 per cent respectively. This means a 1 per cent loss in market share in the EEA requires a 3.7 per cent increase in market share in the US to compensate. The same 1 per cent loss to the EEA would require a doubling of trade with the next top ten export destinations outside of the US. This is possible, but it will require sharing a lot of sovereignty.

It may be possible for the UK to offset a small decline in market share with the rest of the EU by reaching trade agreements around the world. But the broader that these trade agreements, the more that the UK will deviate from EU rules. We are unlikely to be dealing with only 1% loss in market share. This means the UK will have to strike even more trade deals around the world. At some point the UK runs out of countries to deal with.

As we look ahead, we are at a fork in the road. The paths offer very different outcomes for the future of the UK. One path, favoured by an influential group of politicians and coterie of unelected advisors, believe that 'no deal' with the EU is a good because it allows the UK to stand alone and unilaterally lower UK import tariffs to zero. They accept that this will lead to the virtual eradication of the manufacturing sector, but they see this as collateral damage. In their view, the UK will lead a new world liberal trade order as like-minded countries follow.

The other path is that UK re-joins EFTA. The UK would have a free trade agreement with the EU, a framework to negotiate bilateral agreements on services and allow the UK to strike its own deals with other nations around the world. Earlier this year I was a Special Adviser to the House of Commons' International Trade Committee. Membership of the Committee was evenly divided with deeply held convictions on both sides. After a trip to the World Trade Organization, the Committee returned and agreed that joining EFTA would be 'clearly beneficial to the UK'. They suggested that the Secretary of State publish a White Paper on EFTA membership before year end. ■

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Brexit's impact on trade

Brexit and the election of Trump has injected a major dollop of uncertainty into international commerce. Dan Ciuriak writes about how this could reshape the global trading system

Upwards of €250 billion in two-way trade between the UK and the rest of the EU is at risk from a hard Brexit. This falls to the €70 billion range with a soft EFTA-like agreement ('Brefta') in place. As Europe careens towards its uncertain future, hostage to plot twists in British politics and binding time constraints, which seem to make a hard exit the default, the salient question is how far upward of €250 billion are we really talking – and at what cost to the economy?

The above figures, which are to be read relative to projected 2030 levels of trade and represent respectively 27% and 8% declines compared to the baseline, emerge from simulations of Brexit using a computable general equilibrium (CGE) model (Ciuriak et al. 2017; see summary of results in Table 1).

This method quantifies effects of the UK leaving the single market, around which we can put some numbers: the impact of new tariffs under a hard Brexit; a hard border and the associated higher transactions costs under both the Brexit and Brefta variants; a modest 'drift' of UK regulation away from EU laws under the hard exit; and the introduction of new non-tariff measures on services and investment under both variants. There are, however, many other factors that are not captured.

An alternative approach to evaluating the amount of trade at risk is to estimate the extent to which membership in the EU has worked historically to boost trade amongst its members based on the actual trade patterns that have evolved, reflecting all the influences of the single market. Based on gravity models, which take into account the size and distance of trading partners, as well as various factors that impact on bilateral trade costs, the Centre for European Reform (2016) estimates that UK-EU goods trade is 55% greater than would otherwise be expected.

Meanwhile, Fink (2009) estimates the EU Services Market Directive boosted trade and FDI stocks by one-third. The average for goods and services from these estimates is substantially greater than the 27% trade discount implied by the €250 billion figure cited above – indeed, half again as high.

For both the UK and the EU27, some portion of the lost trade will be made up with new trade with third parties. However, for both, this will be trade with more distant partners and subject to greater border transit costs. Accordingly, it will inevitably be less than the foregone cross-channel trade. This point is illustrated by estimates of the extent to which an FTA for the UK with the United States might offset the impact of Brexit. The negative impact on welfare would be shaved by a little more than one-fifth – but only that much (Ciuriak et al. 2017).

This reflects the heavy toll that distance exacts on trade: although the United States is larger than the EU27, the distance across the Atlantic is sufficiently greater than that across the English Channel that the trade gains under a UK-

Brexit ...the election of Donald Trump ... have injected a major dollop of uncertainty into international commerce

US FTA are a steep discount to those available under the Single Market. This reality of economic geography is compounded by the necessarily shallower degree of liberalization possible with the United States under a conventional FTA – if indeed such an agreement is available any longer with the United States – compared to the Single Market.

There is also the challenge of securing new FTAs. Given the position of US trade policy, viewed through the America First lens, the small gains for the United States under a UK-US FTA imply a low rank for the UK in the US FTA queue. Meanwhile, given the US withdrawal from the Paris climate change accord and other environmental policies, and the EU's commitment to sustainability, it is a stretch to see the EU being able to ratify a Transatlantic Trade and Investment Partnership (TTIP) agreement – regardless of where the EU27 would be in the US queue.

Looking beyond the United States, the major FTA targets for the both the UK and the EU27 would be China and Japan – both tough targets and both smaller and more distant than the United States.

For the UK, a study of potential target markets for a post-Brexit future identified Canada, Israel, and the Indian sub-continent as those in which UK exports under-perform the most compared to the UK's established level of export capability (Open Europe, 2017).

Making up potential ground in these markets would more than offset the trade decline under Brefta, but not under Brexit. Moreover, for the machinery of trade – from customs brokers to shippers – the realignment of trade flows means adjustment and learning costs. Trade ultimately is done one exporter and one client at a time.

Finally, the intensification of UK-EU trade due to EU membership evolved in the benign context of expanding global trade under the rules-based system established by the GATT/WTO agreements and anchored by American hegemonic underwriting of the multilateral system. Trade is no longer expanding faster than GDP and Trump's America is no longer prepared to underwrite the multilateral system.

Table 1. Summary of Real GDP and Welfare 2030 – Alternative Scenarios

	Real GDP (% change) 2030				Welfare (USD billions) 2030			
	Brexit	Brefta	Brexit with Single Market Effect	Brexit with Single Market and UK-US FTA	Brexit	Brefta	Brexit with Single Market Effect	Brexit with Single Market and UK-US FTA
UK	-2.54	-0.97	-2.50	-2.39	-101.6	-41.6	-99.1	-74.9
EU27	-0.30	-0.11	-0.40	-0.40	-71.8	-24.3	-107.8	-110.3
Canada	0.03	0.02	0.05	0.04	1.9	0.9	2.5	1.8
Japan	0.04	0.01	0.05	0.05	4.8	1.6	6.6	6.0
Russia	0.03	0.01	0.06	0.06	3.7	1.6	5.0	4.7
USA	0.02	0.01	0.04	0.06	8.3	3.8	11.4	18.3
China	0.03	0.01	0.04	0.04	15.9	6.8	21.1	19.7
World Total	-0.09	-0.03	-0.09	-0.09	-90.7	-33.2	-96.0	-95.8

Table 2. Impacts of Brexit Scenario in Present Value Terms

	Brexit	Brefta	Brexit with Single Market Effect	Brexit with Single Market Effect + UK-US FTA
EU28	-832	-357	-1,007	-998
UK	-503	-229	-491	-468
EU27	-329	-128	-516	-530
Ireland	-38	-14	-47	-48
Benelux	-38	-14	-61	-63
Netherlands	-29	-9	-44	-45
Baltics	-4	-1	-7	-7
Denmark	-11	-3	-16	-16
Mediterranean	-8	-4	-11	-11
Iberia	-38	-14	-59	-60
Germany	-55	-23	-85	-88
Poland	-13	-5	-24	-25
CEECs	-15	-6	-31	-31
Sweden	-9	-4	-16	-16
France	-45	-19	-71	-73
Italy	-19	-8	-30	-31
Finland	-3	-2	-5	-5
Austria	-3	-1	-8	-8
Adriatic	-1	-1	-2	-2
G8 & China				
Canada	8	4	10	7
Japan	21	7	29	27
Russia	17	8	22	21
USA	38	17	52	87
China	60	25	79	74
World Total	**-504**	**-220**	**-570**	**-560**

Source: The author is indebted to Jingliang Xiao for the calculations. The figures are based on Ciuriak, Dadkhah and Xiao (2017).

Indeed, strong signals have been sent by the Trump Administration that it intends to extract what it can from trading partners, exercising its full political and economic leverage. The UK will not be sailing from the single market's safe harbour with trade winds in its sails, but tacking into protectionist headwinds and trying to secure new markets in competition with other countries under pressure to reduce their bilateral surpluses with the United States.

The bottom line is that Brexit scenarios reported here put the UK and the EU27 onto lower-output tracks due to economic inefficiencies that persist year-in, year-out.

There are some caveats to this conclusion based on factors that are not explicitly incorporated in the modelling: one set is based on potential economic gains that Brexit might afford; the second is based on dynamic effects that could amplify the losses.

A major premise of support for Brexit is that EU regulation impedes UK growth. This can be neither substantiated nor dismissed out of hand since: (a) EU regulation by definition has a 'one size fits all' character within the Union; and (b) given there are thousands of regulations, it is not possible to parse through these and identify those where the purpose of the regulation is not served by its application in the UK, but the cost of compliance is nonetheless borne by UK firms.

Looking first at regulations that address product quality and are required for market access (eg. documentation of products' chemical content), Brexit is not a solution – the better option to modify regulations is to remain in the Union and influence their making.

Looking next at regulations that address overriding social or environmental (eg. labour market or climate change) or other objectives, de-regulation in these areas by the UK might generate cost savings to the UK economy. An

Open Europe assessment (conducted pre-Brexit) suggested GBP 12.8 billion of savings were possible (about €20 billion at 2017 prices).[1]

This, if realizable, would represent a modest offset to the Brexit/Brefta border costs, if it flowed entirely into UK household incomes. If the benefits flowed primarily to multinational firms' bottom lines, UK welfare might be minimally improved, if at all. At the same time, the UK would face constraints from potential anti-dumping/countervailing duty actions if new regulations were construed as generating either social or environmental dumping.

The second set of caveats concerns factors that are difficult to quantify and therefore not explicitly included in conventional trade models. The majority of these represent negative impacts for the UK and the EU27 because of additional transactions costs and heightened uncertainty. In particular:

First, modern trade economics emphasizes the role of fixed costs of trade in screening in larger, more efficient firms – and screening out smaller firms. The low-cost trade regime created by the single market was thus especially conducive to trade participation by small firms.

Second, the value proposition of cross-channel value chains will be affected since the sliver of value added by the firm doing outsourced work will bear the full cost of new tariffs or additional border costs – this may be prohibitive as a share of the value addition.

Third, uncertainty about future market access re-enters UK-EU trade, as flows will become subject to contingent protection (anti-dumping or countervailing duties).

Reduction of trade frictions and uncertainty are drivers of trade expansion in trade liberalization episodes, especially at the 'extensive margin' – new products and new exporters entering new markets (Kehoe et al. 2015). A critical question is whether the impact of Brexit will be symmetrical in a negative direction?

If the effect is symmetrical, thousands of firms on both sides of the channel will abandon export markets. This will exact a hidden cost, as the intangible assets associated with the sunk costs of export market entry will be effectively written off. Further, retreat to the domestic market may leave firms that invested to serve export markets with too much capacity and too little flexibility for the domestic market (Lileeva and Van Biesebroeck, 2010).

In this regard, it is important to distinguish the build-up over time in the equilibrium impact reported in CGE studies and short-term dynamics. The initial impact of Brexit could be much greater in a negative sense than portrayed here because of market reactions that are then dampened over time. Table 2 sets out the present value of the foregone income from Brexit on an equilibrium path.

Presented in this fashion, the estimates are large – as much as US$1 trillion for the EU27 and the UK combined. If the economy takes a low road – ie. greater short-term disruption than would be felt in the long-run outcome – the present value of the foregone income would be even higher.

The chances of a high road seem to be small since the reaction of business to the announcement of Brexit is already to make adjustments rather than wait for the actual change in trade relations.

The world on which Brexit was premised – a rules-based multilateral system anchored by the United States, which provided ample opportunities for the UK to make up trade foregone with the EU – is now long gone, in part because of Brexit, but more so because of the election of Donald Trump. Both events have injected a major dollop of uncertainty into international commerce. Both promise to re-shape the trading system. ■

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UN Financing for Development review brings welcome focus on trade finance gap

The UN review of the trade financing gap is a welcome step in addressing this chronic problem, the International Chamber of Commerce writes

Short-term financing is an essential tool to support small business growth and sustainability, yet a growing trade finance shortfall hurts companies and countries that need it the most. World trade relies heavily on reliable sources of financing—both long-term (for capital investments) and short-term. The latter—commonly referred to as 'trade finance'—is the basis on which a significant proportion of world trade operates.

In trade finance, banks help mitigate traders' risks by bridging the time-lag in international transactions between the manufacture of goods, shipment and the receipt of payment. Such bank-intermediated transactions now represent more than a third of all world trade, equal to trillions of dollars each year.

US$1.6 trillion shortfall

Access to trade finance is generally recognised to be key to both the future outlook of global growth and the fulfilment of the United Nations (UN) Sustainable Development Goals (SDGs). A shortage of trade finance hurts small- and medium-sized enterprises (SMEs) the most, which represent around 95% of the world's companies and 60% of private sector jobs.

The UN has consistently recognised the importance of guaranteeing access to trade finance for development. In the 2015 Addis Ababa Action Agenda, UN members acknowledged that a *"lack of access to trade finance can […] result in missed opportunities to use trade as an engine for development".*

Recent studies have pointed to a US$1.6 trillion shortfall in trade finance globally that has in fact grown since the peak of the 2009 financial crisis—with the biggest gaps provision hitting developing and emerging economies in Africa and Asia. Moreover, ICC research suggests that almost 60% of applications for trade finance turned down by banks come from SMEs, suggesting that entrepreneurs and small business owners are particularly impacted by this trend.

What's behind the gap?

According to the *2016 ICC Global Trade Finance Survey*—the largest industry survey of its kind—the now chronic trade finance shortfall is largely due to the unintended effects of global financial crime regulation.

ICC fully recognises the systemic importance of robust and well-targeted financial crime controls. Indeed, considerable progress has been made by the financial sector in addressing the risks posed by money laundering, terrorist financing, corruption and sanctions issues. However, the increasing complexity of global financial crime regulation—and associated regulatory and reputational risks—has resulted in banks adopting an extremely cautious approach to managing risk and as a consequence are reducing and exiting certain types of business.

On the basis of ICC's engagement with the UN and national governments over recent weeks, the UN has also committed to carry out an official review of the trade financing gap and its underlying causes

Recent studies have confirmed these findings, showing that many global banks have begun to exit correspondent relationships with a significant number of banks in jurisdictions that are perceived as being high-risk. Some countries have been hit especially hard by this trend. In Argentina, for example, the number of correspondent banking relationships—bilateral agreements to handle basic trade-related services such as international payments or letters of credit—held by Argentinian banks dropped from 64 in 2009 to just 13 in 2016. A dozen countries are now down to a single correspondent banking relationship and risk being entirely cut off from the international finance system—including the Central African Republic, Nicaragua and the Solomon Islands.

A call for UN action

The systemic issues raised by the erosion of the correspondent banking relationships on which trade finance depends are global in nature and require a globally coordinated response.

On this basis, ICC called on participants at the 2017 Financing for Development Forum—which took place last month in New York—to commit to an urgent UN-led review of the trade financing gap, with a particular focus on possible means to reverse the on-going erosion of international correspondent banking networks.

Having called for an urgent UN-led review of the trade financing gap, with a particular focus on possible means to reverse the on-going erosion of international correspondent banking networks, ICC welcomed official recognition of the estimated US$1.6 trillion trade financing gap in an intergovernmental text issued on the conclusion of the Forum.

In the text, the UN underscores the importance of ensuring adequate and cost-effective trade financing for small businesses and entrepreneurs – noting severe shortfalls in provision *"reported by the Asian Development Bank and the International Chamber of Commerce".*

Welcome progress

On the basis of ICC's engagement with the UN and national governments over recent weeks, the UN has also committed to carry out an official review of the trade financing gap and its underlying causes. This will form part of the UN's annual assessment of progress in mobilising finance to support sustainable development, with findings and recommendations to be issued in April 2018.

Following the release of the annual UN FfD review, ICC Secretary General John Danilovich said:

> *"We know that small businesses face increasing difficulties accessing bank finance to support international transactions. This means lost opportunities to use the international trading system to support inclusive growth and job creation – particularly as the internet opens up opportunities for many small businesses to trade internationally for the first time."*

Danilovich said that the decision to mandate an official UN review of the estimated US$1.6 trillion trade financing gap was a welcome step in addressing this now chronic problem.

> *"This is a complex global problem requiring a concerted global response in the context of the UN's 2030 Agenda for Sustainable Development,"* he said. *"ICC will continue to engage fully in this process, utilising its unique Observer Status within the UN system."* ■

The International Chamber of Commerce is the largest business organisation in the world with hundreds of thousands of member companies in over 130 countries

Saxony's green tech: ready for the future

Saxony's long tradition as an industrial centre has enabled the development of green technology expertise, the Saxony Economic Development Corporation write

The environment and energy are seen as the most future-relevant topics globally. The demand for intelligent solutions and innovative technologies in the fields of environmental engineering, renewable energy, and energy efficiency is constantly increasing. The dynamic growth of this branch is driven by the ecological challenges of our planet. Within this context, three megatrends can be identified as the driving forces for this branch: global industrialization, the growing global population, and increasing urbanization.

In Saxony, the environmental and energy technology sector has evolved into one of the key economic industries. Saxon companies assume a prominent position primarily in renewable energy, energy storage as well as recycling management. This sector profits above all from Saxony's long tradition as an industrial centre, in particular, for machine and plant construction.

For centuries the Saxon highlands have been vibrant mining centers – in the Middle Ages, it was silver and other 'precious' raw materials; later it was lignite and uranium. This formed the basis for the expertise and competencies available at Saxon companies and research institutions today; above all, in the rehabilitation of uranium and lignite mining residues, the disposal of hazardous waste, and the upgrading of sewage systems which is unparalleled around the globe.

In particular, Freiberg has firmly established itself as a leading European location for the development of innovative technologies designed to increase the efficiency of resources and energy.

The Technische Universität Bergakademie Freiberg (Freiberg University of Mining and Technology) sees itself as a modern university of resources which has focused its research and teaching along its profiles 'Geo', 'Material', 'Energy', and 'Environment', which are derived from its traditions in silver mining and metallurgy, to meet the challenges of tomorrow. These core fields give the university its unique and unmistakable profile, encompassing everything from the exploration of new deposits to the development of alternative energy technologies and materials all the way to recycling and the management of these resources.

The federal state of Saxony supports small and medium sized enterprises of the environmental sector to pool their production capacities, expand their competencies, form networks, increase their marketing opportunities, and support technological progress as well as innovation

Fundamental and applied research is conducted here due to the very close cooperation with companies active on the regional, national, and international markets. The research focusing on the environment is coordinated by the Interdisciplinary Environmental Research Centre (IÖZ). The central institution also conducts its own research in, for example, the fields of biology, environmental microbiology, and environmental management. Thus, for example, research at the IÖZ, which is funded within the framework of the Federal Ministry of Education and Research's PhytoGerm research project, examines how the bioavailability of germanium as well as rare earths in soils and their absorption in plants can be used as the basis for phytomining.

Also at the Technische Universität Dresden (Dresden University of Technology), top notch environmental research is focused, for example, at the Faculty of Environmental Sciences within its fields of forest sciences, geosciences, and hydrosciences, and at the Faculty of Mechanical Science and Engineering within its sectors power engineering as well as process engineering and environmental technology. At the 'Dresden Innovation Center Energy Efficiency', subprojects are carried out together by the Technische Universität Dresden and the Fraunhofer Society.

Networks also assume an important role in a sustainable environmental economy. That is why the Helmholtz-Zentrum Dresden-Rossendorf e. V. (HZDR) coordinates together with the Fraunhofer Society on behalf of the European Institute of Innovation & Technology (EIT), the establishment and organization of the largest resource network in Europe. For 'EIT Raw Materials,' a total of €410 million will be available until 2022 in order to develop new processes and products for the sustainable exploration, extraction, processing, and recycling of raw materials.

The network will link and unite leading universities, research centers, and companies from 22 European countries along the entire raw materials value creation chain. An important partner is also the Technische Universität Bergakademie Freiberg where the 'EIT RawMaterials – Regional Center Freiberg' has been active since September 2015.

Crystal aggregate with precious content © HZDR/Jürgen Jeibmann

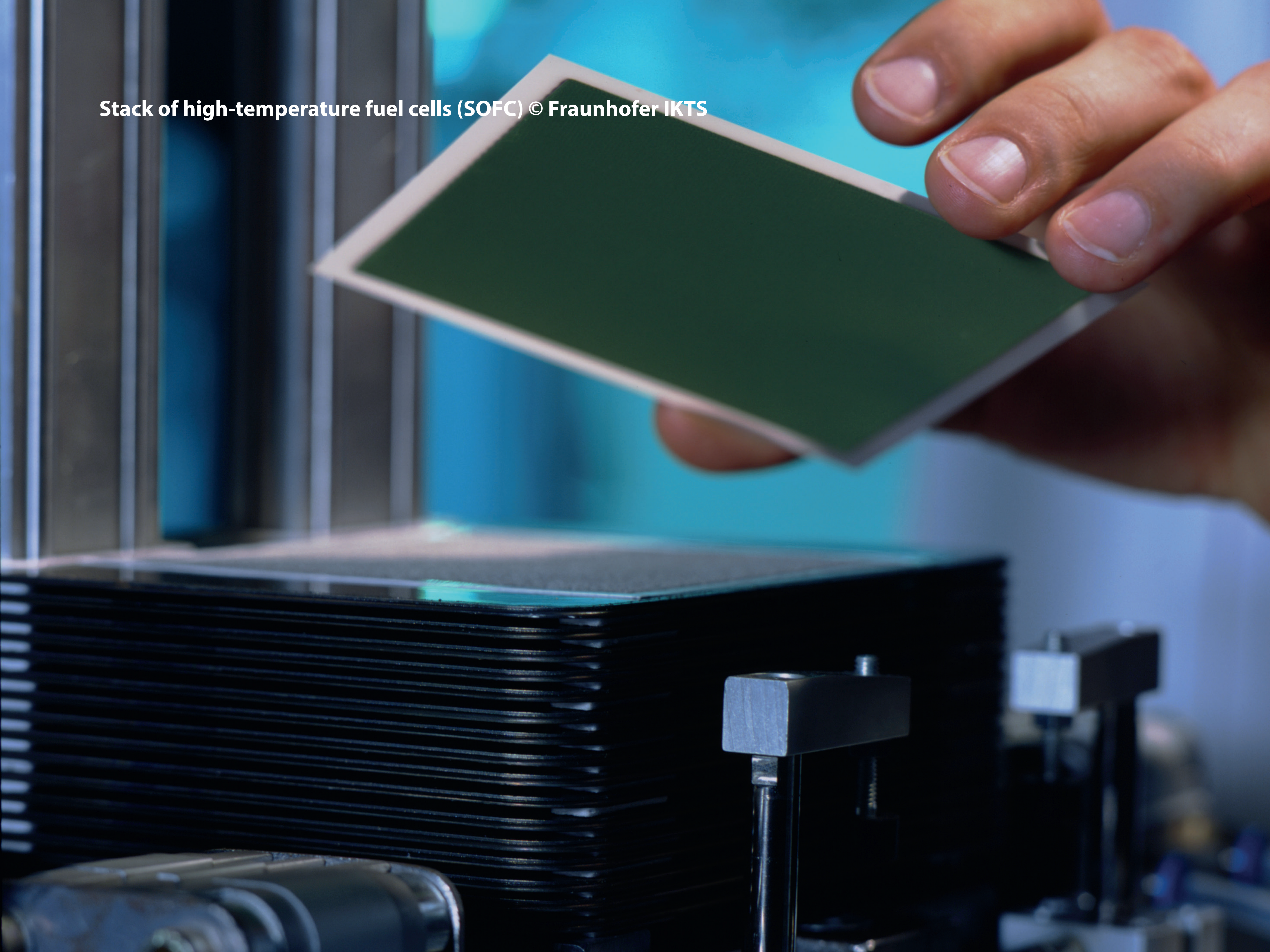
Furthermore, with its 18 Fraunhofer institutions Saxony assumes the leading position in Germany within the Fraunhofer Society. Here above all, competencies are created and expanded in the machine construction sector.

The Saxon Energy Agency SAENA GmbH corporation, together with the Energy Saxony e. V. association, continue to assume a leading role in network activities. Saxony pursues a sustainable and innovative energy policy, whose practical implication is supported by SAENA as a corporation of the Free State.

The Saxon Energy Agency advises Saxony's companies, municipalities, and citizens on renewable energies, sustainable energy supplies as well as the deliberate, efficient consumption of energy. With model projects, specialized and continued education and training programs, diverse information, campaigns, action days, and expert symposiums, SAENA has put alternative energies and energy efficiency on the public agenda in Saxony.

With the business-oriented network Energy Saxony e. V. association, an energy cluster has been ensconced in Saxony since 2014 which seeks to increase the competitiveness and strengthen the export capacity of Saxon companies in the energy branch and to further enhance the effectiveness of research in the energy field. The network members are currently active in the work groups energy efficient production, energy solutions for buildings and smart cities, regulatory framework conditions and business models, resources and recycling, storage and network services as well as heating and cooling.

Energy Saxony wants to promote and advance in particular across different work groups innovative solutions for sustainable energy technologies as well as their transfer into new products and services; and it seeks to strengthen the production site Saxony so that the specific opportunities are used effectively which have become available for Saxony as a result of the energy turnaround.

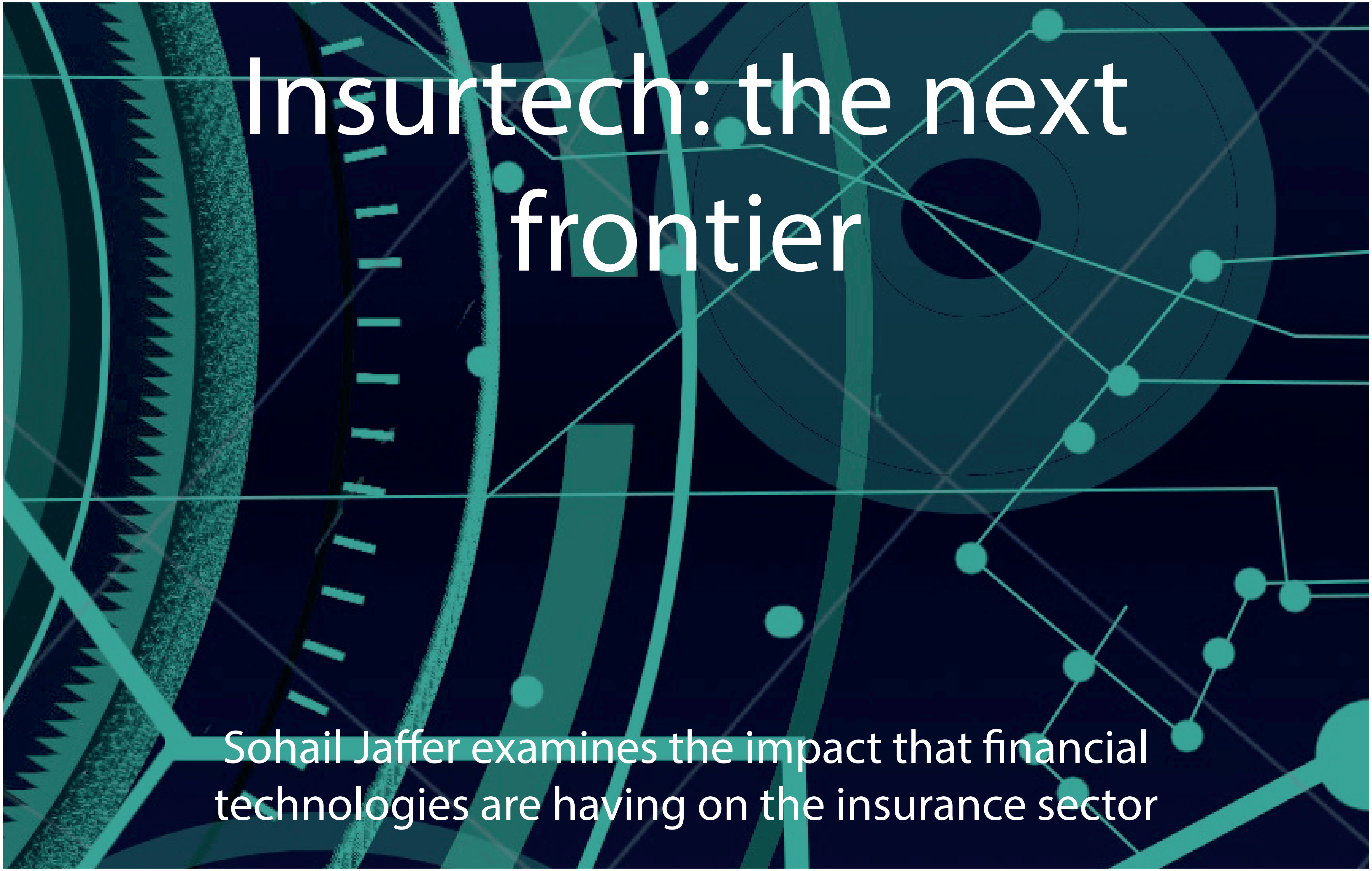


Stack of high-temperature fuel cells (SOFC) © Fraunhofer IKTS

"The federal state of Saxony supports small and medium sized enterprises of the environmental sector to pool their production capacities, expand their competencies, form networks, increase their marketing opportunities, and support technological progress as well as innovation," explains Peter Nothnagel, Managing Director of the state-owned Saxony Economic Development Corporation.

"And it is not only the environmental and energy technology sector, where Saxony is a great place for investment and business expansion. In the locational competition among regions, many advantages speak in favour of Saxony. Vibrant industrial branches, as the automobile industry, machine and plant construction as well as the microelectronics/ICT sector form the backbone of the business venue Saxony. In a European comparison, Saxony has gained an excellent position in research and development. And there is a wide range of funding instruments for investment projects, technology and business founders," Peter Nothnagel notes in conclusion. ■

WIRTSCHAFTSFÖRDERUNG
SACHSEN



Insurtech: the next frontier

Sohail Jaffer examines the impact that financial technologies are having on the insurance sector

"Traditional car insurance is unfair to low-mileage drivers", says Metromile[1], a San Francisco-based start-up offering pay per mile insurance targeted at US consumers who drive fewer than 10,000 miles per year. Named by *Forbes* as one of the five start-ups to watch in 2017[2], Metromile has raised close to $200 million from investors impressed by the simplicity and obvious popular appeal of its business model. This is based on the premise that policyholders should be charged only in direct proportion to the probability of their making a claim.

In an industry that has traditionally been vulnerable to fraud, Metromile is able to do this by using technology to calculate the likelihood of claims - and to verify the information supporting those claims - much more accurately and precisely than traditional methods have been able to do. A similar concept is also being applied in health insurance, with wearable devices being adapted to collect and analyse biometric data as a basis for calculating premiums. A simple example is the Manulife MOVE activity tracking programme in Hong Kong, which was launched in 2015 and offers individuals premium discounts based on the number of steps they take each day.

Initiatives such as the Metromile and Manulife MOVE programmes are small but important examples of the growing recognition that fintech can – and should – be as applicable to the insurance sector as it is to banking, which has hitherto accounted for the lion's share of investment in disruptive technologies. As a note published in September 2016[3] by the global asset manager, Pinebridge Investments, comments, *"unlike in many other industries, the internet has, so far, resulted in little disruption to the insurance industry. For many insurers, business models have remained largely the same during the past 30 years."*

The data speaks for itself. Of total global investment into fintech of $132 billion between 2010 and 2016, only $6.6 billion was channelled into insurtech[4]. Against this backdrop, it is unsurprising that 84% of respondents to a recent PriceWaterhouseCoopers (PwC) survey[5] believed that their customers were already conducting payments business with fintech companies. In personal finance, the share was 60%, and in traditional deposits and savings accounts it was 49%. By contrast, only 38% of respondents indicated that their customers were using fintech operators for their insurance and wealth management.

Insurtech, however, is now catching up with fintech in the banking sector for several reasons. Pressure from new and traditional competitors is one driver of changing attitudes towards investment in insurtech by incumbent operators in the insurance industry. Like their counterparts in the banking sector, many insurers are now recognising

... disruptive technologies will pose an existential threat to long-established companies that are unresponsive to the need for change

that while technological progress creates opportunities, it can also present an existential threat to incumbents unable or unwilling to embrace change. Across the financial services industry as a whole, 88% of respondents to the PwC survey believe that part of their business is now at risk from standalone fintech companies.

For insurance companies, this existential threat comes at a time when the industry's profitability and return on capital is under pressure from a combination of weak economic growth, an increasingly demanding regulatory burden and – in some regions – heightened political risk. Low or negative interest rates, meanwhile, are exerting downward pressure on investment income. In an industry review published in April 2017[6], Moody's forecast that investment income in the global life insurance sector may fall by between $20 and $40 billion in 2017. In the global non-life industry, Moody's projected a decline in 2017 of between $5 and $15 billion.

At the same time, however, the industry is recognising that it is hampered by legacy IT systems and distribution models which are in danger of fatally undermining its long-term competitiveness. As Dagong Europe warned in a report published in March 2017[7], artificial intelligence, data analytics, robotics and mobile and wearable technology are all developing faster than ever. *"If not considered seriously, [innovation and technology] can leave insurers' long-established business models obsolete, unprofitable and unable to reach and serve customers and business partners,"* cautions the Dagong report.

It is this recognition that has spurred an unprecedented surge of investment into insurtech, prompting the *Financial Times* to observe in October 2016[8] that insurance was *"no longer a sleepy backwater of the fintech world."* This was confirmed by a recent Accenture report[9] on the rise of insurtech, which notes that *"data from CB Insights reveals that global insurtech investment totalled $1.7 billion in 2016, with both the volume and value of deals having roughly doubled since 2014."*

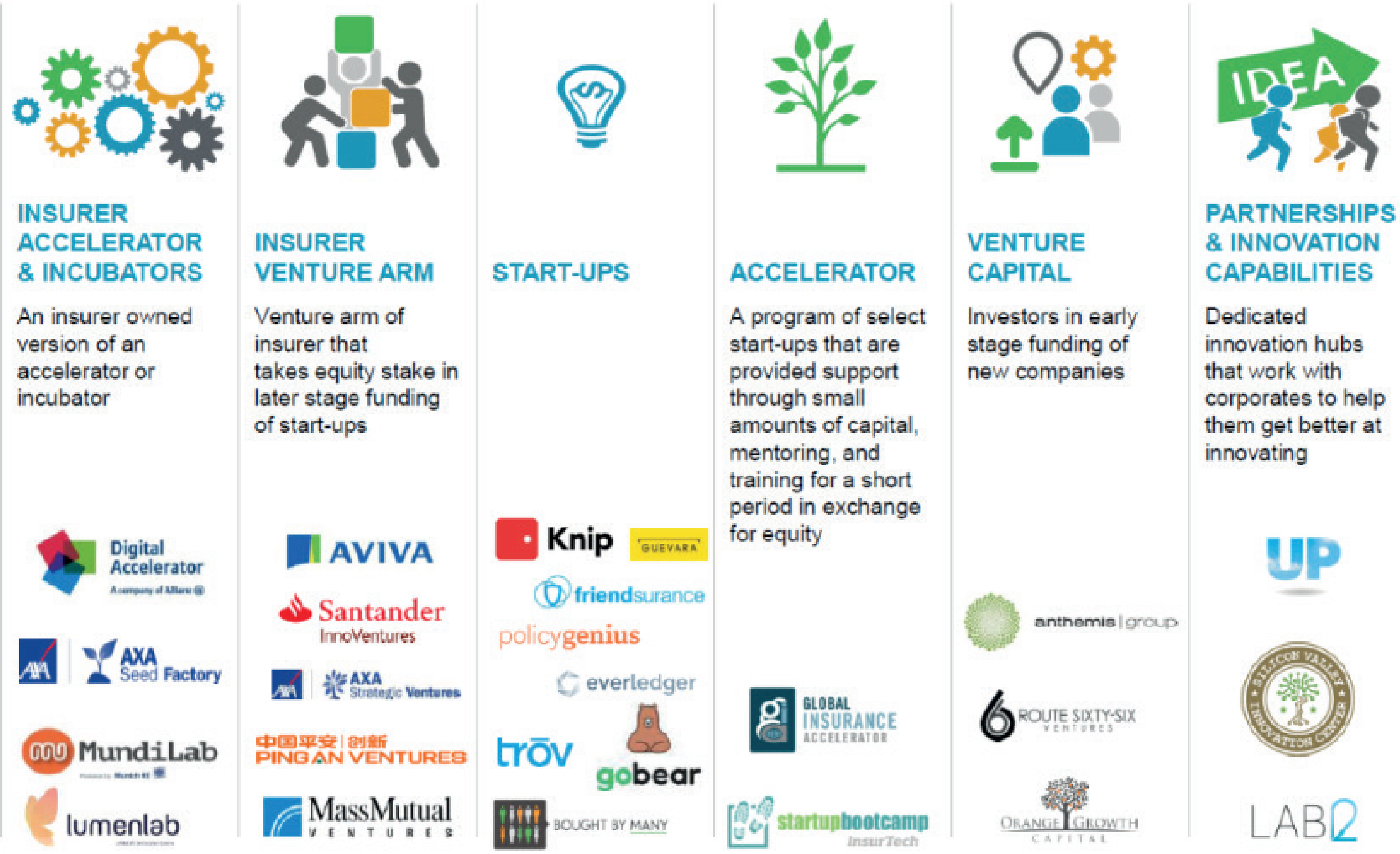
The same report adds that of more than 450 deals analysed by Accenture in the insurtech space, 56% by number and 70% by value were concentrated in start-ups whose products leverage technologies such as analytics, artificial intelligence and the Internet of Things.

It is not just start-ups that are pumping record volumes of investment into insurtech. A number of the world's leading insurance companies have also either established wholly-owned subsidiaries dedicated to innovation across the fintech space, or venture capital units focused on supporting start-ups. Allianz X, for example, describes its mission as identifying, building and globally scaling new business models related to insurance, asset management and assistance services. *"Our ideas and companies have the potential to reshape markets and change the world around us,"* Allianz X says[10].

Some of the fintech and insurtech units established by long-established insurers are clearly aiming to emphasise the cultural differences between these new operations and their rather more conservative parent organisations. Aviva, for example, is concentrating its fintech investment in its 'digital garage' located in London and Singapore. Its Chief Digital Officer was quoted in the *Financial Times* in January 2016 as saying that his team was being encouraged to *"break every rule in the book and not feel constrained by traditional ways of doing things in the industry*[11]*."* For a company that traces its roots back to 1696, that is quite a statement.

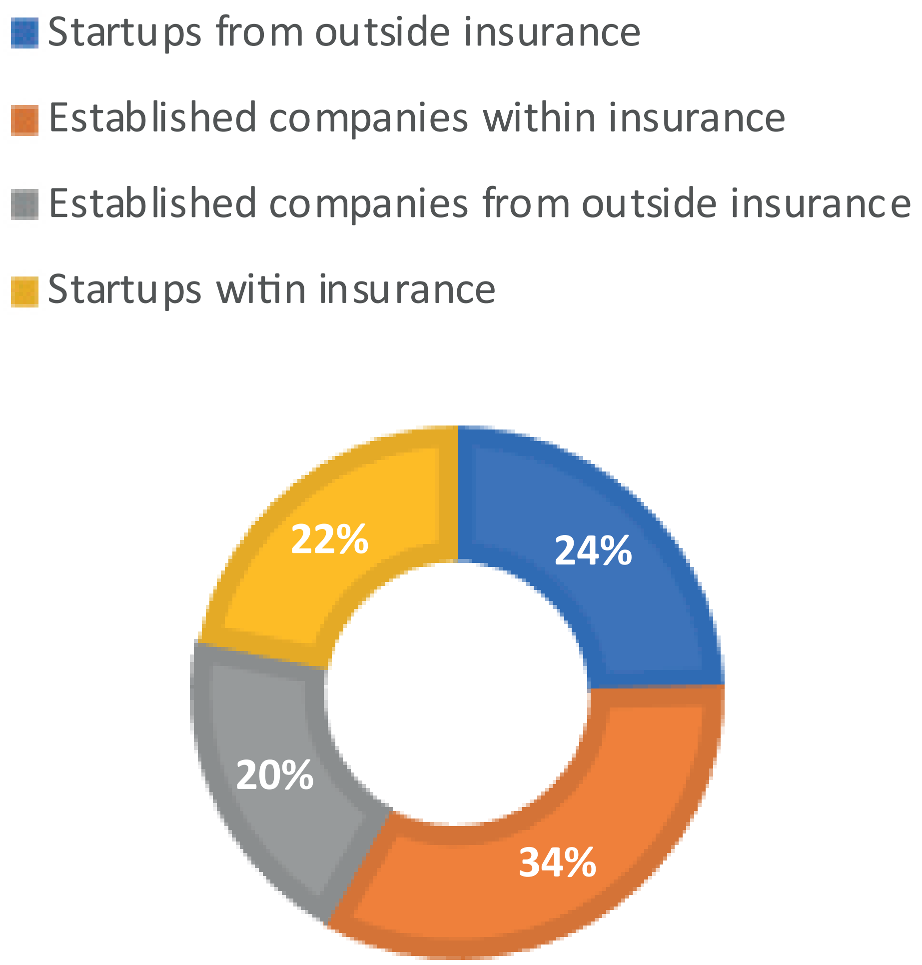
It is important to put these initiatives in perspective, however, because according to Accenture, insurance companies' investment in digital technology continues to lag well behind banks'. In its analysis of over 200 insurance companies and 80 retail banks, Accenture found that only 26% of insurers were providing monetary or non-monetary support to digital start-ups; just 17%, meanwhile, have established an in-house venture capital fund or equivalent investment vehicle targeting the digital or technology space.

Figure 1. The InsurTech eco-system



Source: Celent, InsurTech: a quick round-up report, May 2016

Figure 2. Traditional insurers perceive start-ups to be less of a threat than existing competitors



Source: Accenture, The rise of InsurTech, 2017

Recent investment volumes into insurtech have done little more than scratch the surface of what may be required, particularly in some of the fastest-growing regions where penetration of insurance products remains low by global standards. Asia is regarded as an especially exciting prospect, with Swiss Re forecasting that the region's non-life insurance premiums will rise by 5% annually over the coming decades, with life premiums expanding by 6% a year[12].

This potential has not been lost on investors in the insurtech space. *Forbes* recently described investment flows into insurtech in Hong Kong and Singapore as a 'tidal wave[13]', while India is also drawing investment into innovation in insurance from companies attracted by the penetration rate of just 3.44% in 2015-16.

Although this is projected to rise to more than 4% in 2017[14], the world's largest democracy remains very under-insured by global standards. The opportunities for technology to play a guiding role in the development of insurance in India has encouraged Swiss Re to establish an insurtech accelerator hub in Bangalore, complementing fintech initiatives by the Indian government such as its recently-launched unified payments interface.

Initiated in July 2016, the Indian accelerator hub is the first of its kind established by Swiss Re anywhere in the world, and focuses on identifying and supporting innovative products and services ranging from data analytics for predicting health patterns to artificial intelligence for smarter customer engagement[15].

It is China, however, which perhaps has the greatest potential within the emerging market universe for insurtech. Robust economic expansion twinned with the emergence of an aspirant middle class has already underpinned explosive growth in the Chinese insurance market, which has doubled in size over the last six years. With penetration still less than half of the US rate, however, Oliver Wyman forecasts a compound annual growth rate (CAGR) of 13% up to 2020, turbocharging an increase in gross written premiums (GWP) from CNY2.4 trillion in 2015 to CNY4.5 trillion (US$700 billion)[16].

Already, a number of innovative investors have anticipated the potential growth of the Chinese insurance industry. In June 2016, for example, the Chinese web services giant, Baidu, teamed up with the Shanghai-based China Pacific Property Insurance to form an alliance that will use big data to explore new models for auto insurance product design, risk control and operations[17].

China's largest insurtech start-up, however – and the largest initiative of its kind in the world – is Zhongan, an online insurer founded in 2013 by Alibaba, Ping An and Tencent Holdings. By late 2016, Zhongan was reported to have attracted more than 400 million customers.

In its analysis of the outlook for insurtech in China, Oliver Wyman suggests that the growth posted by Zhongan in recent years may be little more than the tip of the iceberg as far as expansion potential is concerned. With online distribution accelerating, and with operators like Ping An and PICC adopting telematics and preparing to launch usage-based insurance (UBI) products, Oliver Wyman sees insurtech premiums soaring from CNY250 billion (US$37 billion in 2015) to over CNY1.1 trillion (US$174 billion) by 2020.

In the Middle East and South East Asia, meanwhile, so-called Takafultech, or the application of technological investment to Shariah-compliant insurance, may also be ripe for development. Indeed, innovation may be a prerequisite for the longer term survival of Shariah-compliant finance. As Bashar Al Natoor, Global Head of Islamic Finance at Fitch, commented in May 2017, *"fintech is necessary for Islamic finance to maintain and grow its market share as failure to keep pace with such developments could impact the competitiveness of its players. Fintech could help in promoting standardization, harmonization of Islamic finance products and integration."*

Blockchain: the tipping point for fintech?

Globally, however, it is widely believed that the most significant technology-based game-changer for the insurance industry, and for the broader financial services sector, will be the distributed ledger technology, Blockchain. Ernst &

Young puts the possible long-term impact of Blockchain in striking perspective when it says that it has now reached a comparable stage of development to the level that the worldwide web had reached in 1996[18].

McKinsey believes Blockchain has the potential to underpin the insurance sector by supporting its growth, increasing its effectiveness and reducing costs by automating key processes. One way in which its use could achieve all three is by addressing the problem of fraud, which has bedevilled the industry for centuries. Today, according to McKinsey, an estimated 5% to 10% of all claims are dishonest, with the FBI estimating that fraud costs US non-health insurers more than $40 billion a year[19].

Technology could help insurers to trim these losses. As a Deloitte analysis comments, *"smart contracts powered by a blockchain could provide customers and insurers with the means to manage claims in a transparent, responsive and irrefutable manner. Contracts and claims could be recorded onto a blockchain and validated by the network, ensuring only valid claims are paid[20]."*

More broadly, McKinsey observes that issues of scalability, security and standardisation may mean it is several years before blockchain can deliver on its potential. *"Blockchain is a technology ready for exploration by insurers,"* McKiney advises. *"But its exploitation is still a long way off. This is because blockchain is functioning as a distributed system and, thus, its value mostly depends on collaboration with competitors, suppliers or others."*

Looking to the long term, it is thought that while disruptive technologies will pose an existential threat to long-established companies that are unresponsive to the need for change, they will bring considerable benefits to the consumers that are ultimately the lifeblood of the banking and insurance industries. This is why fintech and insurtech appear to enjoy the full support of regulators. *"Fintech will democratise financial services,"* said Mark Carney, Governor of the Bank of England, at a recent conference[21]. *"Consumers will get more choice and keener pricing. SMEs will* *get access to new credit. Banks will become more productive, with lower transaction costs, greater capital efficiency and stronger operational resilience."*

These and other benefits, Carney added, explain why the Bank of England has already taken a number of steps to encourage fintech's development. Those who are slow to follow the lead of influential bodies such as central banks – both in fintech and in insurtech – risk marginalisation and obsolescence. ■

Sohail Jaffer is Head of Business Development and Deputy CEO of FWU Takaful GmbH

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Where do banks fit in the fintech stack?

Lael Brainard writes that close attention needs to be paid to technical, regulatory, policy and legal issues in the fintech sector to ensure trust and confidence in the financial system

We can learn a lot from the evolution of smartphones as we try to envisage where the fintech ecosystem - and banks' role within it - might be heading in the future. Smartphones have ushered in an age when different companies can easily work with each other's products to seamlessly provide services to consumers. Today I want to reflect on what we might learn from that model about the increasingly interconnected world of financial services.

On the 10th anniversary of the iPhone, a *Wired.com* article revealed that even Steve Jobs hadn't predicted the smartphone's potential as a platform[1]. Apple was just trying to design an iPod that made phone calls. Today, the average American spends five hours a day on their phone, unlocking it an average of 80 times daily[2]. Even the Supreme Court has noted that smartphones are now *"such a pervasive and insistent part of daily life that the proverbial visitor from Mars might conclude they were an important feature of human anatomy."*[3]

Of course, we aren't using these appendages primarily to make phone calls. Instead, we mainly use our smartphones to access applications (apps)[4]. In June of last year, Apple announced that over 2 million apps were available on its App Store[5]. For the most part, these apps were not created or even envisaged by Apple. These apps have been downloaded 130 billion times, generating over $50 billion in revenue for third-party developers[6].

The iPhone is a key platform on which that app ecosystem operates. How did that happen? Apple essentially made the smartphone a toolkit for third-party developers to experiment, innovate, build, and scale new apps. It did so by investing heavily in developing open application programming interfaces (APIs) that provided third-party developers clear instructions and open access to the iPhone platform.

This strategy enabled those outside developers to build new applications that delivered Apple's customers additional value by taking advantage of the existing functionality of the iPhone. Specifically, this open architecture makes available to outside developers clear instructions that enable them to use the iPhone's various sensors, processors, displays, and other interfaces in combination with their own code to develop new products.

On top of that, a robust secondary layer of developers use the APIs of other developers in their technology stacks to quickly assemble new business models. Take ride-sharing services, for instance. They have built multibillion-dollar businesses that are, in large part, dependent on combinations of APIs from different companies. They may use Google Maps' APIs for location services, Stripe or Braintree's APIs for payments, Twilio's APIs for text messaging, and Amazon Web Services' or IBM's APIs for computing power. All of these products, and more, work seamlessly together in real time to provide products that are so ubiquitous that we now use them as verbs for how we navigate the world. We 'Uber' to the store or 'Snapchat' a friend.

Change is surely coming, as financial products and services move onto interconnected platforms

Risks and opportunities in an increasingly interconnected world

There is every reason to expect financial services to make a similar transition to an increasingly interconnected digital world. By now, we've all heard estimates of the thousands of fintech companies that have launched in the past few years and the billions of investment dollars that are flooding into this sector[7]. But for all of the talk of 'disruption,' I want to underscore an important point: more often than not, there is a banking organization somewhere in the fintech stack. Just as third-party app developers rely on smartphone sensors, processors, and interfaces, fintech developers need banks somewhere in the stack for such things as: (a) access to consumer deposits or related account data, (b) access to payment systems, (c) credit origination, or (d) compliance management[8].

For instance, account comparison services rely on access to data from consumers' bank accounts. Savings and investment apps analyze transactions data from bank accounts to understand how to optimize performance and manage the funds consumers hold in those accounts. Digital wallets draw funds from payment cards or bank accounts. Marketplace loans most often depend on loan origination by a bank partner. And payment innovations often 'settle up' over legacy payment rails, like the automated clearinghouse system[9]. In short, the software stacks of almost all fintech apps point to a bank at one layer or another.

So as fintech companies and banks are catching up to the interconnected world, the various players are sorting out how best to do the connecting. Much of the work so far has been focused on the technical challenges, which are notable. Most banks' core systems are amalgams of computing mainframes built decades ago before the internet or cloud computing were widely available and, in many cases, stitched together over the course of mergers and consolidations[10]. It takes a lot of investment to securely convert that infrastructure to platforms that can operate in real-time with ready access for Internet-native third-party developers.

But important policy, regulatory, and legal questions also demand attention. And that is where the smartphone analogy loses its power. On balance, bank activities are much more highly regulated than smartphones. Those regulations enable consumers to trust their banks to secure their funds and maintain the integrity of their transactions. While 'run fast and break things' may be a popular mantra in the technology field, it is ill suited to an arena where a serious breach could undermine confidence in the payments system. Indeed, some of the key underpinnings of consumer protection and safety and soundness in the banking world - that consumers should be exceptionally careful in granting account access, that in certain conditions banks could be presumed to bear liability for unauthorized charges, and that banks can be held responsible for ensuring that service providers and vendors do right by their customers - sit uneasily alongside the requisites of openness, connectivity, and data access that enable today's app ecosystem[11].

For instance, before entering an outsourcing arrangement, a bank is expected to consider whether the service provider's internal processes or systems (or even human error at the outside party) could expose the bank and its customers to potential losses or expose the bank's customers to fraud and the bank to litigation; whether the service provider complies with applicable laws and regulation; and whether poor performance by that outside party could materially harm the bank's public reputation.

The smartphone app ecosystem developed without the regulations or associated guardrails pertaining to institutions that people trust to hold their life savings. For instance, when Pokémon Go was first launched, its creator, Niantic, used an outdated Google API to verify consumer identities. This created confusion about whether millions of consumers had unwittingly granted Niantic full access to their emails, contact lists, and calendars[12]. However, it did not stand in the way of Pokémon Go subsequently being downloaded a half billion times[13].

In contrast, these kinds of mistakes in the banking sector could raise grave concerns about consumer data privacy and security and the integrity of consumer transactions data. That's why banks are expected to conduct extensive risk assessments and due diligence of their service providers, extending even to operations and internal controls, among other requirements[14]. While that helps ensure a safe and sound banking system, that also makes it more challenging for both the banks and fintech companies to harness safely the interconnectivity that has powered other parts of the digital world.

Different approaches to the fintech stack

Because of the high stakes, fintech firms, banks, data aggregators, consumer groups, and regulators are all still figuring out how best to do the connecting. There are a few alternative approaches in operation today, with various advantages and drawbacks.

A number of large banks have developed or are in the process of developing interfaces to allow outside developers access to their platforms under controlled conditions. Similar to Apple opening the APIs of its phones and operating systems, these financial companies are working to provide APIs to outside developers, who can then build new products on the banks' platforms[15]. It is worth highlighting that platform APIs generally vary in their degree of openness, even in the smartphone world.

If a developer wants to use a Google Maps API to embed a map in her application, she first must create a developer account with Google, agreeing to Google's terms and conditions. This means she will have entered a contract with the owner of the API, and the terms and conditions may differ depending on how sensitive the particular API is. Google may require only a minimum amount of information for a developer that wants to use an API to display a map. Google may, however, require more information about a developer that wants to use a different API to monitor the history of a consumer's physical locations over the previous week. And in some cases, the competitive interests of Google and a third-party app developer may diverge over time, such that the original terms of access are no longer acceptable[16].

The fact that it is possible and indeed relatively common for the API provider - the platform - to require specific controls and protections over the use of that API raises complicated issues when imported to the banking world. As banks have considered how to facilitate connectivity, the considerations include not only technical issues and the associated investment, but also the important legal questions associated with operating in a highly regulated sector. The banks' terms of access may be determined in third-party service provider agreements that may offer different degrees of access. These may affect not only what types of protections and vetting are appropriate for different types of access over consumers' funds and data held at a bank in order to enable the bank to fulfill its obligations for data security and other consumer protections, but also the competitive position of the bank relative to third-party developers.

There is a second broad type of approach in which many banks have entered into agreements with specialized companies that essentially act as middlemen, frequently described as 'data aggregators.' These banks may lack the budgets and expertise to create their own open APIs or may not see that as a key element in their business strategies. Data aggregators collect consumer financial account data from banks, on the one hand, and then provide access to that data to fintech developers, on the other hand[17]. Data aggregators organize the data they collect from banks and other data sources and then offer their own suite of open APIs to outside developers. By partnering with data aggregators, banks can open their systems to thousands of developers, without having to invest in creating and maintaining their own open APIs.

This also allows fintech developers to build their products around the APIs of two or three data aggregators, rather than 15,000 different banks and other data sources. And, if agreements between data aggregators and banks are structured as data aggregators performing outsourced services to banks, the bank should be able to conduct the appropriate due diligence of its vendors, whose services to those banks may be subject to examination by safety and soundness regulators[18].

Some banks have opted for a more 'closed' approach to fintech developers by entering into individual agreements with specific technology providers or data aggregators[19]. These agreements often impose specific requirements rather than simply facilitating structured data feeds. These banks negotiate for greater control over their systems by limiting who is accessing their data - often to a specific third party's suite of products. Likewise, many banks use these agreements to limit what types of data will be shared. For instance, banks may share information about the balances in consumers' accounts but decline to share information about fees or other pricing.

While recognizing the legitimate need for vetting of third parties for purposes of the banks fulfilling their responsibilities, including for data privacy and security, some consumer groups have suggested that the standards for vetting should be commonly agreed to and transparent to ensure that banks do not restrict access for competitive reasons and that consumers should be able to decide what data to make available to third-party fintech applications[20].

A third set of banks may be unable or unwilling to provide permissioned access, for reasons ranging from fears about increased competition to concerns about the cost and complexity of ensuring compliance with underlying laws and regulations. At the very least, banks may have reasonable concerns about being able to see, if not control, which third-party developers will have access to the banking data that is provided by the data aggregators. Accordingly, even banks that have previously provided structured data feeds to data aggregators may decide to limit or block access[21]. In such cases, however, data aggregators can still move forward to collect consumer data for use by fintech developers without the permission or even potentially without the knowledge of the bank. Instead, data aggregators and fintech developers directly ask consumers to give them their online banking logins and passwords.

Then, in a process commonly called 'screen scraping,' data aggregators log onto banks' online consumer websites, as if they were the actual consumers, and extract information. Some banks report that as much as 20 to 40 percent of online banking logins is attributable to data aggregators. They even assert that they have trouble distinguishing whether a computer system that is logging in multiple times a day is a consumer, a data aggregator, or a cyber attack.

For community banks with limited resources, the necessary investments in API technology and in negotiating and overseeing data-sharing agreements with data aggregators and third-party providers may be beyond their reach, especially as they usually rely on service providers for their core technology. Some fintech firms argue that screen scraping - which has drawn the most complaints about data security - may be the most effective tool for the customers of small community banks to access the financial apps they prefer - and thereby necessary to remain competitive until more effective broader industry solutions are developed.

Clearly, getting these connectivity questions right, including the need to manage the consumer protection risks, is critically important. It could make the difference between a world in which the fintech wave helps community banks become the platforms of the future, on the one hand, or, on the other hand, a world in which fintech instead further widens the gulf between community banks and the largest banks.

Tradeoffs

The different approaches to integrating banks into the fintech stack represent different risks and tradeoffs. Connectivity solutions that require intermediaries such as data aggregators and rely on screen scraping potentially create repositories of consumer credentials for hackers to target. Banks argue that if such a repository is breached, thousands of banks could be impacted[22]. Further complicating things, because screen scrapers operate without contractual relationships with the banks from which they pull information, banks have little leverage or ability to vet the security of the screen scrapers' systems and methods or their overall risk.

In these circumstances, some commentators have noted that if a data aggregator or third-party developer is breached, it may not be clear who would bear responsibility for any losses - the bank, the data aggregator, the fintech developer, or the consumer. Some third-party developers have included terms and conditions that specifically limit their liability to consumers[23]. It is not clear the extent to which many consumers understand the risks involved with sharing their banking credentials, the more limited liability accepted by many third-party developers relative to their bank or credit card issuer, and the fact that the third-party developers may in turn provide those credentials to others in some instances.

On the other side of the debate, fintech companies are concerned that banks could use their control over consumer data access in the context of bilateral contracts with data aggregators to leverage their position in order to impede competition elsewhere in the stack. This argument about access and competition echoes similar concerns in the smartphone arena[24].

Further, third-party developers argue that open standards for data access can help banks meet consumers' expectations for mobile banking by providing access to the fintech apps that best serve their needs. The relatively open architecture of the iPhone platform means that Apple profits from outside developers' products without having to design or invest in them directly.

For instance, Apple didn't include a home-grown mapping app during the first few years of the iPhone[25]. Instead, it relied on Google to provide that important function for its smartphones before trying to build its own mapping tool - a process that took a number of iterations before getting it right.

Open platform strategies may mean that banks can essentially outsource product development to fintech firms[26]. This could be a boon - particularly for small community banks that would not have to worry about developing the best consumer interface, mobile app, digital wallet, or lending product. The bank would only have to worry about getting the connections to an open API right and then reap the benefits of the innovation by third parties.

Regulatory developments

As regulators, we have a responsibility to ensure that the institutions subject to our supervision are operated safely and soundly and that they comply with applicable statutes and regulations. More broadly, we have a strong interest in permitting socially beneficial innovations to flourish, while ensuring the risks that they may present are appropriately managed, consistent with the legal requirements. We do not want to unnecessarily restrict innovations that can benefit consumers and small businesses through expanded access to financial services or greater efficiency, convenience, and reduced transaction costs. Nor do we want to drive these activities away from regulated banks and toward less governed spaces in the financial system.

Regulators in the United Kingdom and continental Europe have recently outlined new approaches to facilitate connectivity in financial services, while attempting to mitigate the associated risks. In August 2016, the UK Competition & Markets Authority (CMA) released a package of mandates aimed at increasing competition for consumer and small business current accounts (akin to US checking accounts)[27]. This year nine of the country's largest banks were required to create open APIs to share nonsensitive, non-consumer-specific information, like pricing, fees, terms, and conditions as well as branch and automated teller machine locations[28].

This initial limited sharing of information has started communication and collaboration across the industry on areas like data standards and organizational governance, which will facilitate work on more contentious questions. Before March 2018, the CMA is scheduled to enforce a broader package of reforms, including mandating that the nine banks create APIs that allow third-party banks and nonbanks to access consumer accounts for reading transaction data and payment initiation.

In the European Union, beginning in 2018, member states will be required to start implementing the European Parliament's revised Payment Services Directive (PSD2)[29]. Among other elements, PSD2 created licensing regimes for third parties that access bank accounts for purposes of initiating payment orders or consolidating information with consumers' consent[30]. The directive mandates that banks allow these licensed third parties to access their consumer accounts (with consumer permission) without premising such access on contractual agreements with the banks. Indeed, PSD2 requires that credit institutions not block or hinder access to payment accounts and that licensed third parties have access to credit institutions' payment accounts services in an objective, nondiscriminatory, and proportionate manner. When credit institutions do reject access, they are required to provide the relevant authorities detailed reasoning for the rejection.

The directive attempts to mitigate the attendant data-security and consumer-protection risks with a number of measures that, by and large, are not readily available policy options in the United States. Importantly, third parties that access bank accounts will be subject to licensing and registration requirements, as well as associated capital and insurance requirements. Moreover, the directive envisions that electronic payments will be authorized by two-factor authentication - for example 'something you know' and 'something you are.'[31]

The United States is likely to address these issues in a different way, at least initially, given that regulatory authorities are more broadly distributed, and the relevant statutory language predates these technological developments. The Consumer Financial Protection Bureau (CFPB) issued a Request for Information last fall to explore issues surrounding consumers' granting access to account information to third parties[32]. Of course, safety and soundness regulation - and with it, concerns about data security, cyber security, and vendor risk management - is distributed among a number of regulators. For instance, there may be value to examining the vendor risk management guidance so that it facilitates banks connecting more securely and efficiently with the fintech apps that consumers prefer[33].

Similarly, it could be useful to periodically assess whether and how authority under the Bank Service Company Act might pertain to developments in the fast evolving fintech sector. In addition, the private sector is continuing to actively experiment with a variety of different approaches to the connectivity question and may itself move toward one or more widely accepted standards. Accordingly, efforts to craft approaches that enhance connectivity while mitigating the associated risks will likely benefit from the engagement of multiple agencies, along with input from the private sector and other stakeholders.

Separately, the Office of the Comptroller of the Currency (OCC), which is responsible for administering national bank charters, has announced that it is exploring offering 'special purpose national bank charters' to fintech companies[34]. As envisioned by the OCC, obtaining a special purpose charter would have the practical effect of allowing certain fintech companies (companies that make loans, make payments, or accept deposits) to potentially bypass the need for connecting to a bank for certain purposes in favour of becoming licensed as banks themselves.

The OCC's proposal raises interpretive and policy issues for the Federal Reserve regarding whether charter recipients would become Federal Reserve members or have access to Federal Reserve accounts and services, such as direct access to payment systems. If the OCC proposal is finalized, the Federal Reserve would have to closely analyze these issues with respect to any fintech firms that express an interest in moving forward with an application.

When Apple launched the iPhone in 2007, who could have predicted that it would net billions from a game like Pokémon Go, which involved no investment, development, or advertising on Apple's part beyond opening its platform to developers? It is still too early to have any confidence that we know which fintech innovations will prove to be the most long-lasting or widely adopted. By the same token, the fintech industry is still figuring out the fundamental questions of the best ways to make the necessary connections to the banking platforms to facilitate consumers' ability to better monitor and manage their financial lives, while providing the level of data security and protection they have come to rely on from their banks[35].

Change is surely coming, as financial products and services move onto interconnected platforms. As the sector evolves, it's important that all parties involved pay close attention not only to the technical questions, but to the requisite regulatory, policy, and legal considerations to ensure continued trust and confidence in the financial system. ■

Governor Lael Brainard is a Member, Board of Governors of the Federal Reserve System

Endnotes

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11. See, eg, 12 CFR §1005.1(b); appendix C to 12 CFR part 1005, comment 2(m)-2 ("If a consumer furnishes an access de-

vice and grants authority to make transfers to a person (such as a family member or co-worker) who exceeds the authority given, the consumer is fully liable for the transfers unless the consumer has notified the financial institution that transfers by that person are no longer authorized."); Division of Banking Supervision and Regulation and Division of Consumer and Community Affairs, Board of Governors of the Federal Reserve System, "Guidance on Managing Outsourcing Risk (PDF)," December 5, 2013.

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17. For example, one major data aggregator reports that about 70 percent of the data it collects from over 15,000 sources is collected via 'structured feeds' under contractual agreements with financial institutions. See Envestnet Inc. 2016 Annual Report, at 28, March 24, 2016.

18. See, eg, 12 USC §§ 1861-67; Division of Banking Supervision and Regulation and Division of Consumer and Community Affairs Federal Reserve System, "Guidance on Managing Outsourcing Risk (PDF)," December 5, 2013; Steven Boms, "Yodlee Response to Consumer Financial Protection Bureau Request for Information Regarding Consumer Access to Financial Records," Docket No. CFPB 2016-0048, February 21, 2017. ("Yodlee… has complied with hundreds of bank audits and with examinations by the Office of the Comptroller of the Currency throughout its history.")

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20. See, eg, Center for Financial Services Innovation, "Consumer Data Sharing Principles: A Brief on the Framework for Industry-Wide Collaboration," October 20, 2016. Indeed, many of the developers that make use of the bank data obtained by data aggregators are actually other banks. Steven Boms, "Yodlee Response to Consumer Financial Protection Bureau Request for Information Regarding Consumer Access to Financial Records," Docket No. CFPB 2016-0048, February 21, 2017. ("Over our almost two-decade history, Yodlee has built a client base that includes 12 of the 20 largest banks in the United States and the largest banks in more than 20 countries.")

21. See, eg, Envestnet Inc. 2016 Annual Report, March 24, 2016. ("[O]ne or more of our current customers could decide to limit or block our access to the data feeds we currently have in place with these customers due to factors outside of our control such as more burdensome regulation of our or our customers' industry, increased compliance requirements or changes in business strategy. If the sources from which we obtain information that is important to our solutions limit or restrict our ability to access or use such information, we may be required to attempt to obtain the information, if at all, through end user-permissioned data scraping or other means that could be more costly and time-consuming, and less effective or efficient… The legal environment surrounding data scraping and similar means of obtaining access to infor-

mation on third-party websites is not completely clear and is evolving, and one or more third parties could assert claims against us seeking damages or to prevent us from accessing information in that manner.")

22. According to one banking trade organization, "[t]his is a rich reward for a single hack, either of an aggregated database of personally identifiable information or of a single consumer's multiple accounts, makes data aggregators an attractive target for criminals. [Hackers would] obtain the key not to just a single room, but the key ring with keys to all the rooms." The Clearing House, "Comment Letter to Bureau-2016-0048 Request for Information Regarding Consumer Access to Financial Records (PDF)," February 21, 2017.

23. See, eg "Personal Capital Terms of Use" (last updated February 22, 2017), www.personalcapital.com/content/terms-of-use/ (last visited April 16, 2017). ("TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE LIABILITY OF PERSONAL CAPITAL, ITS AFFILIATES, LICENSORS AND AGENTS TO YOU SHALL NOT EXCEED ONE HUNDRED U.S. DOLLARS ($100).") Further, Personal Capital requires that consumers submit to pre-dispute arbitration agreements and waive any rights to pursue relief in a class action proceeding as part of its terms of use. This would mean that if a data breach were to occur, each affected consumer would have to seek relief on his own, with a maximum possible recovery of $100. In addition, Personal Capital's terms and conditions specify that the arbitrator can require that the consumer pay Personal Capital's legal fees, if Personal Capital is to prevail.

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25. See, eg, Chance Miller, Apple Maps Now Used 3x as Often as Google Maps on iOS, Serving 5B Requests per Week, 9to5Mac, December 7, 2015, https://9to5mac.com/2015/12/07/apple-maps-usage-numbers/

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27. UK Competition & Markets Authority, "CMA Paves the Way for Open Banking Revolution," press release, August 9, 2016. ("[O]lder and larger banks do not have to compete hard enough for customers' business, and smaller and newer banks find it difficult to grow. This means that many people are paying more than they should and are not benefiting from new services. To tackle these problems, the CMA is implementing a wide-reaching package of reforms. Central to the CMA1s remedies are measures to ensure that customers benefit from technological advances and that new entrants and smaller providers are able to compete more fairly."); UK Competition & Markets Authority, "Retail Banking Market Investigation: Final Report (PDF)," August 9, 2016.

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Danske Bank) and the largest UK building society, Nationwide Building Society.
29. Directive (EU) 2015/2366 of the European Parliament and of the Council, November 25, 2015, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015L2366 (last visited Feb. 1, 2017).
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31. With limited exceptions, such as for de minimis transactions.
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33. See, eg, Lael Brainard, "The Opportunities and Challenges of Fintech" at the Conference on Financial Innovation at the Board of Governors of the Federal Reserve System, December 2, 2016.
34. See Office of the Comptroller of the Currency, "Exploring Special Purpose National Bank Charters for Fintech Companies (PDF)," December 2016.
35. See, eg, Jennifer Booton, "Apple Will Make $3 Billion Playing Pokémon Go," MarketWatch, July 21, 2016, www.marketwatch.com/story/apple-stands-to-make-billions-from-pokemon-go-2016-07-20 (citing report by analyst Lauren Martin).

Based on a speech given at the Northwestern Kellogg Public-Private Interface Conference on "New Developments in Consumer Finance: Research & Practice" 28 April 2017

Responsive, innovative

In a wide-ranging interview with *World Commerce Review,* Fiona Le Poidevin says TISE's responsive and innovative approach is driving growth and creating a new capital markets option for SMEs

Can you begin by giving us a brief history of The International Stock Exchange (TISE)?

The Exchange business was established in the Channel Islands in 1998.

Its growth was slightly different to most other exchanges in that, whereas usually they would tend to serve their domestic market, the exchange in the Channel Islands grew the bulk of its business base out of serving the global financial services industry of which Guernsey and Jersey are key centres.

This was rebranded from the Channel Islands Securities Exchange (CISE) to The International Stock Exchange (TISE) in March this year. It reflected the fact that much of our business is global in nature, we had already changed the membership rules to allow for listing sponsors from beyond the Channel Islands and the fact that we were about to open an office in the Isle of Man.

We launched our presence in the Isle of Man in March and three months later we had our first member from the island. It means that the listing of debt, investment vehicles and trading companies on TISE can now be facilitated directly from the Isle of Man.

What particular expertise do you bring to clients?

We provide a fully regulated listing and trading facility for companies to raise capital from investors based around the world.

We have wide international recognition that we operate to globally recognised standards and this combines with a responsive and innovative approach that has seen us continue to expand the product range.

It is this offering which is contributing towards strong growth in new listings, including from globally recognisable companies as well as some 'world firsts'. For example, the world's first listed private catastrophe bond came to our exchange and last year, we became home to the world's first listed regulated bitcoin fund.

What benefits and advantages does your Channel Islands location confer?

Whilst having our roots in the Channel Islands of Guernsey and Jersey, our new office in the Isle of Man means that now we have a presence in each of the three British Crown Dependencies.

They are leading international finance centres which are leading the cooperation on international tax initiatives and have some of the highest regulatory standards globally. In addition, they are English speaking, use the British pound sterling and in the same time zone as and with close links to the UK but outside of the European Union (EU).

Being outside of the EU means that its regulations and directives do not apply unless voluntarily accepted. For example, in July last year, the EU introduced the Market Abuse Regulation (MAR) which was aimed at improving trans-

... we also believe that the stability and certainty which the Crown Dependencies can offer, at a time when Brexit is creating so much uncertainty in the UK, means that TISE provides an alternative venue for Small and Medium Sized Enterprises (SMEs) to raise finance

parency of trading in the equity markets with retail investors. However, the blanket approach has also brought into scope debt listings and is disproportionately onerous on high yield bonds which are less frequently traded and held by sophisticated investors.

We have not changed our rules and the fact that we have the ability to regulate according the type of product means that we can offer a more proportionate regime. As a result, we have seen some migrations from Ireland and Luxembourg but predominantly, we are seeing new issuances coming to us. Since July last year, TISE has been chosen by more than 30 issuers – comprising a mix of private and public and European and US companies – and including a €1.3 billion high yield bond from Netflix.

What volume of listings are you handling and how do you see this developing?

We have seen strong growth in the number of new listed securities during the last few years.

In 2016 there were 502 new listed securities, which was a rise of 19% on the previous year and the total value of all listings rose 10%.

In the first five months of 2017 there have been 270 new listed securities, which is itself a rise of 50% year on year so that by the end of May there were 2,394 listed securities with a total value of £398 billion.

A significant proportion of new business continues to be debt securities, in particular convertibles and high yield bonds. However, we have also seen an uptick in investment vehicles, including open and closed ended funds as well as Real Estate Investment Trusts (REITs) investing into UK property. In addition, we have seen another trading company list and this is an area where we will be focussing in the future in terms of additional business growth.

How do you see Brexit impacting on trade?

The Brexit vote itself initially created concerns about the UK real estate market and – although it was not the case of any listed with us – led to some open-ended property funds having to protect themselves against a run of investor redemptions.

However, following that immediate reaction, we have seen groups of international investors, including sovereign wealth funds, seeking to take advantage of the value in the UK property market, especially given the exchange rate fluctuations.

This, combined with HMRC's changes in recent years to the UK REIT regime and the modernisation of our rules for investment vehicles, has provided a catalyst to renewed growth in this product area for us so that today a quarter of all UK REITs are listed on TISE.

In addition, we also believe that the stability and certainty which the Crown Dependencies can offer, at a time when Brexit is creating so much uncertainty in the UK, means that TISE provides an alternative venue for Small and Medium Sized Enterprises (SMEs) to raise finance.

The UK Government has identified SMEs as the engine room which will provide jobs and generate growth in the economy but to do that they will need to find suitable sources of capital to assist in their development.

However, SMEs are already facing squeezed bank lending (since the financial crisis), alternative financing such as peer-to-peer lending or crowdfunding remains limited in scale, owners are often worried about the loss of control afforded by private equity and a listing on a major stock exchange is often prohibitively expensive and/or bureaucratic.

We believe that TISE provides a complementary offering to those which already exist by offering a capital markets option which is better suited, for example in terms of costs, to SMEs.

It might be that in the longer term the company will grow and migrate to a major venue but by acting as an 'incubator' exchange, we can help to oil the wheels of economic growth in the UK, especially given the context of Brexit.

What key developments do you envisage in the coming years?

There is significant infrastructure involved in owning and operating an exchange and that is why even the larger exchanges, such as the London Stock Exchange (LSE) and Deutsche Bourse, are looking at ways in which they can create synergies.

We are no different and perhaps the problem is even more accentuated with smaller exchanges where there are reduced economies of scale and more limited pools of liquidity. As such, part of our strategy is to look at ways in which we can create synergies with other exchanges and to that end we signed a Memorandum of Understanding (MoU) with the Bermuda Stock Exchange (BSX) towards the end of last year and we are continuing to have discussions with a range of potential partners.

How would you compare TISE to other exchanges?

The feedback we get is that TISE is not only competitive on cost but most notably, we are responsive to the needs of issuers. This also stems from the long and strong relationships we have with the listing sponsors, which includes banks, law firms and fund and fiduciary administrators who are experienced in bringing issuers to market.

In conclusion, how would you sum up TISE?

TISE is a responsive, innovative exchange which is seeing significant growth in new listings and we have ambitions to work with other partners to create synergies and develop our business for the future. ■

Fiona Le Poidevin is the CEO of The International Stock Exchange Group (TISEG)

We need a European Monetary Fund, but how should it work?

André Sapir and Dirk Schoenmaker consider the changes needed to develop the ESM into a fully-fledged European Monetary Fund

Sovereign debt crises and banking crises were not supposed to happen in the euro area. Or more precisely, the Maastricht Treaty, which founded the European Monetary Union (EMU), contained no common provision for dealing with a sovereign or banking crisis. The euro area was therefore totally unprepared when hit first by a banking crisis, then by a sovereign debt crisis and finally by a sovereign-bank 'doom loop'.

Under the Maastricht philosophy, or EMU 1.0, each member country was supposed to take care of its sovereign debt or banking problems on its own. The only common instrument that existed, the Stability and Growth Pact (SGP), was for the surveillance (and correction) of public deficits by the European Commission. There was no common instrument in case a sovereign faced a liquidity or solvency crunch. For banks, there was not even a common instrument for the surveillance of risk, and there was no common instrument in case of a liquidity or solvency crisis. Everything was left in the hands of individual member countries. This Maastricht architecture is described in the two columns entitled EMU 1.0 in Table 1.

The situation changed radically after the euro area was hit by a series of banking and sovereign crises. National and European authorities were forced to realise that a sovereign or banking crisis, leave alone a sovereign-cum-banking crisis, has implications for the entire area – even if it occurs in only one euro area country. As a result, they gradually took steps to create new common tools for the surveillance of sovereigns and banks, for the management of sovereign debt and banking crises, and for the resolution of banking crises. Four major steps were taken:

1. The first step was the reinforcement of the surveillance of public deficits and debts by the European Commission, with the Two-Pack (2-P) and Six-Pack (6-P) measures, and the Fiscal Compact of the intergovernmental Treaty on Stability, Coordination and Governance (TSCG). Membership is open to all EU countries.
2. The second step was the creation of the European Stability Mechanism (ESM), an intergovernmental instrument to provide financial assistance to euro area countries facing temporary financial problems. Membership of the

ESM is restricted to countries belonging to the TSCG. Its current members are all the euro area countries. The ESM offers three main facilities: lending to governments subject to a macro-economic adjustment programme (ex-post conditionality); precautionary financial assistance consisting of credit-lines available to countries meeting certain conditions (ex-ante conditionality); and lending for bank recapitalisation.

3. The third step was the decision to create a European banking union (BU) to strengthen financial stability in the euro area. The banking union architecture will consist of three separate mechanisms: the Single Supervisory

The transformation of the European Stability Mechanism into a European Monetary Fund... should be considered as part of a wider institutional reform of the fiscal dimension of the euro area

Mechanism (SSM), the Single Resolution Mechanism (SRM) and the European Deposit Insurance Scheme (EDIS). So far, only the first two mechanisms have been created. Membership of the banking union is open to all EU countries, but its current members are only those belonging to the euro area. After the creation of the Single Resolution Board (SRB) and its Single Resolution Fund (SRF), the ESM decided to extend its bank recapitalisation instrument, initially only available to governments, to banks under strict conditions (see below).

4. The fourth step was the decision by the European Central Bank (ECB) to create the Outright Monetary Transactions (OMT) facility. The OMT programme allows the ECB to purchase government bonds in the secondary market subject to ex-post or ex-ante conditionality in the form of an ESM macro-economic adjustment programme or a precautionary credit-line.

The current architecture, resulting from these four successive steps taken during the crisis, is described in the two columns entitled EMU 2.0 in Table 1.

Although vastly superior to the previous situation (EMU 1.0), the current state of affairs (EMU 2.0) still suffers from three main weaknesses:

1. The first weakness concerns the treatment of sovereign debt. The new system reduces the risk of sovereign debt crises, partly thanks to the improved surveillance framework, and greatly thanks to the ESM's lending capability (€500 billion) and the ECB's OMT facility, which is potentially unlimited. Thanks to the ESM and the OMT, the new system is well equipped to deal with liquidity crises. However, it still lacks an instrument to deal orderly with insolvency crises.
2. The second weakness concerns the incompleteness of the banking union. The SSM is completely up and running, and functioning well (see here). The SRB is also up and running, but the SRF is still in transition. In addition, use of the ESM's direct recapitalisation instrument is subject to such strict conditions that it falls short of a credible

Table 1. EMU governance: from Maastricht (EMU 1.0) to the EMF (EMU 3.0)

Function	Sovereign debt			Banks		
EMU framework	EMU 1.0	EMU 2.0	EMU 3.0	EMU 1.0	EMU 2.0	EMU 3.0
Surveillance	SGP	2-P, 6-P, TSCG	2-P, 6-P, TSCG	Supervision	Supervision	Supervision
(Institution in charge)	(EC)	(EC)	(EC)	(National)	(SSM-ECB)	(SSM-ECB)
Crisis management	-	EA loan & OMT	EA loan & ONT	LOLR	LOLR	LOLR
(Institution in charge)	-	(ESM & ECB)	EMF & ECB	(National ELA)	(National ELA)	(ECB ELA)
Crisis resolution	-	-	SDRM	Resolution & DI	Resolution & DI	Resolution & DI
(Institution in charge)	-	-	(EMF)	(National)	(SRB & national)	(SRDIB & EMF)

ex-ante fiscal backstop to the SRF. Finally, there is still no agreement among governments to set up a European deposit insurance mechanism.

3. The third weakness concerns the governance of the ESM. Unlike the International Monetary Fund (IMF), where decisions to provide financial assistance to a member country are taken by a majority vote, similar decisions by the ESM are taken by unanimity and require prior approval by some national parliaments. The unanimity rule also applies for lending under the direct recapitalisation instrument. The result is that in practice ESM resources are only granted as a final resort. Earlier intervention, before a country loses market access and provided it meets certain conditions, could mitigate or even prevent full-blown crises, thereby saving money and jobs. The same logic applies to the direct recapitalisation instrument for banks.

The way to correct these problems is to turn the ESM into a European Monetary Fund (EMF). This EMF would be fully capable of acting as the fiscal counterpart of the ECB to guarantee the financial stability of the euro area in the event of a sovereign or banking crisis, or a threat thereof.

This reform would respond to important questions about governance. It is important to integrate the governance of sovereign and bank crises within the ECB on the one hand and within the EMF, as the fiscal agent of euro area governments, on the other. The reason is that ultimately the standing of a banking system depends on the strength of the fiscal authority behind it and its ability to provide a fiscal backstop.

A banking crisis can turn into sovereign crisis when the sovereign cannot credibly backstop its banking system. In the euro area, the ECB can or should be able to prevent or to manage a sovereign or a banking crisis as long as it is a matter of providing liquidity on a temporary basis, but beyond that it should be the responsibility of the EMF to protect the stability of governments and banks.

In practice, what should the EMF do? Basically, it should take over the existing responsibilities from the ESM, but expand them and adopt a different governance model.

The first expansion of the EMF compared to the ESM concerns the governance of sovereign debt crises. Some, like Minister Schäuble, have argued that the EMF should take over from the European Commission the responsibility for the surveillance of fiscal rules. In their view, the European Commission is too political and not sufficiently independent from the countries it is meant to watch over to enforce the rules with sufficient rigour.

However, it is doubtful that the EMF will be less political and more independent from its member countries than the European Commission. The ESM is certainly not. In fact, it is unlikely that any official European body – the EC, the ESM or the EMF – could have the power (bestowed upon it by the member states) to strictly enforce the EU fiscal rules and completely avoid debt sustainability problems.

A more promising approach would be to give teeth to the no-bail-out clause of the European treaty by setting up a European Sovereign Debt Restructuring Mechanism (ESDRM) to ensure orderly resolution in the euro area (see here for an early proposal). The creation of this mechanism would strengthen market discipline and help prevent future sovereign debt crises.

The ESDRM would carry both a judicial and a financial function. The former would involve a procedure to initiate and conduct negotiations between an insolvent sovereign debtor and its creditors resulting in an agreement on how to reduce the present value of the debtor's future obligations so as to re-establish the sustainability of its public finances. This task should be left to a special court, whose role is to make the settlement between the debtor and creditors binding on all parties. The court would work in close partnership with the EMF, whose role should be to assess when a sovereign debtor has become insolvent, by how much its debt should be reduced, and what its future primary surplus should be to restore its debt sustainability. The EMF would also have the task of providing financial assistance to the debtor country to help it undertake the necessary economic adjustment towards fiscal sustainability. Such assistance should only be provided after an agreement between the debtor and the creditors re-establishing solvency has been reached.

We do not propose that all financial assistance by the EMF be conditional upon debt restructuring. Rather we envisage that, like the ESM, the EMF continues to lend money to solvent sovereigns who face temporary difficulties. Only in exceptional situations, when the EMF would have judged a sovereign to be insolvent and when the insolvency procedure by the judicial arm of the ESDRM would have led to an agreement between the sovereign debtor and its creditors, should lending by the EMF be conditional upon debt restructuring.

The creation of the ESDRM and the possibility of sovereign debt restructuring should be accompanied by important changes in the regulatory treatment of sovereign exposures by banks. As argued elsewhere, this could take the form of risk weights or large exposure limits for sovereign bonds held by banks. Such changes would further strengthen market discipline and limit the risk of future sovereign debt crises.

The second area where the new EMF should have an expanded remit compared to the current ESM is the governance of banking crises. Here the guiding principle should be 'he who pays the piper calls the tune'. Now that the ECB supervises significant banks and calls the tune, it should also be responsible for Emergency Liquidity Assistance (ELA) to banks experiencing liquidity problems, a function currently carried by national central banks (see here).

The same guiding principle should apply to crisis resolution. The SRB is already in charge of resolution in the euro area, and manages the SRF, which is still in a transition phase. A European Deposit Insurance Scheme should also be created and should be managed by the same institution that manages resolution, as in the United States (US) with the Federal Deposit and Insurance Corporation (FDIC). The integrated Single Resolution and Deposit Insurance Board (SRDIB) could apply the least cost principle, which requires the resolution authority to choose the resolution method in which the total amount of expenditures and (contingent) liabilities incurred has the lowest cost to the resolution and deposit insurance fund. The combination of functions would allow for swift decision-making.

The role of the EMF would be to serve as fiscal backstop to the euro area banking system. This would mean two things. First, the procedure for the implementation of the Direct Recapitalisation Instrument should be simplified (see below) so it can actually be deployed. Second, the EMF should be able to provide a credit line to the Single Resolution and Deposit Insurance Fund (SRDIF) managed by the SRDIB, just like the US Treasury can provide, and has provided, to the FDIC.

It is important to note that the risk of moral hazard associated with the EMF acting as a fiscal backstop to the banking system would be much reduced if, as we proposed above, the regulatory treatment of sovereign exposures by banks was tightened in conjunction with the creation of the ESDRM.

The proposed architecture is described in the two columns entitled EMU 3.0 in Table 1.

The new roles assigned to the EMF would require a new form of governance compared to the ESM. The most important change would be to abolish the unanimity rule that hampers ESM decisions. All financial support decisions by the EMF, whether to governments, banks or the SRDIB, should be taken by a supermajority. Beyond that, there is the question as to whether the EMF should be intergovernmental like the ESM and the IMF, or a European institution like the European Investment Bank (EIB) or the ECB.

Note, however, that the question of unanimity vs. supermajority voting is separate from the question of intergovernmental vs. European institutions. Unanimity is absent in the intergovernmental IMF as well as in the EU-treaty based ECB and EIB.

Establishing the EMF as an EU institution would give it greater European legitimacy. In the ESM, all the important decisions are taken by the Board of Governors, which is made up of the finance ministers of the Eurogroup. In the EMF, the Board of Governors could comprise not only the Eurogroup ministers but also a euro area 'finance minister' and a few other representatives of the euro area, which would together constitute a 'Eurosystem of Fiscal Policy' (EFP).

The EFP would replace the Eurogroup as the body responsible for all the fiscal decisions in the euro area. The euro area 'finance minister' and the other euro area representatives would be appointed by the European Council subject to approval by the European Parliament to which they would be accountable.

The transformation of the European Stability Mechanism into a European Monetary Fund should not be viewed as a stand-alone initiative. On the contrary, it should be considered as part of a wider institutional reform of the fiscal dimension of the euro area, which should be aimed not only at better managing sovereign and debt crises, but also at improving economic conditions in less severe situations.

The election of Emmanuel Macron as president of France has sparked a new debate about the possible need for a euro area treasury and finance minister as well as a euro area budget and parliament. At this stage, we can only echo the view of our colleague Guntram Wolff who has recently argued that:

"[d]eveloping the fiscal dimension of the euro area will have profound implications for the legal order, for economic resources and for moral hazard. It will raise major questions about legitimacy, the role of the European Parliament, the role of national parliaments and the link between national fiscal resources, federal fiscal resources and the European Central Bank. The euro area will need a sincere debate about the pros and cons of all options." ■

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This article was originally published on Bruegel

Brexit and the case against a 'European army'

Daniël Turk exploes the growing calls for further European military integration and how this will erode member states' sovereignty

In 1954 an initiative from six European nations to establish a European Defence Community (EDC) failed in the French Parliament. France had no desire for military integration with 'two defeated nations and three small states'. Britain's sovereign wish to leave the European Union that became clear on 23 June 2016 and the election of Donald Trump on 8 November 2016, unfortunately opened the door again for far-reaching European military integration.

Defence and sovereignty

Between the EDC failing in 1954 and the Brexit referendum of 23 June 2016, various steps were taken for further European military collaboration. In 1999, the European Security and Defence Policy (ESDP) was established – which after Lisbon in 2009 was extended to the Common Security and Defence Policy (CSDP)[1]. There is a European Defence Agency (EDA), tasked with supporting the member states with more efficient spending of the defence budget.

The EU Battlegroups (multinational rapid response units, consisting of 1,500 troops) established in 2005 may well exist on paper, but they have never been actually deployed and the 1999 Helsinki objective that the EU should be capable of deploying a response force of 60,000 troops proved nothing but a pipe dream. However, during all these steps taken and all these discussions on further European military collaboration, defence always remained separated from the concept 'supranationality'.

This is no coincidence. 'War made the state and the state made war'[2], wrote American historian and sociologist Charles Tilly about the process of state-building. The formation of states and the armed forces have been inextricably linked with each other through the course of the past centuries. Not having an army does not entail that the sovereign status is automatically lost, but the armed forces are an ultimate means to defend the sovereignty of the state.

An army, more so than the currency, is an attribute of sovereign power. This fact by no means excludes military collaboration, but it does imply that the sovereign power to dispose of the deployment of the armed forces may not be transferred to a supranational body. The national parliament should always be able to exercise democratic control over troop deployment[3].

Eurofederalists in the European Parliament, or here in the Netherlands in the form of the political party D66, who aim for a European army, have always been around, only such delusions were never a serious option in the European capitals. The year 2016 is a significant watershed in this regard; starting with the Brexit referendum on 23 June.

For Eurofederalists, the outcome of the British referendum was therefore an opportune moment to realise a long-harboured wish: the formation of a European army

The British obstacle

The military consequences of the Brexit are not entirely clear-cut yet. However, from a Dutch perspective it would be highly unfortunate if the further elaboration of the Brexit would result in obstacles to intensify the long-lasting military collaboration with the United Kingdom, or, for example, to deploy the UK/NL Amphibious Force for EU missions as was done up to now.

What is certain is that many European leaders believe (or perhaps even hope) that the Brexit will cause the British to turn their backs on Europe. As Derk Jan Eppink wrote in Dutch daily newspaper *de Volkskrant* earlier this year: 'When the EU suffers a setback, it instinctively reacts with 'more Europe' and the flight into symbolism.'[4] For Eurofederalists, the outcome of the British referendum was therefore an opportune moment to realise a long-harboured wish: the formation of a European army.

Jean-Claude Juncker advocated the formation of a European army back in 2015. The spokesman of then British Prime Minister David Cameron said about this that 'our position is crystal clear that defence is a national, not an EU responsibility and that there is no prospect of that position changing and no prospect of a European army'. Prime Minister Theresa May's current Cabinet of Ministers, which was installed after the Brexit referendum, shares this point of view. British Defence Secretary Michael Fallon also informed London that as long as it is a member of the European Union, it will block any attempt to set up 'a rival to NATO'.

The country has the support of the Netherlands, Sweden, Poland, Latvia and Lithuania on this issue. The United Kingdom withdrawing from this block, which further consists of smaller EU member states, would be a great loss for the Netherlands. This is especially more so, now that since 23 June there is an increasingly loud call from the continent for further European military integration.

That started with a joint statement from France and Germany, immediately after the outcome of the British referendum, in which the relevant foreign ministers reconfirmed their dedication to the Union, but also called for a 'European Security Compact' in order to increase the European contribution to international security. This includes military means.

The white paper published by the German defence this past summer also stated that Germany is aiming for the 'long-term goal of a common European Security and Defence Union' and the Italian Minister of Foreign Affairs, Paolo Gentiloni, advocated 'Schengen for Defence' after the Brexit – a proposal which does not yet include a European army, but which does lay the groundwork for one. It was Jean-Claude Juncker, who during his 'State of the Union', came up with specific proposals, including a European military headquarters and joint investments in military hardware.

In all this, the United Kingdom up to now is the main obstacle for the realisation of these plans, causing great annoyance among some politicians in Europe. German Defence Minister Ursula von der Leyen informed that the United Kingdom has been thwarting steps towards further European military collaboration long enough now.

Her compatriot Martin Schulz, the former President of the European Parliament, is sorry to see the EU losing an important member state in the field of defence, but argued that the Brexit 'could give the necessary impulse for a closer integration of the remaining member states'. The French-German proposals in the field of European security and defence are 'a clear sign of things to come'[5].

Trump and the European flight forward

The Brexit was one of the catalysts causing the concepts 'defence' and 'supranationality' to no longer be separated from each other by definition in the discussion about military collaboration. Now that not only European federalists like Juncker, Verhofstadt and Schulz have expressed their opinions on this, but reports about far-reaching military collaboration are also heard out of Berlin, Paris and Rome, it appears that a momentum is establishing itself; something the Netherlands and other like-minded countries should be concerned about.

This momentum was also strengthened when Donald Trump was elected as the new American President on 8 November 2016. The fact that for the first time since the Second World War, an American President takes office who openly has doubts about a United States-led world order – including the credibility and validity of the NATO alliance – is reason for concern and for many in and outside of Brussels increases the urgency for further military integration in a European context.

'It was always obvious Americans would not always be there to protect the European Continent', Jean Claude-Juncker stated shortly after Trump was elected[6]. For a change, Juncker is right. The economic, military and demographic power shift towards Asia prompts the United States to reroute its strategic focus to the East.

This policy was already set in motion under President Obama and will only be reinforced under Trump – in any case the military dimension will be (the free trade agreement TPP, which was also part of Obama's strategy in Asia was buried by Trump during his first week in office).

The fact that defence is back on the political agenda – be it with or without Trump – is no more than logical and even necessary. However, the question is whether the concerns due to Trump (and the Brexit) are reason for further military integration in a European context, with its threat of overstepping the bounds into symbolism, or that each country in itself should separately be willing to invest in the armed forces.

After Trump's election, Juncker stated in that same speech that 'that is why we need a new start in the field of European defence, up to the goal of setting up a European army'[7]. The problem is he is no longer a voice crying in the wilderness, but he has the support of a number of large EU nations, Germany and France among them.

Steps towards a European Defence Union

'So the ambition is there, now it's time to suit the action to the word'[8]. Not entirely surprising, these words from D66 members Salima Belhaj (member of the Dutch Lower House) and Marietje Schaake (Euro MP) in a recently published op-ed article in Dutch newspaper *Trouw*, where they called for a European army. The cause for this was the implementation of the new EU security strategy, presented on the day of the Brexit referendum.

This EU Global Strategy was discussed shortly after Trump's election and was embraced by the European defence ministers, including the Dutch Minister of Defence Jeanine Hennis-Plasschaert. She underlines the importance of European military collaboration, but also points out that to her this does not mean 'a single set of European armed forces. This, I think, is a pipedream'[9]. Belhaj and Schaake, however, hope for this dream to become a reality.

The implementation of the Global Strategy is a first step towards this. The announced measures should provide the EU with more striking power to enable autonomous action in military and civil missions, where and when required. In the past, European security policy was strictly focused externally, but now also lays emphasis on the protection of the 'Union and its citizens'.

Moreover, a centre is set up for the coordination of missions in weak states, which will make it much easier to coordinate civil and military missions. There will also be more collaboration in the purchase of equipment and to promote this, the European Committee wishes to release funds on an annual basis.

'A quantum leap forward to a European security and defence policy', said Mogherini after the summit and according to the German Minister of Defence Von der Leyen, the member states expressed 'their political desire' to expand the EU to a European Defence Union[10].

The implementation plan does not mention the formation of the European army so fiercely coveted by Juncker (his wish to set up a European military headquarters has also been put on ice), but nevertheless, parts of the plan indeed encroach on the territory of the power of the sword of the sovereign European member states, a disturbing development that the Netherlands should be wary of. London fortunately is the main voice, as yet, against these EU initiatives, which may in due course undermine NATO, and therefore the main Transatlantic connection.

The United Kingdom and the transatlantic connection

More important than this European institutionalism, which should create the appearance that there is such a thing as a European foreign and security policy, is the fact that the European member states should themselves invest more in the instruments of hard power[11]. Part of this is that politicians are in favour of new investments in the armed forces, in order to prove to our most important ally, the United States, that we are serious about our own security (again).

The words expressed by Trump with regard to NATO may have been reckless, but they are also justified. In the past year the United States paid for 72% of the defence expenses within NATO and, while the defence ministers of the EU-27 were discussing the implementation of the Global Strategy in Brussels, British Defence Secretary Fallon was the one to point out to his European allies they should spend their 'fair share' on defence. This is the only way to prevent the American security umbrella from being folded shut under Trump.

Bilateral and multilateral forms of military collaborations with like-minded partners, such as the Netherlands currently has with neighbouring countries are very important to strengthen the European branch of the Transatlantic allegiance, but they may not create the illusion that it may one day replace NATO. After all, NATO remains the corner stone of Dutch and European security and the departure of the British from the EU also means the disappearance of the most important European link in the Transatlantic connection.

The answer to this is not the creation of a European military headquarters, or joining together the European defence budgets as an alternative for serious investments in the armed forces. The will to invest in this is a responsibility of each nation separately. Let us therefore harbour the British presence in the EU and their resistance against a 'European army' as long as possible. ■

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Endnotes

1. The CDSP is one of few policy domains within the EU where each member state has the power of veto.

2. Charles Tilly, The formation of national states in Western Europe, Princeton, 1975.

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Crime and justice after Brexit

Robert Oulds explains how co-operation will continue after Brexit without the need for Europol membership

Introduction

One unavoidable fact about the modern world is that criminal gangs and terrorist groups work across national borders.

A concern raised during the EU referendum campaign was that if the UK left the European Union, the UK would not be able to co-operate with other countries and their police forces in these vital areas.

In the wake of the recent terrorist attack in Manchester, it has been claimed by figures such as Dominic Grieve, the Tory chair of the Commons intelligence and security committee; that the UK must retain Europol membership after Brexit, even if this means *"accepting EU rules and judicial oversight for the European Court of Justice (ECJ)"*. While Sir Hugh Orde, former chief constable of the police service of Northern Ireland has stated that:

> *"If we don't have all this, it makes it a lot more difficult to do this crucial work. It is vital that we get to a situation as close to what we have as members of the EU as possible, though it is difficult to see how we do that."*

In this article I will explain how co-operation will indeed continue after Brexit without the need for Europol membership.

Key bodies

The UK has a long record of working internationally with other nations in the fields of justice and crime prevention; via the relevant global and regional bodies. In addition, the UK works with other NATO members to detect and prevent terrorist activity.

The UK is currently a member of/signatory to:

- The International Criminal Police Organization (ICPO)/INTERPOL
- International Criminal Court (ICC or ICCt)/Rome Statute
- United Nations Office on Drugs and Crime (UNODC)
- World Customs Organization (WCO)
- Organization for Security and Co-operation in Europe (OSCE)
- Europol The European Police Office

The UK is also a member of the:

- Commission on Narcotic Drugs and:

Co-operation with the EU's member states on crime and terrorism prevention will continue largely as it does at present

- The Commission on Crime Prevention and Criminal Justice (CCPCJ), both of which are subsidiary Bodies of the United Nations Economic and Social Council (ECOSOC).

Also, the UK is affiliated with the NGO 'The International Center for the Prevention of Crime' (ICPC).

Finally, the UK participates in The Council of Europe's Committee of Experts on the Operation of European Conventions on Co-operation in Criminal Matters (PC-OC).

Of these bodies, clearly the most important is INTERPOL. Originally established as the International Criminal Police Commission (ICPC) in 1923 it now has 190 member countries and branches in all corners of the globe.

INTERPOL has huge databases containing millions of criminal records which member states can access 24 hours a day via a system called I-24/7.

To quote their website:

> *"I-24/7 is the network that enables investigators to access INTERPOL's range of criminal databases. Authorized users can search and cross-check data in a matter of seconds, with direct access to databases on suspected criminals or wanted persons, stolen and lost travel documents, stolen motor vehicles, fingerprints, DNA profiles, stolen administrative documents and stolen works of art. I-24/7 is the foundation of information exchange between the world's police."*

In addition to all the bodies already mentioned, the UK is also a member of the 'Five Eyes' intelligence-sharing partnership.

Co-operation between bodies

The bodies we have mentioned already are connected to each other via a bewilderingly complex web of agreements and partnerships.

INTERPOL signed a Memorandum of Understanding with Europol in 2011 in order to *"establish and maintain co-operation between the Parties in combating serious forms of organised international crime…In particular, this will be achieved through the exchange of operational, strategic, and technical information, the co-ordination of activities"*

Europol has signed a Co-operation Agreement with the United Nations Office on Drugs and Crime (UNODC) in order *"to facilitate co-operation between UNODC and Europol in combating serious forms of crime."* Similarly, Europol has also signed a Co-operation Agreement with the WCO.

Likewise, INTERPOL has signed an 'Arrangement on co-operation' with the UNODC and has signed various agreements with the International Civil Aviation Organization (ICAO), World Customs Organization (WCO), Organization for the Security and Co-operation in Europe (OSCE) and the American Federal Bureau of Investigation (FBI).

OSCE

The Organization for Security and Co-operation in Europe has 57 participating states including all current EU member states. OSCE dedicates much of its efforts into terrorism prevention.

As the OSCE website states:

> *"The OSCE promotes a co-operative and co-ordinated approach to countering terrorism at all levels, including co-ordination among national authorities, co-operation among states, co-operation with relevant international and regional organizations."*

Europol

Amber Rudd, the Home Secretary has said that:

> *"Europol has played an important role in keeping us safe and we will be having discussions about how to continue some form of involvement within the agencies of the EU that help to keep us safe."*

This does not necessarily mean however; that the UK should seek to continue as a full member of Europol after Brexit.

Several non-EU countries have signed agreements with Europol and so the UK could likely do the same. Examples include the USA, Switzerland, Norway and Canada.

As the Europol website states:

> *"In general, there are two types of cooperation agreement that Europol can enter into with states and other entities outside the EU: strategic and operational agreements…both types of agreement are aimed at enhancing cooperation between Europol and the country concerned"*

At any rate, the importance of Europol is exaggerated. Formed in 1998 it is a relatively young organisation that relies heavily on UK involvement and expertise.

According to media reports:

> *"Britain is the largest contributor to Europol, sending 35,000 messages last year, and the UK leads the way in Europe in clamping down on cross-border child sexual exploitation and money laundering.*

Around 40 per cent of all Europol cases have some kind of UK involvement."

Conclusions

The EU's member states are in fact obligated to work with the UK on Transnational Organized Crime as they are signatories to the United Nations Convention Against Transnational Organized Crime (agreed in 2000).

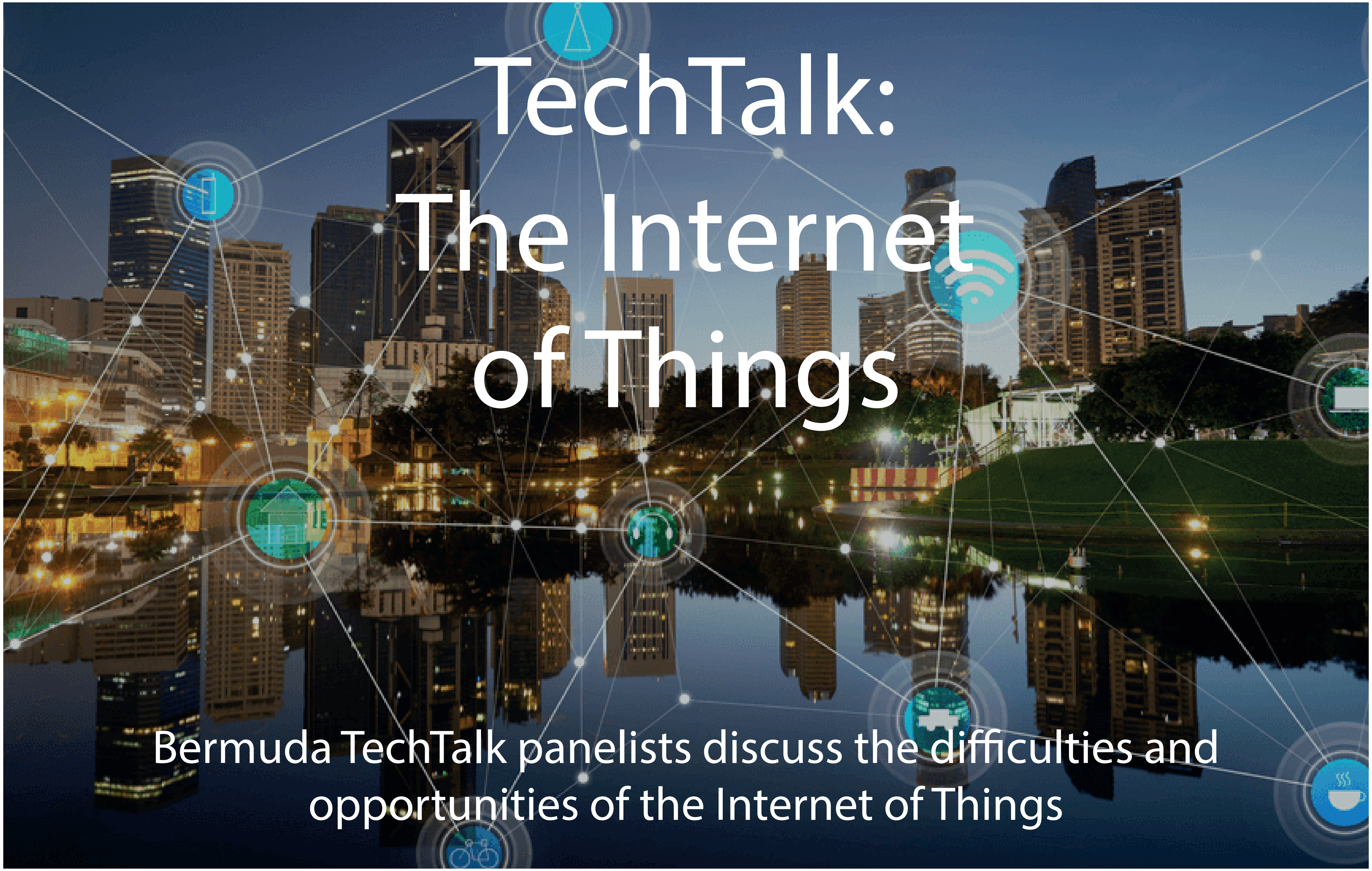
Interestingly, under Article 103 of the UN charter, in the event of a conflict between the obligations of the members of the United Nations under the Charter (and by implication, UN Conventions and protocols) and their obligations under any other international agreement, their obligations under the UN take greater precedence.

The UK is signed up to the world's pre-eminent crime fighting organisations already. Given the very real threat of terrorism, the EU will seek a new reciprocal bilateral solution with the UK in order to ensure maximum co-operation.

The UK should not seek full Europol membership or participation in the flawed European Arrest Warrant scheme. Instead it should sign a co-operation agreement with Europol and then either sign a bilateral extradition treaty with the EU or investigate whether we could fall back on the pre-existing European Convention on Extradition (ECE).

Co-operation with the EU's member states on crime and terrorism prevention will continue largely as it does at present – but there may be a small shift in focus and emphasis from co-operating via Europol to co-operating via INTERPOL and the OSCE. ■

Robert Oulds is Director of the Bruges Group



TechTalk: The Internet of Things

Bermuda TechTalk panelists discuss the difficulties and opportunities of the Internet of Things

TECHTALK

The Internet of Things (IoT) is an emerging technology that is quickly producing many questions from an ethical point of view, but also creating a lot of opportunities for consumers and companies. In Bermuda, 100% of companies have internet access, according to the most recent *State of ICT* survey, which was done in December 2016. Considering that, it was only natural for ISACA Bermuda to explore the topic of IoT in greater detail, to consider the difficulties and opportunities that could arise as a result of it, and how the technology could develop over the next several years.

IoT, as defined by Gartner, is *"the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment".* This means that devices that normally would not be connected to the internet now can now be used to make our lives easier by conveniently storing and exchanging information with other devices.

TechTalk panelists were chosen based on their knowledge and experience in the technology field.

Chris Eaton (CE) – Cybersecurity Lead – KPMG Islands Group
Nik Smale (NS) – Group Head of Innovation and Technology – Argus Ltd.
Pete Ramsdale (PR) – Group Chief Information Officer – Enstar

The TechTalk took place in the Trudeau Ballroom in the Hamilton Princess and was attended at full capacity. Audience members represented a diverse background ranging from Big Four audit firms to local businesses looking to learn about the emerging technology of IoT and how it could impact their companies. Brett Henshilwood (BH), Partner at Deloitte Bermuda, moderated the panel discussion and started it by introducing the panel and giving an overview to the audience about the event. After a brief definition of IoT by the panelists, he began to ask a series of engaging questions:

BH Can you provide examples of how IoT is being used and what its benefits are?

CE Enjoying exercise, wearing a Garmin GPS watch makes tracking and reporting statistics easier. However, that information in the wrong hands can be detrimental. It was recently reported that a model of Samsung's smart TV

A challenge for companies is keeping pace with the adoption of technology and determining how to leverage the data sets and the information that is produced line was used by the CIA to watch people. TV manufacturer, Vizio, was fined for collecting and selling the viewing information of their customers to advertisers without their consent. Consumers should take third party consent very seriously when using products and/or services.

NS IoT certainly has its challenges, but there are also many opportunities that could come about for companies and consumers. A challenge for companies is keeping pace with the adoption of technology and determining how to leverage the data sets and the information that is produced. Collecting, storing, and analyzing it all can be a costly endeavour. Insurance companies can track vehicle usage and health habits of customers to help paint an accurate risk picture, and this could drive premiums down because of less claims.

Paying less for your health insurance is great if you are fit and healthy. But is it fair that you must pay more if you are not so fit or so healthy? This is one of the ethical issues that companies face. However, having devices that can monitor and report issues before they happen can greatly reduce the risk of high cost claims.

PR Devices like your heater, coffee machine, toaster, fridge, iPhone watch etc. the list goes on and they all create data: 90% of the internet data in the world has been gathered the last 2 years. There are four areas where IoT is impacting the insurance space.

The first is the geospatial aspect. Plugging a device into a car and tracking driving habits can help offer discounts to consumers who are good and/or safe drivers. This can lead to an example of the Law of Unintended Consequences. Having all this driving habit data can lead to an opportunity for companies to sell it to advertising companies for targeted advertisements.

Highlights from the *State of ICT* report:

- 100% of Bermuda residents believe in the importance of protecting personal information.
- 98% of residents would prefer doing business with organisations that protect their personal information
- 98% of internet users access the internet from their homes.
- 89% of households have a residential computer network, 88% of which are wireless, and 88% of which are secure.

The next area where IoT is having an impact is in the environmental space. Commercial properties can have sensors to detect flooding or pollution and identify issues before they become serious. Refrigerators can self-diagnose and make a service call before there is an outage. Another area is agriculture. Field sensors can monitor crops and determine crop damage and/or crop loss.

Finally, workmen's compensation insurance is being impacted by IoT as biometrics can determine where you are and what you are doing. If you are out of work on disability, and you are supposed to be doing physical therapy three times a week, your IoT device would be able to determine if you are in the physical therapist's office.

BH How can students or future employees prepare for filling the needs that IoT might create?

PR Computer programming will have a strong impact on the future. Being able to think laterally is also key for employees. You need to consider how you get value out of technology. Applying existing ideas to emerging needs is a great skill to have.

For example, Amazon has teamed up with Audi to develop the ability to deliver packages to a customer's car based on GPS information that determines where the car is parked at the time of delivery. They could remotely open the trunk and place the Amazon package right in the car so the customer does not run the risk of missing a delivery.

NS Being able to work with data is crucial. Also, being able to integrate multiple existing technologies is very important to companies. You may be asked to take something that another person has built and integrate it with another technology to solve a business problem. However, one may question how this will be taught at school.

BH **With more endpoints, more hardware, and more software, how should we be concerned with security?**

PR Companies look to build devices for the least amount of money. You must wonder how much they are spending on securing them. Some devices have the ability to have their software/firmware updated to account for new security risks. Some devices may not have this ability and may become a greater risk as they continue to age.

CE Technology may go down a similar route as food where there are organic and non-organic branded options. If a device can go through tests and prove that it is 'organic', then consumers may be willing to pay a premium on that product to feel comfortable that it has gone through a more rigorous security testing phase.

NS Most consumers are not as informed as we, technologists, are. As consumers become more aware of these issues, the market will be forced to evolve to satisfy that requirement. As consumers become more aware, they will know to stay away from products/devices/services that do not meet their standards.

BH **Whose responsibility is it to educate consumers?**

CE In general terms, education is best for security. There is not much out there for consumers and that means there is an opportunity for government and regulators to fill this role.

PR Going back to the organic/non-organic example, this education was started at school and in the home by parents.

Questions from the audience:

Is the law keeping up with technology? If not, what needs to be done to ensure that it does?

CE In short, no. The law will almost always lag behind the need to regulate. With the rapid adoption of IoT, the law and regulation have not caught up. The upside of this is that we will see an introduction of applications to manage consent; there will be a lot of investment in the dynamic consent management space.

PR The law will have to play catch-up. As we enter an era where devices are able to make their own decisions, laws and legislation will have to be clear on who is responsible. If two autonomous cars are involved in an accident, who do you sue? The software company? The car company? The car owners?

NS Personal information is an asset that can have great value. This personal information can save you on insurance premiums. Sharing personal information should not always be seen as a negative. The perception of sharing information may change as people begin to realize this. In the future, this information could be a way for consumers to negotiate.

How do we as consumers protect ourselves?

NS Education is key. Learn what you are giving away to companies when you agree to their terms and conditions.

CE There are products available to help mitigate the risk. Some web browsers do not track your browsing habits. People can use a virtual private network (VPN) to keep browsing more secure. Disposable phones, also known as burner phones, are making a comeback. Some people do not want a smartphone that has this much ability to track and send information.

How do you see IoT evolve in the next 5-10 years?

PR Everyone will be surrounded by a sea of devices - all gathering data. For most people, privacy is cheap and they are willing to accept the risk in exchange for convenience. Companies accessing this data will continue to grow. There will be an increase in cyber-attacks in the future as more devices continue to be interconnected. The younger generations will be better off than the older as their education about this area will be more robust.

CE New technologies will lead to new vulnerabilities. Regulation and laws will eventually catch up to the technology. Education will happen as more and more people are impacted by data breaches. All of these things are leading us down the road of better protection and privacy.

NS Countries trying to breach other's datasets will be more common. Electricity grids, oil pipelines, etc. are all controlled by computers. You have to trust that there are good people working to keep the bad guys out.

More about ISACA Bermuda

For more than 40 years, ISACA has been a pace-setting global organization for information governance, control, security and audit professionals. ISACA provides its members with education, resource sharing, advocacy, professional networking, and a host of other benefits on a local level.

ISACA®
Trust in, and value from, information systems
Bermuda Chapter

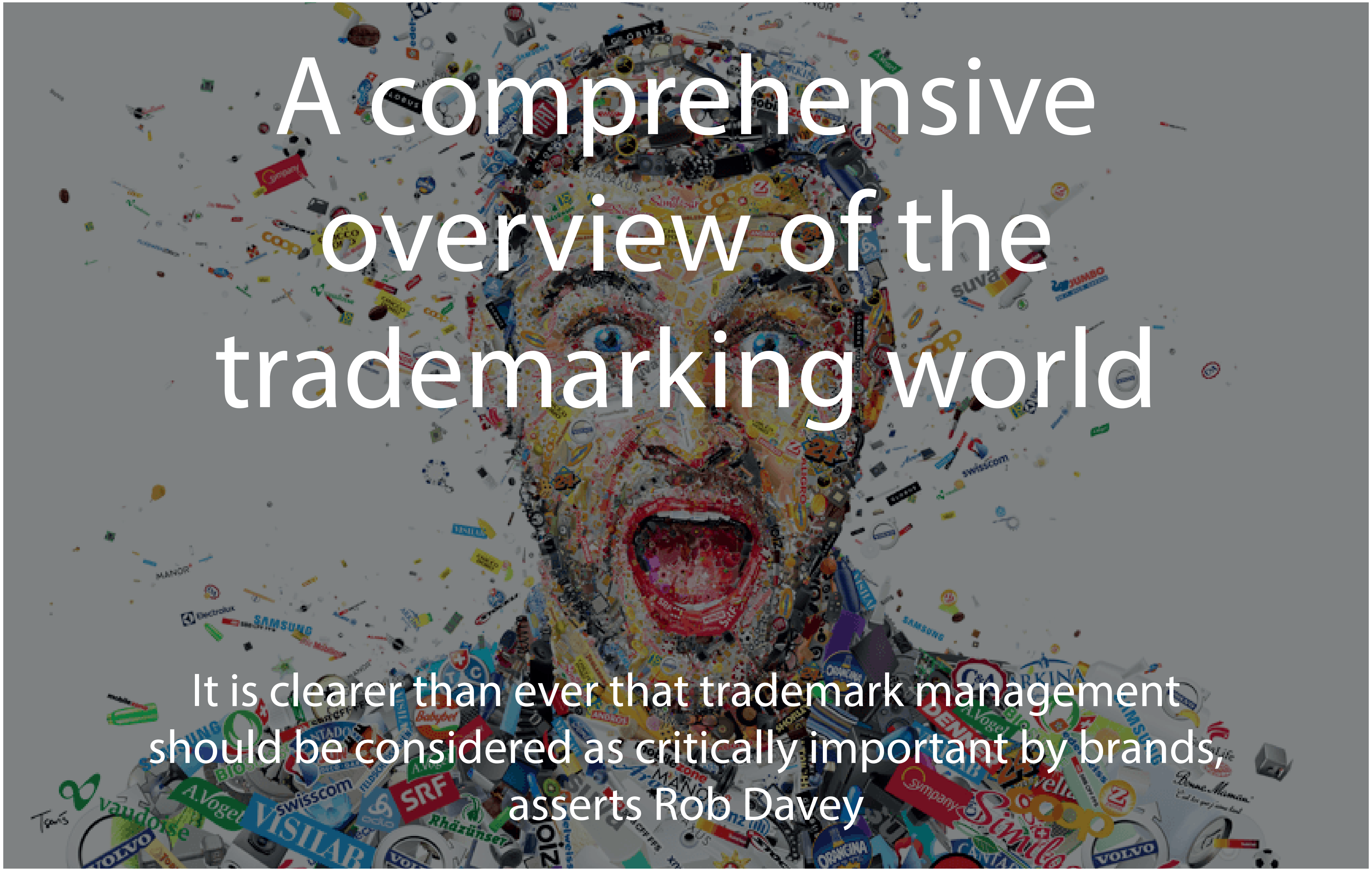
Funded by the Department of ICT Policy and Innovation within the Ministry of Economic Development, ISACA's TechTalk series fills the calendar with sessions that bring together professionals and collegiate students to discuss issues, concerns, challenges, and solutions related to technology and business in Bermuda.

More about the Department of ICT Policy and Innovation (IPI)

IPI develops policies and regulatory frameworks that promote and enable innovative electronic communications, broadcasting, satellite and ICT-enabled industries and facilitates the adoption and growth of a secure and advanced digital economy.

IPI provides funding for ISACA and other organisations to carry out initiatives that achieve the Ministry's objectives specifically regarding e-skills e-entrepreneurship. The TechTalks series is one result of such partnerships.

GOVERNMENT OF BERMUDA
Ministry of Economic Development
Department of ICT Policy and Innovation



A comprehensive overview of the trademarking world

It is clearer than ever that trademark management should be considered as critically important by brands, asserts Rob Davey

Trademarks are more important to brands than they've ever been before. As competition continues to grow fiercely across new channels and platforms, businesses have come a long way in recognising the true value of their intellectual property and viewing them as vital business assets.

However, as more brands continue to follow suit, it is imperative that any secured trademarks are also properly protected at all costs, not only to leverage a stronger position when coming up against competition, but also to prevent brand infringement in potential cases where brand names and taglines are used by others for their own gain.

As the number of global trademark filings increases — there were just under 6 million applications filed in 2015 alone — it is only natural that the number of infringement cases will increase as a result of conflicting trademarks. This can cause significant unforeseen headaches for the brands involved, but proactive preparation for such events can make the process much smoother.

To better gauge the market, the attitudes of C-level executives and the challenges inherent in the trademark management process, CompuMark commissioned Opinium, a leading research agency, to conduct a global survey of C-level executives, in the US, UK, Italy, Spain, France and Germany.

The growth of the trademark landscape

Globally, the number of trademark applications is on the rise, with no sign of slowing — according to CompuMark and its SAEGIS® on SERION® solution, the number more than doubled between 2008 and 2015.

What this means for business is that there needs to be increased focus on selecting the appropriate marks, taking them through the clearing process, and then protecting them in order to ensure they are not being infringed upon. This state of growth is reflected in the research findings —61% of respondents in the survey said they had launched a mark in the last year. Interestingly, 43% registered one mark, while 18% said they registered two or more. Spain demonstrated the highest number of single registrations (53%), while the USA showed the highest amount of multiple registrations (25%).

Looking to the year ahead, the outlook is similar. When asked about plans to launch new marks in the next 12 months, 39% said they would launch one, while 27% said they would launch more than one.

The challenge in trademark work

Despite the obvious growth in the number of trademark applications, and the desire for more launches, there are still challenges. From initial screening, to a full clearance search and registration, the process requires both time,

... in a highly competitive marketplace where speed is key, trademark professionals are under increased pressure to produce results — and to do so accurately

effort and expertise. However, in a highly competitive marketplace where speed is key, trademark professionals, regardless of whether they are in-house or external, are under increased pressure to produce results — and to do so accurately.

Interestingly, 80% of respondents said they would be more likely to launch new brands if trademark clearance were simpler — 41% stated this was very likely. Taking the idea of simplicity a step further, participants were asked what they thought the best solution would be to clear trademarks more quickly and more accurately.

Overwhelmingly they cited better technology (44%), a more cost-effective solution (28%) and a self-service style option that can be used in-house (25%). Interestingly there are solutions like this on the market, but perhaps what is required is more education and awareness around the role that technology can play in the trademark research and protection process.

The rise of trademark infringement

With the increasing number of trademark launches across the globe, there is a corresponding fear that infringement too will rise. CompuMark found that overall, C-level respondents said they thought trademark infringement had increased (79%). Specifically, 32% stated it had increased significantly, while a further 47% said it had increased slightly.

There have been efforts from both businesses and the legal sector to try and curb these infringement fears, with increased negotiation and arbitration over trademark infringement cases in an effort to keep them out of court, but this doesn't seem to have made any difference in the mind of the collective C-level. In fact, the research showed that 40% of participants in the survey are more concerned about trademark infringement than they were five years ago.

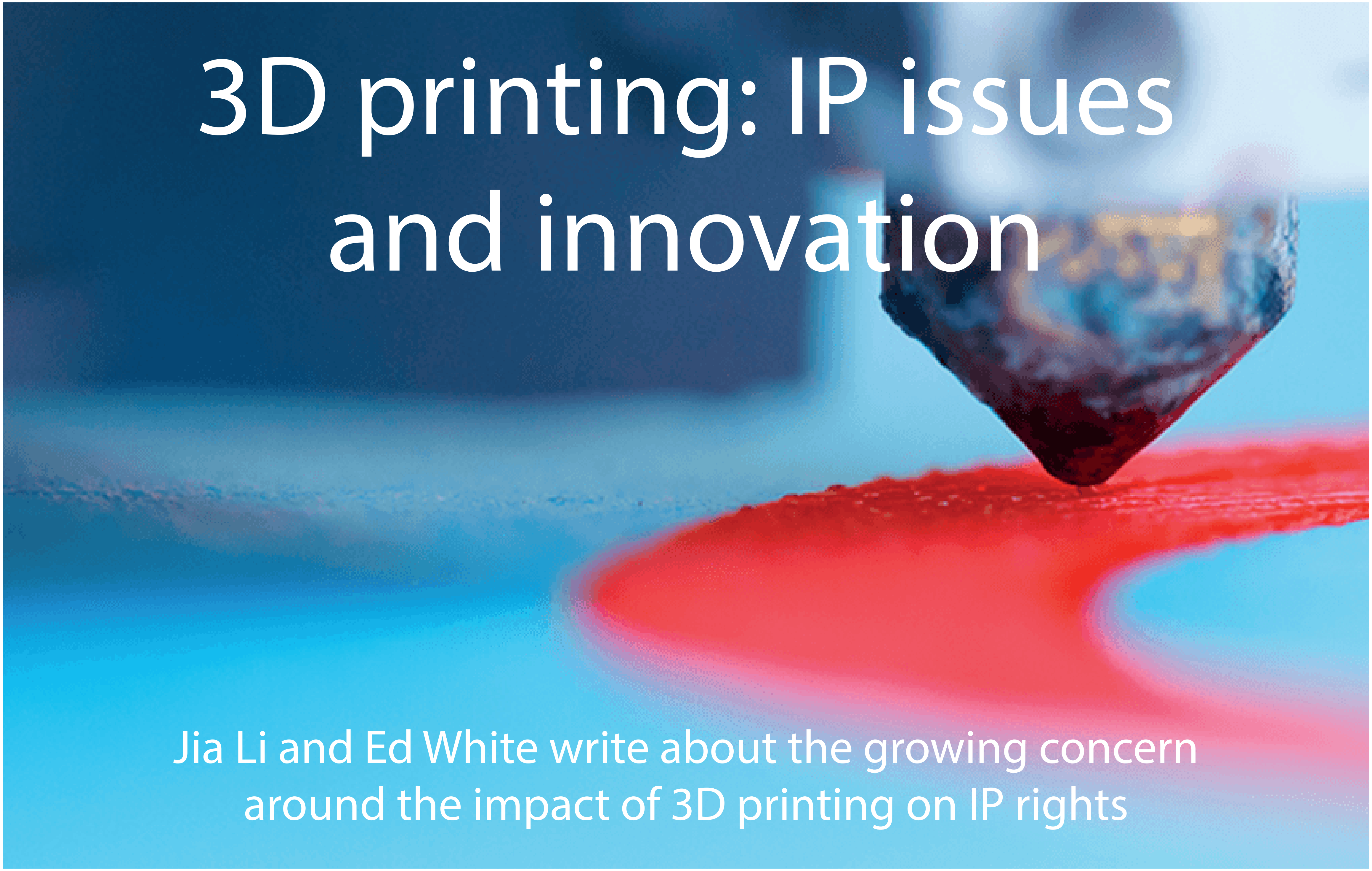
Conclusion

With all of the above taken into account, it is clearer than ever that trademark management should be considered as critically important by brands. As the number of applications continues to grow, so will the level of the competition, which is why all businesses should be well-versed in choosing the right trademarks to register and proactively monitoring numerous channels for cases of infringement.

Hopefully, as time goes on, there will also be more efficient and technology-driven ways of managing trademark portfolios, which will assist the likes of law firms, trademark experts and in-house counsel in meeting deadlines and making quicker, more informed decisions.

Regardless of the fierce competition and the various challenges that still lie in the way of many, the overall goal remains: to develop strong brand recognition that supports business objectives, while mitigating and managing the risks associated with the full brand portfolio. ■

Rob Davey is a Senior Director at CompuMark, a brand of Clarivate Analytics



3D printing: IP issues and innovation

Jia Li and Ed White write about the growing concern around the impact of 3D printing on IP rights

3D printing used to be an expensive product design tool for companies, but it is quickly becoming an affordable and accessible technology. Emerging in the 1980's - largely for industrial application - the availability of low-cost, high-performance 3D printers has put the technology firmly within reach of consumers. While the quality of a consumer-grade 3D printer may not typically meet the quality of an industrial product, the technology is improving rapidly. New mid-level 3D printers now offer advanced system features at lower price points and will print up to 500 times faster than today's top machines. On a micro level, this means any consumer can purchase a 3D printer and produce custom products or copy existing ones. While this provides a number of opportunities for designers and manufacturers, there is growing concern around the impact of 3D printing on IP rights.

3D printing in a nutshell

The 3D printing process starts with a digital file. The file is exported to a 3D printer using dedicated software, which transforms the digital model into a physical object through a process in which molten material is built up layer upon layer until the finished object emerges. This process is also referred to as additive manufacturing.

The 3D printing rush

Developing and improving 3D printing technology – and printers – is of major interest to innovators. According to Russell Slifer, Deputy Secretary of Commerce for Intellectual Property and Director of the USPTO, patent filings relating to 3D printing have increased 23-fold over the last five years, and trademark filings for businesses involved in 3D printing have increased 300% during the same time.

Increased patent activity has resulted in 3D printing technology being more accessible than ever before. According to research by Wohler Associates, publishers of the annual *Wohlers Report*, there are now hundreds of 3D printing companies – including more than 100 start-ups in the space, 40 established technology companies and many service bureaus. The industry itself has grown 26% in revenue since 1989, reaching $2.1 billion in 2016.

As the popularity of 3D printing grows – what does it mean for IP infringement?

To print or not to print

3D printing technology makes it easy to copy and reproduce products – even if they are protected by a patent, trademark or copyright. It is as simple as downloading a computer-aided design (CAD) file, which can instruct the printer to reproduce a 3D object. CAD files are digital, meaning they can be shared across the internet, just like movies and music.

The commercialisation of 3D printing leading to many small-scale manufacturers will make policing IP increasingly complex. Each printed copy of an invention represents the loss of a potential sale to its patent holder. As the man-

The key to moving forward successfully with 3D printing is to look at the opportunity to lead businesses into a new age of technology ufacturer is ultimately the end user, it is harder to prove infringement. To sue, the patent owner would need to be aware that a manufacturer is using a 3D printer to reproduce their patented invention – a tall order given that 3D printers are increasingly common in households and businesses.

Protecting your IP assets

The 3D printing of goods is a considerable risk to brand value. However, as with many emerging technologies, a legal standard is still to be set for managing 3D printing infringement. Rights owners need to consider carefully whether to pursue infringements or consider offering new and affordable licencing models for individuals that wish to use their brands on a non-commercial basis.

IP owners need to establish a robust portfolio of copyrightable files - such as design files - and idea maps that are essential to the products that they are trying to protect. Traditionally it is more important to have patent claims that protect products, components of products, arrangements of products, etc. Intellectual property is likely to weigh more heavily on ideas and designs, rather than implementation methods. These files will serve as proof of an owners' pre-established rights, and could prove to be a significant source of profit in the future. And while copyrights are susceptible to fair use claims in a way patents are not, copyrights last for an extremely long time (eg. 70 years beyond the death of the authors).

There is often no retrievable evidence of manufacturing or sales following the 3D printing of copied items. However, even if evidence of infringement was available, suing numerous infringers would be expensive.

Alternatively, patent owners could target the people facilitating the infringement. The Patent Act permits a patent holder to sue parties who induce others to infringe. For example, potential inducers of patent infringement could be the sellers of the 3D printers, someone providing CAD files of the patented product, or websites that sell or share the CAD files that instruct 3D printers to make the patented invention. However, enforcing patents in an era of distributed manufacturing could prove more difficult than enforcing copyright in the current era of digital information.

Customs authorities have faced the issue of counterfeiting for decades, seizing reproductions before they go on sale. However, 3D printing uses digital files so physical goods cannot necessarily be seized. A CAD file can be sent to anyone with a 3D printer and the recipient could instantly create counterfeit goods for their own use or for sale. In addition to current laws relating to copyright, design rights, trademarks etc., future legislation will be needed to address counterfeit items created by 3D printing.

The sound of infringement

As an industry still in its infancy, prosecuting cases of IP infringement in 3D printing is proving complex. However, digitalisation has impacted a number of other sectors. Lessons around digital file sharing – including CAD files – can be learnt from the piracy that overwhelmed the entertainment industry in the 1990's.

Consider the internet file sharing services Napster and Grokster. Both of which enabled millions of users to share digital music files – infringing the copyright for those songs. More than 35,000 lawsuits were launched against people downloading music 'illegally' during the 1990s and 2000s – but this amounted to just a fraction of the people sharing copyright protected music. When it comes to 3D printing, it is similarly difficult to identify IP infringers. There is often no retrievable evidence of manufacturing or sales following the 3D printing of copied items.

However, copyright law also prohibits the inducement of infringement. Grokster did not make infringing digital music copies itself, but enabled other people to make and distribute the infringing files. Following the filing of a number of lawsuits, the Supreme Court held that Grokster likely induced copyright infringement and Grokster was forced to fold. Grokster closed its site on November 7, 2005. A note on its home page cited the United States Supreme Court ruling that copying copyrighted material using *“unauthorised peer-to-peer services is illegal”* and while legal download services exist, *“this service is not one of them.”* The website continues to threaten visitors that their actions can get them caught, displaying the visitor’s IP address.

From the silver screen to the computer screen

The sharing of digital CAD files is one concern facing patent owners, but what manufacturers do with a product once it has been printed, is equally pressing.

In July 2015, the *Wall Street Journal* reported on the trend for hobbyists to create 3D printed objects based on Hollywood franchises such as Iron Man and Star Wars. Creations inspired by LucasFilm were being sold commercially and the hobbyists were asked to share design blueprints with a wider community. For the owners of big film franchises, this constitutes a threat to revenues. In 2012 Disney paid George Lucas $4 billion for the Star Wars franchise. The Star Wars franchise is estimated to have generated $30 billion in revenues, of which a little more than $6 billion is box office revenues. The rest is games, toys, DVDs, books and licencing – merchandising at risk of reproduction.

3D printing’s place in the future of IP

The issue goes wider than entertainment as anyone can pirate design files, and now they can turn files into tangible objects without owning the IP. Unlike music and movies, the relationship between copyright and physical objects is not always straightforward.

This may mean that in the future copyright could merge with patent rights - or at the very least overlap with it - as it has become much easier to transform between tangible and intangible forms of products and ideas. Before IP law is revised to reflect this change, it is important for innovators to seek copyright protection in addition to patent protection for a new product.

IP owners should also consider 3D printing techniques in future patent applications. If it is foreseeable to use 3D printing to manufacture a product, it would be beneficial to have patent claims that protect a 3D printing method for the product.

The good with the bad

Despite the legislative difficulties surrounding 3D printing, IP owners should also consider the opportunities afforded by the technology. In the pharmaceutical industry, drug research and development (R&D) can be drastically improved by 3D printing and the technology could even be used to print human organs and tissue. This would allow companies to test drugs cheaply without compromising safety and reduce outgoing development costs. Because of improved target selection, preclinical tests, clinical trials, chemical synthesis, and product management – research should become more efficient. Early adoption of operational analytics, bioelectronics medicine, gene editing, 3D printing, cloud-based computing and advanced biosensors are poised to ramp innovation efforts to a new level.

The pharmaceutical industry relies on innovation to create medical treatments. Through the adoption of technology, the pharmaceutical industry is producing innovative new medical offerings, improving its internal R&D processes and cutting costs. If pharmaceutical companies embrace the benefits of technology investment they will reduce unnecessary outgoings and the future of biotechnology will reap the rewards.

Take the recent decision by the US Food and Drug Administration (FDA) to approve SPRITAM - an anti-epilepsy medication. SPRITAM employs 3D printing methods to produce its *"porous formulation that rapidly disintegrates with a sip of liquid."* Thought to be the first 3D-printed pharmaceutical on the American market, SPRITAM allows epileptic patients with swallowing difficulties to medicate themselves.

It is important that IP owners see 3D printing as not only a threat but a revenue opportunity. As technology evolves, 3D printing will not be the last innovative trend to disrupt the future of IP. Efficient management of IP will become increasingly important to maintain reputation and IP ownership. The history of infringement in the film and music industry does not need to repeat itself. The key to moving forward successfully with 3D printing is to look at the opportunity to lead businesses into a new age of technology. Companies now have the opportunity to learn from what did not work in the past and apply other means of creating new income streams to help develop the future of IP and 3D printing. ■

Jia Li is Innovation Intelligence Consultant and Ed White Vice President of Technology Intelligence at CPA Global

Italy on the move

Stefano Loconte writes on Brexit's threats and opportunities and how Italy has taken a frontline role in the reorganization of the international business landscape

When I first heard of the UK remain/leave referendum back in 2013 I realized that, regardless of the outcome, such a major landmark in history would have sparked a host of consequences on a political, social and economic level. That is why I joined 'Select Milano', an independent action group of professionals and executives committed to create 'a permanent bridge between London and Milan'.

Today, Brexit is a reality and it is quite clear that all actors must confront with a rapidly changing environment, posing both threats and opportunities.

The Italian government has taken a proactive approach in creating a favourable environment for businesses and individuals that are considering a relocation of their operations or domicile, and Select Milano is playing a leading role in identifying critical improvements, developing practical solutions and supporting their implementation.

While Italy already has a number of attractive features that go beyond taxation and financial markets, more can be done in attracting companies, investors and wealthy families: some results have already been achieved, and more initiatives are in the pipeline.

As a tax lawyer, I think that the creation of the preferential tax regime for 'new residents', which was recently passed, really represents a major step in this direction: it is the first time ever Italy moved away from the deeply-rooted 'worldwide income taxation' principle, and this is a clear evidence of the commitment to become an attractive location for high-standing individual and families.

This regime, which was strongly sponsored by the Government against opposition from various sides, is somewhat inspired to the successful 'Res non dom' system developed by UK, and specifically targeted to high-standing individuals and families.

Preferential regime for 'new residents'

In a nutshell, taxpayers moving their residence to Italy are entitled to a 15-year period of exemption from ordinary Italian taxation: in exchange for an annual lump-sum tax of €100,000 all income and gains generated abroad can be excluded from the Italian taxable base.

It is worth noting that such exemption is not related to remittance, and foreign income can be freely transferred to Italy, thereby eliminating a number of administrative issues and potential tax claim risks associated with the actual management of foreign funds.

Italy has tackled the challenge to play a frontline role in the reorganization of the international business landscape in the wake of Brexit

Furthermore, the taxpayer is even entitled to 'cherry-pick' source countries in order to exclude them from the forfeit tax and benefit from any applicable Double Taxation Treaty, should this be more appropriate in terms of personal tax management.

Within the family of the new resident, the exemption can be extended on the same terms to eligible members, against a reduced annual tax of €25,000 per person.

There are also substantial inheritance tax benefits to consider: even though Italy is a kind of tax heaven on its own merit for inheritance tax purposes (with standard rates ranging from 4% to 8% of the estate), new residents under the new scheme will enjoy total exemption from Italian inheritance tax on their foreign-held asset for the entire duration of the 15-year lump-sum tax term.

Foreign assets are also excluded from ordinary reporting duties; they can therefore be deposited with foreign banks anywhere in the world without any additional administrative paperwork or taxation either on capital or on dividends and coupons.

From a technical standpoint the Italian 'new residents' regime can be regarded as highly competitive by high-net-worth individuals with substantial passive income from international sources, and may definitely shift balances in the choice of a relocation destination when considered in conjunction with 'soft' elements associated with an Italian personal residence in terms of quality of life.

In my opinion, individuals presently enjoying the UK 'res non dom' regime are definitely among those who should not overlook the opportunities offered by the new Italian regime, both in light of Brexit and of the revision of UK tax system presently under way: it would not only allow them to extend the exemption of foreign income (even if remitted to Italy!) for an additional 15 years term, but would also provide substantial benefits in terms of inheritance tax without the costs and risks of complicated planning structures.

The benefits of the new regime also allow individuals who may be interested in the purchase of Italian real estate to fulfill their desires without worrying about negative tax consequences deriving from claims of an Italian 'deemed residence': the property may be purchased under the favourable 'first housing' treatment (ie. with reduced stamp duty and a lower on-going estate local tax), and any additional wealth kept abroad will not be negatively affected by the Italian tax residence.

Personal relocation in itself is a fairly complicated and cumbersome procedure, and the idea behind the preferential treatment is that of eliminating some of the most common bureaucratic and compliance issues that jeopardized the attractiveness of Italy for high-standing families.

As a matter of fact, the Italian 'new residents' regime has already raised substantial attention in the international market, and some relocations have already taken place: based on my experience so far, there are some technical issues that need to be properly addressed, although they are more related to the country of provenance than to the Italian side.

While the assistance of a professional counsel is strongly advisable to ensure full compliance and proper management of all connected issues, the overall application procedure can be regarded as quite fast and straightforward.

This preferential regime for new residents is definitely the most prominent initiative taken by the Government to improve the appeal of Italy to foreigners, but it is not the only one: additional 'brain redux' and 'carried interest' provisions are definitely worth mentioning, together with the 'speedy-visa' procedure for investors.

Tax breaks for highly skilled immigrant workers

'Brain redux' is a very interesting provision recently introduced by the Italian Government to encourage relocation to Italy of skilled workers that are citizens of any EU country. An extension of the same benefits to non-EU citizens under similar conditions is well under way and should be passed shortly.

This law was initially created to encourage return of workers of Italian citizenship who had moved abroad to take highly skilled jobs in research and management.

A preferential tax regime was created in 2016, whereby 50% of employment (or self-employment) income gained by qualifying individuals is excluded from the taxable base for Italian personal tax purposes, for four years until 2020.

Access to the regime has now been extended not only to Italian executives, professionals and highly specialized employees that are citizens of other EU countries, provided they have not been resident in Italy over the last five years, on the condition that they remain as tax residents in Italy for a minimum of two years.

The tax break will last at least until fiscal year 2020 for 2017 applicants, and it is expected that it will be extended further in favour of those who will join later, in order to cover at least four years of income.

Again, although it is not specifically targeted to the UK in particular, such a provision should be of great interest to companies, executives and professionals affected by Brexit, since it provides a substantial opportunity to relocate to Italy under very favourable conditions.

Requalification of carried interest income for tax purposes

'Carried interest' has to do with the taxation of personal income of investment fund managers derived from the participation in the results of their investment management activity: before recent changes, this income was regarded as employment income for Italian tax purposes, and therefore taxed at ordinary personal tax rates, up to 47%.

Following a recent amendment, this income is now to be regarded as 'investment income' and therefore subject to withholding tax at a flat rate of 26%, under the following conditions:

- fund managers (both employees and directors) must have an overall 'stake' in the underlying portfolio of at least 1%. The stake may be derived from compensation shares, provided they have been taxed as employment income;
- the investment income (derived from the 'special management shares') must be payable under the condition that an amount equal to the initial investment has been paid back to all other 'ordinary' investors, together a minimum return ('hurdle rate') set forth in the prospectus;
- the special shares are held by the managers for at least five years, or until the termination of their assignment.

Considering the fact that Italy is a good location for collective investment vehicles, thanks to the solid regulatory environment, the technical infrastructure and the membership in the EU savings market, this provision looks very much like a direct invitation to fund managers that may be forced to relocate away from London following Brexit.

It is interesting to note that the same provisions apply for income derived from participation in white list investment vehicles: an Italian resident manager can therefore benefit from the regime even if the fund is organized elsewhere.

Investor visa

Last not least, Italy has recently introduced a special simplified procedure for granting residence visas in favour of foreign investors. These provisions are not dependent on the option for special tax regime described above, although they may be obviously connected form a practical standpoint, especially for non-EU individuals that cannot claim the rights of freedom of movement and settlement belonging to EU citizens.

Special 2-year residence permits can be granted in excess of ordinary migration limits, and in some cases they can be renewed for an additional 3 year term.

In order to benefit from these provisions and obtain an 'Investor Visa', the non-resident individual must demonstrate the intention to invest in Italy either:

- €2 million in state bonds, to be kept for at least 2 years;
- €1 million in the share capital of a company located and operating in Italy, for at least 2 years;
- €500,000 in the share capital of registered 'innovative start-ups', for at least 2 years;
- €1 million in donations to philanthropic, cultural or scientific purposes.

It is worth noting that special attention will be given to the source of invested funds and that the fulfillment of conditions required for obtaining the Investor Visa will be strictly scrutinized.

Looking at the future

The size and the pace of changes being implemented by the Italian Government over the last months is quite impressive: although more can still be done, these changes clearly show that Italy has tackled the challenge to play a frontline role in the reorganization of the international business landscape in the wake of Brexit.

Select Milano in is the process of creating a trade bureau in London, in order to promote the role of the Italian financial market in Europe, and has a major focus on the promotion of Milan as a hub for financial services, also leveraging on the existing links between Italian Stock Exchange and LSE.

Overall, there is a clear trend toward a modern framework of tax and legal provisions specifically aimed at attracting international players to Italy and to Milan in particular, which in my opinion should be carefully evaluated by foreign companies and individuals looking for alternative locations for their activities.

Having a strong background in international tax issues and in dealing with Italian tax authorities, my firm has already provided assistance to both companies and individuals in analyzing the implications and costs of relocations projects based on the new regulations: we believe the trend will be developing further as players become more and more aware of the changes imposed by Brexit. ■

Stefano Loconte is Managing Partner of Studio Loconte & Partners

EBACE2017 highlighted many roles of Europe's business aviation community

Ed Bolen says EBACE2017 provided an important forum to address the challenges faced by business aviation operators across Europe, and around the world

Business aviation makes companies of all sizes, in all parts of the world, more efficient, productive and successful. It provides the means for these companies to visit customers and operations in outlying areas more quickly and conveniently than any other means of transportation available.

Our industry serves as a productivity tool used by tens of thousands of companies and organizations of all sizes. These forward-thinking organizations utilize business aircraft to minimize travel time; enhance the efficiency, productivity, safety and security of key personnel; and remain nimble, competitive and successful in today's highly competitive marketplace.

That said, 'business aviation' encompasses far more than that term implies, as it also describes an industry that serves as vital transportation lifeline for communities of all sizes; supports millions of quality jobs worldwide; and regularly provides humanitarian relief to people in hard-to-reach communities across continents, and around the globe.

The continuing strength, size, and resilience of the European business aviation community was in focus throughout the 2017 European Business Aviation Convention & Exhibition (EBACE2017), held at Geneva's Palexpo Convention Center from 22-24 May 2017 and jointly hosted by the European Business Aviation Association (EBAA), the leading association for business aviation in Europe, and the National Business Aviation Association (NBAA), the industry's most powerful voice in the United States.

In the years since the first EBACE was held in 2001, the event has grown into a must-attend gathering not only for European aviation stakeholders, but also one of the largest showcases for the international business aviation community.

The inaugural EBACE featured approximately 200 exhibitors, and 30 aircraft on static display; this year's event was one of the most successful in recent memory, featuring more than 400 exhibitors representing nearly 40 different countries, and 56 aircraft displayed – including several new models making their first appearances at EBACE.

Additionally, more than 450 journalists from Europe and around the world covered EBACE news and product introductions – an impressive demonstration of the event's scope and significance not just for European business aviation operators, but also for industry stakeholders around the globe.

Promoting and protecting the interests of business aviation – a vital and diverse global industry that offers innumerable contributions to citizens, companies, and communities around the world – remains a core mission

In addition to serving as a valuable opportunity to showcase the diverse roles of business aviation across Europe, as well as the latest products and services available throughout the industry, EBACE2017 also marked EBAA's 40th year of advocacy on behalf of Europe's business aviation community.

Among the most powerful examples of this important mission is EBACE itself, which serves not only as an industry trade event, but also a diverse and dynamic showcase of the numerous and diverse ways that business aviation contributes to local and regional economic growth, and its importance to the European economy through the creation of jobs, improving the competitiveness of companies and industries, and increasing access for towns and cities across the region.

A powerful forum for education and advocacy

The week kicked off with an inspiring Opening General Session address by solar aviation pioneer, Dr Bertrand Piccard. As the first pilot to fly around the world entirely on solar power – aboard the groundbreaking Solar Impulse aircraft – Piccard predicted innovation would lead aviation toward a more sustainable future.

In recognition of EBACE as a premier venue for hosting discussions on matters of concern not only to business aviation operators across Europe, but also on a global scale, panels and education sessions held throughout the show covered timely and important issues, such as the implications of Brexit for business aviation, security and top advocacy priorities across Europe. EBACE2017 also included two well-attended day-long seminars, with expert analysis and advice for aircraft transactions and business aviation safety.

Looming shortages of qualified aviation and aerospace workers represent a significant concern not just for European operators, but business aviation stakeholders worldwide. Held on the event's final day, the inaugural EBACE Careers in Business Aviation Day highlighted the importance of promoting the industry's next generation of aviation professional, by introducing more than 250 high school and university students, from about 120 area schools across Europe, to our industry and its many rewarding career opportunities.

In summary, EBACE2017 not only highlighted the global significance of business aviation, and the multitude of roles this vital industry provides in linking communities and companies in North America, Europe, and all points in between; the event also provided an important forum to address the challenges faced by business aviation operators across Europe, and around the world.

NBAA-BACE 2017 to highlight 70 years of representing business aviation community

These vital discussions will continue throughout NBAA's upcoming Business Aviation Convention & Exhibition (NBAA-BACE) in Las Vegas, NV from Oct. 10-12, 2017. More than 25,000 business aviation operators, decisionmakers, and stakeholders from around the world are expected to attend NBAA-BACE, offering the opportunity for us to gather and reflect on these issues, while also demonstrating the size and scope of our diverse and vital industry.

NBAA will also celebrate an important milestone in 217, marking 70 years since a group of visionary business leaders and pilots united to encourage safety and professionalism throughout their nascent industry, and to protect access to airports and airspace.

Promoting and protecting the interests of business aviation – a vital and diverse global industry that offers innumerable contributions to citizens, companies, and communities around the world – remains a core mission of the association today. Throughout NBAA-BACE, several programs and sessions will highlight the many NBAA initiatives designed to advance and safeguard the industry's interests.

Of course, as with all NBAA events, NBAA-BACE will also feature an impressive roster of dynamic and influential speakers; more than 1100 exhibitors displaying a wide range of products and services for our industry, and approximately 100 business aviation aircraft of all sizes; and several Education Sessions focused areas of interest for business aviation operators.

In much the same way business aircraft transcend borders and cross oceans to link cities and communities around the globe, so too will the issues and concerns in one country or region often reverberate across these vast distances.

Just as EBACE highlighted our shared interests and concerns between the US and Europe, NBAA-BACE 2017 will be truly a memorable event showcasing our industry's vitality and relevance throughout the world. I invite all readers of *World Commerce Review* to make plans to join us in Las Vegas later this year. ■

Ed Bolen is President and CEO of the National Business Aviation Association (NBAA)

Time to think again

Creativity needs space and time to flourish, says Dan Pontefract. Being too busy harms this. Too often it gets lost in *status quo* thinking. We have to make the time to rethink how we think

Sweden's Astrid Lindgren was a literary giant who changed the game of authoring. Through the introduction of an anti-authoritarian adventurer, Pippi Longstocking, Lindgren has educated many young children to think differently. That's the good news. But this thinking differently mindset is becoming woefully inadequate (or hidden) in many of today's stagnant organisations. It is something leaders would be mindful to rectify if they are looking to unleash open thinking in support of new innovations and improved results.

When Lindgren brought Longstocking to life in 1945 with equal parts cleverness, noisiness, independence and creativity, she encouraged young readers to think contrarily.

Longstocking was a heroine of exploration. She sought out adventure and freedom. Back in the day, more than 70 years ago, it was radical prose. In fact, Lindgren was vilified by many in the literature world. We might even suggest that through Pippi Longstocking Lindgren was the original Dora the Explorer.

One of the key points that Longstocking had going for her was time. Unlike many of today's organisational leaders and employees she was not being exploited for her time. Longstocking was not consumed by mundane actions or repetitive tasks. Remaining in the *status quo* was not her thing either. In fact, there was no *status quo*. Lindgren ensured her heroine remained unshackled to the mundane.

Longstocking was also never browbeaten by a constant need to look or be busy. She was constantly able to creatively conjure up new plots, ideas and ways to be mischievous. She was a girl exploring but she explored while remaining in charge of her time, using it to her advantage on many adventurous occasions.

When we become too busy in our lives and at work – unable to pause, reflect and invoke creativity – a civil war erupts in our brains.

More often than not, exploitation wins out over exploration. We expunge our inner Pippi Longstocking. The humdrum anchor easily drops to the ocean floor and the ramifications can be far-reaching for both personal development and organisational success.

The question we ought to be asking ourselves is whether or not a lack of creative thinking is due in part to our penchant to fall into a busyness trap, exploiting our time to remain steadfast in the *status quo*. Do we become blind to exploring the unknown? In order to fuel creativity – personally and organisationally – we need to ask the hard question: why we are failing to be more like Pippi Longstocking?

When we become too busy, we choose the known and predictable. Ultimately we dull down and desensitise our own selves. If we exhaust our mental load any chance for increased creativity diminishes

Baby steps going backwards

Back when we were babies, every day was an experiment in exploration. The journeys seemed endless. We explored our crib, the floor and then the stairs as we learned to crawl. In a few months the kitchen drawers became places where interesting mouth-bound gadgets were plentiful.

As we began to walk there was more to explore, be it the velvety sand at the beach, the soft grass strewn across the park, or the icy snow found in a field. It was endless exploration. We felt it. We unconsciously unleashed Longstocking's cleverness, noisiness, independence and creativity. We were alive.

We did so because there was the luxury of time. Aside from a schedule that consisted of naps, meals and snack time, no-one was telling us to complete a task by day's end. There were no superiors badgering us to 'do more with less'. Our every minute was not being accounted for by overtaxing schedules, inane meetings or rushed deadlines. What's more—and arguably most important—we had not developed '*status quo* thinking'. Adventures built upon adventures and we liked it. There was no such thing as 'business as usual'. We were free to think creatively and were unafraid to do so. Cognitive biases simply did not exist.

If we fast-forward to the world of work we now know there is conflict between our desire to be explorers and the reality of being exploited for and by time. Researchers, however, have discovered that our default desire of thinking is to be creative. Like when we were a toddler, we yearn to explore and discover new lands. In essence, we long to be like Pippi Longstocking.

But when our minds are overburdened with tasks or we have to put up with a high mental load, we consistently and quite effectively deliver banality.

When we become too busy, we choose the known and predictable. Ultimately we dull down and desensitise our own selves. If we exhaust our mental load any chance for increased creativity diminishes.

If the roles we occupy at work become stressful and overly tiresome, the end result is that we are likely producing something rather boring. We revert to what we have always done in the past. This is *status quo* thinking. As researchers have pointed out: *"The mind's natural tendency is to explore and to favour novelty but when occupied it looks for the most familiar and inevitably least interesting solution".*

Making time for computer animation

Take, for example, the story of John Lasseter, currently Chief Creative Officer at Walt Disney Company and Pixar Animation Studios. It is an interesting title to occupy, one that arguably cost Walt Disney over $7 billion to create.

Lasseter is the brilliant mind behind Pixar, the company that has given the world wonderful films such as Wall-E, Finding Nemo, Cars and Toy Story. Before Pixar found its success – and before it was gobbled up by Disney – Lasseter worked there in the early 1980s as an animator. He was constantly thinking about the future of film animation. He was always unleashing his inner Pippi Longstocking.

1945

When Lindgren brought Longstocking to life in 1945 with equal parts cleverness, noisiness, independence and creativity, she encouraged young readers to think contrarily

As legend has it, Lasseter began thinking about the future of Disney as a company, too. He felt the decades-old approach of hand-drawn animation for its films was about to be replaced by computers. He pitched his bosses – and his bosses' bosses – the new-fangled invention of computer-animated films.

While Lasseter's prescient hunch was correct, Disney executives ultimately failed to think differently. They ignored Lasseter's prophetic vision – not giving the idea the time to incubate or materialise – and Disney ended up firing him from the company. Disney remained locked in their *status quo* thinking, unable to truly rethink what its future might look like.

It strikes me that Disney executives were either too busy to think differently or their brains were too exhausted to rethink its existing film-producing strategy. Were Disney executives exploring or exploiting their time? The verdict came, perhaps, by the ignominy of Lasseter's termination.

Years later after spinning off Pixar from Lucasfilm (where he originally landed subsequent to being fired from Disney) Lasseter ended up back at Disney. How? Disney recognised its error and paid $7.4 billion to acquire Pixar. It then made Lasseter its Chief Creative Officer.

Just imagine the additional revenues and profits for Disney if its leaders had created the time to properly think about Lasseter's original proposal decades prior. Imagine if they had explored the power of open thinking versus being exploited by its own *status quo* thinking. Imagine if they did not have to hand over $7.4 billion to re-acquire Lasseter and the entire Pixar team and film library?

Giving time to think

Pippi Longstocking had oodles of time to be creative. The culture that Lasseter helped to create at Pixar is one steeped with open thinking. Pixar is a Pippi Longstocking playground. What if more

$7.4 billion

Disney paid $7.4 billion to acquire Pixar, and it then made John Lasseter, whom they sacked years earlier, its Chief Creative Officer leaders devoted more time to allowing creative thought to occur? A study done with orangutans proved that those held in captivity – with time on their hands, not worried about predators, distractions or having to search for food – were more creative and possessed a higher inclination to explore than orangutans from the wild.

The study pitted both sets of orangutans in a habitat where, among other tests, a new toy was introduced. In one example, orangutans previously held in captivity approached the toy immediately yet even after several months of testing the wild orangutans would not go near it. As the researchers noted: *"If you ask me, opportunity is the mother of invention".*

Put differently, if our minds are constantly distracted and exploited by time and task pressures, none of us will be willing to touch the new toy. In fact, our minds will be so preoccupied with other things we won't even pay attention to it nor will we think up fresh new ideas. Arguably Longstocking, Lasseter and Pixar are examples of bucking such a scenario. They make the time to explore creativity. They are not exploited by time.

Bill Gates, former chairman and CEO of Microsoft, recognised the need to spend time away from the pressures of operational tasks and running a business. He introduced 'Think Week' where twice annually he would sequester himself for a week of reading, thinking, listening and letting the art of the possible permeate his brain. It was his planned time to think creatively.

Every day, each of us is equipped with 1,440 minutes. We all possess 168 hours a week and 8,760 hours a year to utilise to our advantage.

If we do not earmark a significant portion of time to be creative—to be open thinkers—there is little chance to erase a *status quo* mindset. My advice is to unleash your inner Pippi Longstocking and be more like John Lasseter, Pixar or Bill Gates if you truly want to become an explorer, not an exploiter, of time.

If you want to cure *status quo* thinking, you have to rethink how you think. Make the time. ■

ABOUT THE AUTHOR

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This article was originally published in EFMD Global Focus, Volume 11 Issue 01, 2017. www.globalfocusmagazine.com