

WORLD COMMERCE REVIEW

SUMMER 2018

**XI JINPING CONSIDERS
CHINA'S JOURNEY OF
REFORM AND OPENING UP,
AND FUTURE MEASURES
NEEDED FOR GROWTH**

**MORE DIGITALIZATION
WILL LEAD TO GREATER
ECONOMIC GROWTH, THE
INTERNATIONAL CHAMBER
OF COMMERCE FIND**

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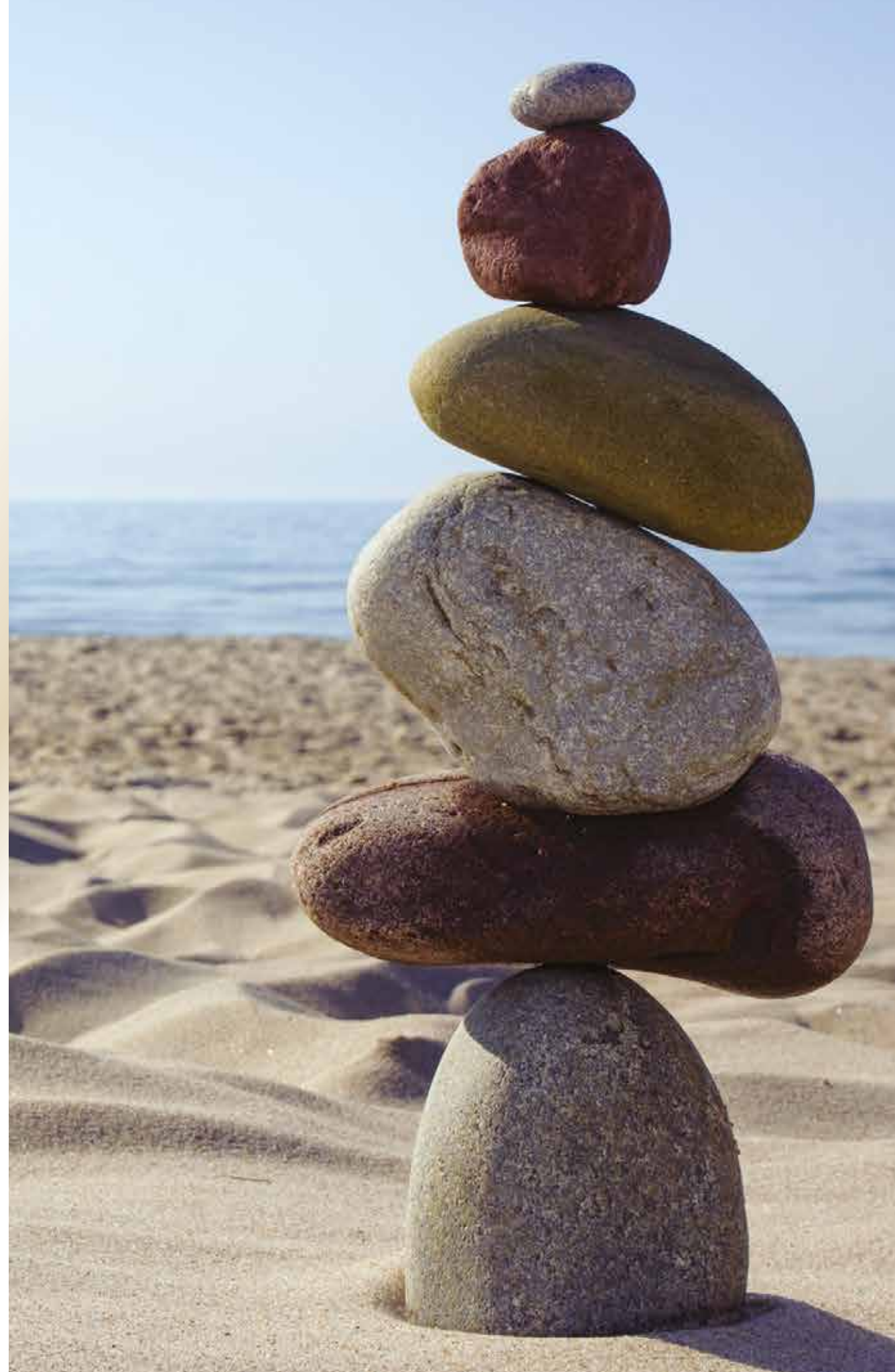
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Openness for greater prosperity, innovation for a better future

Xi Jinping considers China's historic journey of reform and opening-up, and the major measures needed to sustain continued growth in the coming decades

There are certain historic occasions that empower us with the wisdom and strength to move forward. This year marks the 40th anniversary of China's reform and opening-up, and the 30th anniversary of the establishment of the Province and Special Economic Zone of Hainan. It is reform and opening-up that has given life and prosperity to Hainan, that has turned it from the once backward and remote island into one of China's most open and dynamic regions, and that has enabled Hainan to achieve phenomenal social and economic growth.

Just like the radiance of the sun is reflected by a drop of water, the development of a country may be epitomized by an individual region. Hainan stands as an important historical witness to China's reform and opening-up over the past four decades.

Thanks to the initiative of Deng Xiaoping, the Third Plenary Session of the 11th CPC Central Committee in 1978 marked the beginning of China's historic journey of reform and opening-up. Our endeavour started from rural areas to cities, from pilot programs to nationwide projects and from economic restructuring to the comprehensive deepening of reform. Reform and opening-up over the past four decades has made great impacts on China. With united and determined efforts, the Chinese people have added a glorious chapter to the development epic of the country and the nation.

Over the last four decades, the Chinese people have significantly unleashed and enhanced productivity in China through hard work with an unyielding spirit. Heaven rewards those who work hard, and flowers in spring come to fruition in autumn. The focused endeavour in national development and unwavering commitment to reform and opening-up of the Chinese people have brought enormous changes to the country.

China has grown into the world's second largest economy, the largest industrial producer, the largest trader of goods, and the holder of the largest foreign exchange reserves. Over the past 40 years, China's GDP has averaged an annual growth rate of around 9.5% in comparable prices and its foreign trade has registered an annual growth of 14.5% in US dollars.

The Chinese people have emerged from a life of shortages and poverty and are now enjoying abundant supply and a moderately prosperous life. According to current UN standards, more than 700 million Chinese people have been lifted out of poverty, accounting for more than 70% of the global total over the same period.

The BRI may be China's idea, but its opportunities and outcomes are going to benefit the world. China has no geopolitical calculations, seeks no exclusionary blocs and imposes no business deals on others

Over the last four decades, the Chinese people have blazed a path of socialism with Chinese characteristics through determined exploration with a pioneering spirit. The Chinese people have both a keen awareness of national realities and a global vision. We champion independence and self-reliance while embracing openness and win-win cooperation. We uphold the socialist system while sticking to the direction of reform to develop the socialist market economy.

As we 'cross the river by feeling the stones', we have strengthened top-level planning. We have studied new circumstances, addressed new problems as they emerge and summed up experience accordingly, thus blazing a path of socialism with Chinese characteristics. The successful practice of the Chinese people is a proof that there is more than one path leading to modernisation. With the right direction and with unremitting efforts, all roads will take us to Rome.

Over the last four decades, the Chinese people have kept forging ahead and demonstrated the strength of the nation through keeping pace with the progress of the times. Ours is a truth-seeking nation with an open mind. Our efforts to open up our minds have advanced side by side with our endeavour of reform and opening-up. Our search for new ideas and experiment of practices have been mutually reinforcing.

Such is the great strength of a guiding vision. Ours is a nation that has courageously engaged in self-revolution and self-reform, constantly made improvements to the system of socialism with Chinese characteristics, and kept overcoming institutional and systematic obstacles to development. Such is the great strength of institutional guarantee. Ours is an enterprising and pioneering nation with unprecedented motivation, initiative and creativity. Such is the great strength of the 1.3 billion Chinese people driving history forward as masters of their nation and real heroes.

Over the last four decades, the Chinese people have embraced the world with open arms and actively contributed our share to the world. Reform and opening-up is a great process that has seen China and the world achieve development and progress together. The Chinese people have made opening-up a fundamental national policy, pursued development with an open door, and accomplished a great transition from seclusion and semi-seclusion to all-round openness.

In this process, China has lived up to its responsibility as a major country. From 'bringing in' to 'going global', from WTO accession to the Belt and Road Initiative, China has made significant contribution to mitigating the Asian financial crisis and the global financial crisis. Contributing over 30% of global growth in recent years, China has become a key anchor and driver for the world economy and a positive force in advancing the noble cause of global peace and development.

Today, the Chinese people can say with great pride that reform and opening-up, China's second revolution if you like, has not only profoundly changed the country but also greatly influenced the whole world.

An ancient Chinese classic teaches that heaven has its own law and those who embrace it will prosper. China's reform and opening-up meets its people's aspiration for development, innovation and a better life. It also meets the global trend toward development, cooperation and peace. As such, China's reform and opening-up can and will be a great success!

Four decades of reform and opening-up has given us many valuable inspirations. The most important one is that for any country or nation to achieve rejuvenation, they must follow the logic of history and the trend of the times in their pursuit of progress and development.

The world is undergoing a new round of major development, great change and profound readjustment. Humankind still faces many instabilities and uncertainties. The new round of technological and industrial revolution brings fresh opportunities and presents unprecedented challenges.

In some countries and regions, people are still living in the shadow of war and conflict. A great many people, including the old, women and children, are suffering from hunger and poverty. Climate change and major communicable diseases remain formidable challenges. Humanity has a major choice to make between openness and isolation, and between progress and retrogression.

In this complex and changing world, where are we headed and where is the future of Asia? To answer these fundamental questions of our time, we must not let our vision be blocked by floating clouds. Instead, we must dispel the clouds to see the sun, as we say in Chinese, so as to have a keen grasp of the law of history and the trend of the world.

We live at a time with an overwhelming trend toward peace and cooperation. In a world aspiring for peace and development, the cold-war and zero-sum mentality looks even more out of place. Putting oneself on a pedestal or trying to immune oneself from adverse developments will get nowhere. Only peaceful development and cooperation can truly bring win-win or all-win results.

We live at a time with an overwhelming trend toward openness and connectivity. Human history shows that openness leads to progress while seclusion leaves one behind. The world has become a global village where our interests are intertwined and our economic and social progress interconnected. To promote common prosperity and development in today's world, we have no choice but to pursue greater connectivity and integrated development.

We also live at a time with an overwhelming trend toward reform and innovation. A Chinese philosopher recognized as early as over 2,500 years ago that one doesn't have to follow a beaten path if he wishes to benefit the people and one doesn't have to observe old conventions if he wishes to get things done. Reform and innovation are the fundamental driving force of human progress. Those who reject them will be left behind and assigned to the dustbin of history.

To follow the trend of our times and advance the well-being of all people, I proposed the initiative to build a community with a shared future for mankind and I have since had many in-depth discussions with various parties. I am glad that this proposal has been welcomed and endorsed by a growing number of countries and their peoples. It has also been written into important UN documents. I hope that people around the world will work together toward this community with a shared future for mankind and make Asia and the world peaceful, tranquil, prosperous, open and beautiful.

With the future in mind, we need to treat each other with respect and as equals. We should uphold the five principles of peaceful coexistence, respect the social system and development path independently chosen by each country, respect each other's core interests and major concerns, and follow a new approach to state-to-state relations featuring dialogue rather than confrontation, and partnership instead of alliance.

We must refrain from seeking dominance and reject the zero-sum game. We must refrain from beggar-thy-neighbour and reject power politics or hegemony with the strong bullying the weak. Instead, we must properly manage differences and work together for enduring peace. With the future in mind, we need to promote dialogue and share responsibility. We should act on the vision of common, comprehensive, cooperative and sustainable security, and firmly uphold the international order and system underpinned by the purposes and principles of the UN Charter.

An integrated approach should be taken to counter traditional and non-traditional security challenges, and coordination should be enhanced both bilaterally and multilaterally. We must ensure that various security mechanisms coordinate with each other in an inclusive and complementary manner rather than undercut each other. This will lead us to universal and common security.

With the future in mind, we need to engage in cooperation for win-win results. We should stay committed to openness, connectivity and mutual benefits, build an open global economy, and reinforce cooperation within the G20, APEC and other multilateral frameworks. We should promote trade and investment liberalization and facilitation, uphold the multilateral trading system, and jointly foster new technologies, new industries and new forms and models of business. This way, we will make economic globalization more open, inclusive, balanced and beneficial to all.

With the future in mind, we need to uphold inclusiveness and seek harmony without uniformity. We must strengthen bilateral and multilateral cooperation in culture, education, tourism, youth, media, health, poverty reduction and other fields. We need to promote mutual learning among civilizations as it will help us build bridges of friendship, drive social progress, and safeguard peace for the region and beyond.

With the future in mind, we need to treat nature with respect and treasure our planet. It is important to have a vision of green, low-carbon and sustainable development, and respect, accommodate and protect nature. We need to increase exchanges and cooperation, share experience and jointly meet challenges in climate change, environment protection, energy conservation and emission reduction. We must pursue further progress along the path of sustainable development featuring increased production, higher living standards and healthy ecosystems so that our future generations can enjoy blue skies, clear water and lush mountains.

The 19th CPC National Congress held last October ushered socialism with Chinese characteristics into a new era and drew a blueprint for turning China into a great modern socialist country in all respects. This new era of socialism with Chinese characteristics marks a new chapter in China's rejuvenation and its effort for shared prosperity with the rest of the world.

Each age and generation have their own challenges and missions. China has come a long way, but it has to overcome new challenges on its way ahead. In this new era, the Chinese nation will continue to improve itself through reform. We will stay committed to advancing reform in all respects, and prevail over whatever challenges that may lie ahead. We will tackle long-standing problems with courage and resolve, and break the impediments of vested interests to see the reform through.

The Chinese people will continue to take bold steps in innovation to boost development. Following the people-centered development philosophy and the new development vision, we will modernize our economic system, deepen the supply-side structural reform, and implement at a faster pace the strategies of innovation-driven development, rural revitalization and coordinated regional development. We will continue to work on targeted poverty alleviation and promote social equity and justice to give our people a greater sense of fulfillment, happiness, and security.

The Chinese people will continue to increase openness and expand cooperation. We will stay committed to the strategy of opening-up for win-win results. We will pay equal attention to 'bringing in' and 'going global', and break new ground in opening China further through links running eastward and westward, across land and over sea. We will adopt policies to promote high-standard liberalization and facilitation of trade and investment, and explore the opening of free trade ports with Chinese characteristics.

The Chinese people will continue to work together with the rest of the world and make greater contribution to humanity. China will stick to the path of peaceful development, actively pursue global partnerships, firmly support multilateralism, and take an active part in reforming the global governance system. By doing so, we will be able to build a new type of international relations and promote a community with a shared future for mankind.

No matter how much progress China has made in development, China will not threaten anyone else, attempt to overturn the existing international system, or seek spheres of influence. China will stay as determined as ever to build world peace, contribute to global prosperity and uphold the international order.

A comprehensive study of world development trajectories shows that economic globalization is an irreversible trend of our times. In line with this conclusion, I emphasized in my report to the 19th CPC National Congress that China will continue to adhere to its fundamental national policy of opening-up and pursue development with its door wide open. I wish to make it clear to all that China's door of opening-up will not be closed and will only open even wider!

What has happened proves that opening-up was key to China's economic growth over the past 40 years and in the same vein, high-quality development of China's economy in the future can only be achieved with greater openness. Opening-up is a strategic decision made by China based on its need for development as well as a concrete action taken by China to move economic globalization forward in a way that benefits people across the world.

China will adopt the following major measures to pursue further opening:

- First, we will significantly broaden market access. A number of landmark measures are to be launched this year. On services, financial services in particular, important announcement was made at the end of last year on measures to raise foreign equity caps in the banking, securities and insurance industries.

We will ensure that these measures are materialized and at the same time make more moves toward further opening, including accelerating the opening-up of the insurance industry, easing restrictions on the establishment of foreign financial institutions in China and expanding their business scope, and opening up more areas of cooperation between Chinese and foreign financial markets.

On manufacturing, we have basically opened up this sector with a small number of exceptions on automobiles, ships and aircraft. Now these industries are also in a position to open up. Going forward, we will ease as soon as possible foreign equity restrictions in these industries, automobiles in particular.

- Second, we will create a more attractive investment environment. Investment environment is like air, and only fresh air attracts more investment from the outside. China relied mainly on providing favourable policies for foreign investors in the past, but now we will have to rely more on improving the investment environment.

We will enhance alignment with international economic and trading rules, increase transparency, strengthen property rights protection, uphold the rule of law, encourage competition and oppose monopoly. We established a host of new agencies such as the State Administration for Market Regulation as part of a major readjustment of government institutions this past March, the purpose of which is to remove the systematic and institutional obstacles that prevent the market from playing a decisive role in resources allocation and enable the government to better play its role.

In the first six months of this year, we will finish the revision of the negative list on foreign investment and implement across the board the management system based on pre-establishment national treatment and negative list.

- Third, we will strengthen protection of intellectual property rights (IPR). This is the centerpiece of the system for improving property rights protection, and it would provide the biggest boost to the competitiveness of the Chinese economy. Stronger IPR protection is the requirement of foreign enterprises, and even more so of Chinese enterprises. This year, we are re-instituting the State Intellectual Property Office to strengthen the ranks of its officers, step up law enforcement, significantly raise the cost for offenders and fully unlock the deterrent effect of relevant laws.

We encourage normal technological exchanges and cooperation between Chinese and foreign enterprises, and protect the lawful IPR owned by foreign enterprises in China. At the same time, we hope foreign governments will also improve protection of Chinese IPR.

- Fourth, we will take the initiative to expand imports. Domestic demand is the fundamental driving force for China's economic development, and it is an essential requirement for us to meet the people's ever-growing need for a better life.

China does not seek trade surplus; we have a genuine desire to increase imports and achieve greater balance of international payments under the current account. This year, we will significantly lower the import tariffs for automobiles and reduce import tariffs for some other products. We will import more products that are competitive and needed by our people. We will seek faster progress toward joining the WTO Government Procurement Agreement.

We hope developed countries will stop imposing restrictions on normal and reasonable trade of high-tech products and relax export controls on such trade with China. This November, we will hold the first China International Import Expo in Shanghai. It is not just another expo in an ordinary sense, but a major policy

initiative and commitment taken of our own accord to open up the Chinese market. Friends from around the world are welcome to participate in the Expo.

I wish to emphasize that with regard to all those major initiatives of opening-up that I have just announced, we have every intention to translate them into reality, sooner rather than later. We want the outcomes of our opening-up efforts to deliver benefits as soon as possible to all enterprises and people in China and around the world.

I am confident that with these efforts, China's financial sector will be much more competitive, our capital market will continue to enjoy healthy development, the building of a system of modern industries will be accelerated, our market environment will be greatly improved, and intellectual property rights will be effectively protected. In short, China will enter a new phase of opening-up.

Five years ago, I put forward the Belt and Road Initiative (BRI). Since then, more than 80 countries and international organizations have signed cooperation agreements with China. The BRI may be China's idea, but its opportunities and outcomes are going to benefit the world. China has no geopolitical calculations, seeks no exclusionary blocs and imposes no business deals on others.

It must be pointed out that as the BRI is a new initiative, it is perfectly natural for there to be different views. As long as the parties embrace the principle of extensive consultation, joint contribution and shared benefits, we can surely enhance cooperation and resolve differences. This way, we can make the BRI the broadest platform for international cooperation in keeping with the trend of economic globalization and to the greater benefit of all our peoples.

As a Chinese saying goes, *"A mountain is formed by accumulation of earth and an ocean is formed by accumulation of water."* Happiness and a bright future will not appear automatically; success only favours those with courage and

perseverance. Let us dedicate ourselves to openness and win-win outcomes, be brave to change and break new ground, and keep striving for a community with a shared future for mankind and a better tomorrow for Asia and the world. ■

Xi Jinping is General Secretary of the Communist Party of China and President of the People's Republic of China



The G7 is dead, long live the G7

The Charlevoix summit left behind a Group of Seven in disarray. Jim O'Neill and Alessio Terzi ask if, in a fast-changing world, the G7 is a relic of the past?

The summit on June 8th and 9th in Charlevoix, Canada, left behind a Group of Seven (G7) in complete disarray. Following days of tense negotiations, the G7 painstakingly managed to hammer out a joint communique, only to see US president Donald Trump withdraw from it shortly after the summit.

Commentators around the world have been quick to blame President Trump for [undermining the world order](#) or pushing the [G7 into increasing irrelevance](#). However, in this latest fiasco, we see a mere vindication of our long-held view that the G-group, in its current formulation, no longer has a reason to exist, and it should be replaced with a more representative group of countries (O'Neill and Terzi, 2014a).

The G7 was, for many years, an effective forum for dealing with major pending issues, having first met in 1976. Canada and Italy joined the original G5 (US, Japan, France, West Germany and the UK), who had previously come together earlier in the decade to deal with global economic emergencies such as the collapse of the Bretton Woods agreement and the 1973 oil crisis.

At the time, the G7 countries represented roughly 50% of global GDP (see Figure 1). However, as time went by, this share has been on a constant downward trend, especially due to the rise of China. Today, the G7 countries represent around 30% of global GDP, and IMF forecasts suggest this number will further contract going forward.

As a consequence of this tectonic shift, it should come as no surprise that in 2008, when a global fiscal stimulus was needed to counteract the Great Recession, the matter could not be dealt with within this setting, and the G20 (as we know it today) was first established. While successful at the time, the G20 has since then lost decisional momentum (Angeloni and Pisani-Ferry, 2012).

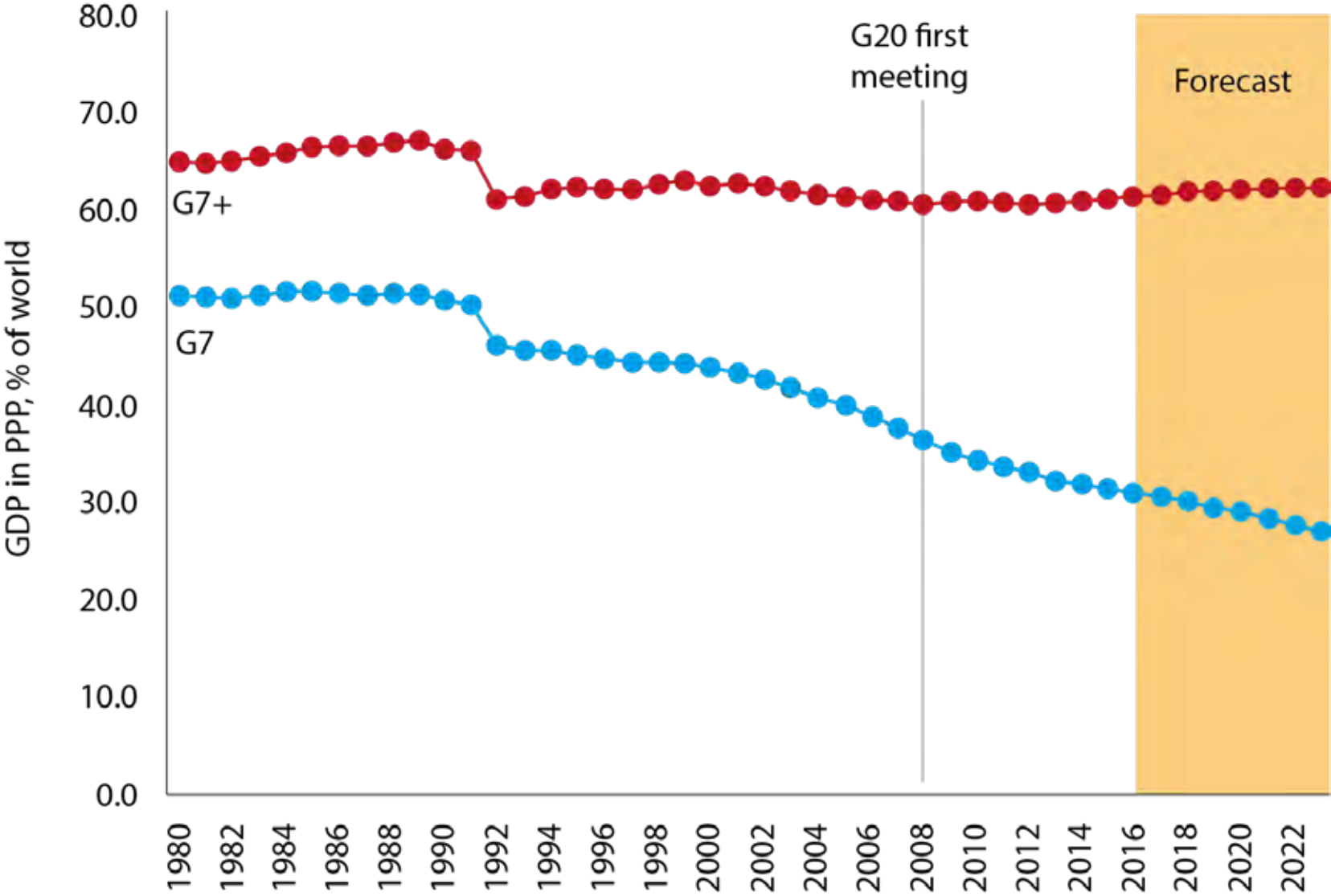
Against this backdrop, in 2014 we ran a [survey](#) of G20 Sherpas (the high-level advisors of heads of state or government) to understand their perception of the G20's workings and the potential for global governance reforms.

Faced with a G7 that was not representative of the new world order, and a G20 that was too big and heterogeneous to make decisions when not mired in deep crisis, we proposed the creation of what we then called a G7+ that would replace the current G7 (O'Neill and Terzi, 2014b). In the new G7+, France, Germany and Italy would be replaced by a common eurozone representative. This would make space for China and India. Canada would be replaced by Brazil. The rest would remain unchanged (Table 1).

The G-group, in its current formulation, no longer has a reason to exist, and it should be replaced with a more representative group of countries

Figure 1. GDP commanded by current G7 countries, and revised G7+

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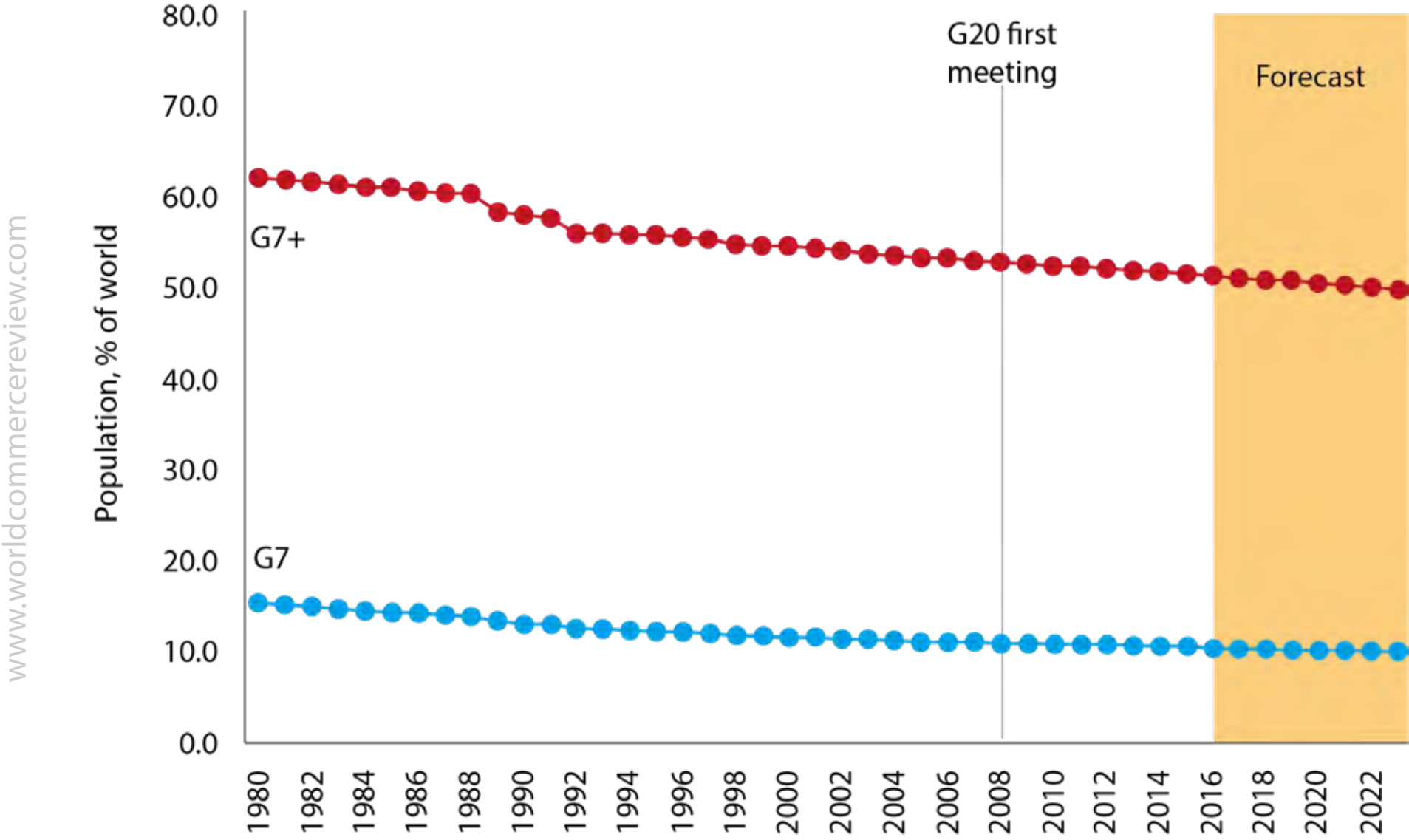


Notes: 1992 time series break due to the inclusion of former USSR countries in the database
 Sources: own calculations based on IMF WEO

Table 1. Current G7 composition and revised G7+

Current G7	G7+
France	China
Germany	Euro area
Italy	India
Canada	Brazil
Japan	Japan
United States	United States
United Kingdom	United Kingdom

Figure 2. Population represented by current G7 countries, and revised G7+



Sources: own calculations based on IMF WEO

As described in Figure 1, this group would be much more representative in GDP terms. As a matter of fact, it would have represented largely a constant share of world GDP since the 1980s, hovering just over 60%. This also remains true looking ahead, based on IMF forecasts. Crucially, and in contrast to the G20, the G7+ would achieve this result without adding seats around the table and complicating decision-making. Also, in population terms, the new G7+ would be much more representative than the current G7, whose countries cover just over 10% of global population (Figure 2).

Crucially, the G7+ would provide leadership and fast-paced decision-making on economic and financial issues of global relevance – but should not replace the G20, which remains an important avenue for discussions of all other issues that call for higher representativeness, ranging from terrorism and food security to tax avoidance and climate change.

At the time of our first proposal, G20 Sherpas from non-G7 countries saw the move as reasonable, but argued that this was feasible only if the West were to move first. On the other hand, G7 country representatives made the point that even if representativeness is low, it remains desirable to have a forum for like-minded democracies. While this argument already appeared weak at the time, the latest developments make this view even more untenable.

Regarding the euro area countries, we made the [point](#) at the time that giving up their seat and having a joint representative would send a clear signal in terms of commitment to the common currency. In light of Italy's recent [financial storm](#), this seems even more pressing nowadays than it was back then. Moreover, these countries already have a common trade and monetary policy, and soon potentially a [joint defence force](#). It was indicative that when the new Italian prime minister Giuseppe Conte mentioned at Charlevoix that economic sanctions on Russia should be relaxed, German Chancellor Merkel's [reply](#) was that they should have spoken about that earlier (in a European setting).

President Trump might well have scrambled decades of world order for the wrong reasons through his 'America First' agenda. However, the world has been changing fast and the G7, as it stands today, looks like a relic of the past. The earlier western countries realise this, the faster the world will achieve a better, more efficient, more representative global governance. ■

Jim O'Neill is a Visiting Research Fellow and Alessio Terzi is a Affiliate Fellow at Bruegel

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This article was originally published on [Bruegel](#)



Monetary policy - end of history?

Monetary policy must always react to new challenges, including whether to refine its targets or consider new tools, says Sabine Lautenschläger

In 1992, the political scientist Francis Fukuyama announced the end of history. The cold war had just ended, and in Fukuyama's view, this marked *"the endpoint of mankind's ideological evolution"*. Liberal democracy had prevailed; the final form of government had been reached. There was no need for history to continue.

Similar claims were made about monetary policy. The great moderation, for instance, was traced back to better monetary policy. With this in mind, some argued that monetary policy had reached a perfect and final stage. There was no need to evolve further; history had come to an end.

Or had it? Well, it seems that the unexpected always happens. And when it does, it tends to push the end of history a bit further away. This is true for politics, and it is true for monetary policy.

The unexpected happened in 2008: the global financial crisis struck and undid the great moderation. History took a sudden turn and this threw long-held beliefs overboard. Academics as well as policymakers had to adapt their thinking and their doing – monetary policy was no exception. Central banks around the world came up with new tools to keep the financial system and the economy afloat. They became key players; some observers even referred to them as the only game in town.

Now, ten years later, there is one thing that weighs on many people's minds: when will unconventional monetary policy end? When will it return to normal? It seems that many look no further than the exit from our unconventional measures. But what will happen once we have reached the exit? Will we return to the end of history?

Well, I don't think so. First, there are still many questions that need to be answered. And second, the unexpected will happen again at some point. History does not end. But before we discuss what will happen tomorrow, let's take a look at today.

Approaching the exit – slowly but surely

For many months, we have been discussing the conditions for a gradual exit from our extraordinarily loose monetary policy. But some might now point to the latest economic data indicating that growth has lost some momentum and wonder if this is reason to be concerned, or even to change plans?

Well, first of all, we need to put the latest developments into perspective. Growth in the euro area exceeded potential growth for a couple of quarters. In 2017, the euro area economy grew by 2.5%, compared with potential growth estimates of 1.5% for the year¹. Against this backdrop, one could expect to see it to slow down. And that's what happened.

History does not end for monetary policy. It did not end with the great moderation, and it will not end with the exit from our unconventional measures

In the first quarter of 2018, year-on-year growth was 2.5%, compared with 2.7% in the fourth quarter of 2017. We saw industrial production, excluding construction, decline in the first two months of the year. And both the composite output Purchasing Managers' Index and the European Commission's Economic Sentiment Indicator eased in the first quarter. But both are still well above their long-term average.

So we are seeing that the pace of growth has become more moderate, but we are not seeing a turning point. We remain confident in the strength of the economy.

After all, the things that are currently holding back growth seem to be temporary. There was the early timing of the Easter break, there was a strong outbreak of flu in some parts of the euro area, there was cold weather and there were strikes in some countries. All this weighed on growth, but it won't do so permanently.

We need to keep a close eye on all this, and we will. But for now, there is no need to rewrite the story. The economic expansion remains solid and broad-based. Financing conditions are good, the labour market is robust with a historically high increase in jobs, and income and profits are growing steadily. In short: the real economy is doing well.

By contrast, inflation so far does not seem to be recovering as convincingly. This has left many observers scratching their heads as to why the current level of low inflation does not match the current state of the real economy. It seems that inflation is responding less to the slack in the economy than would be expected. This disconnect between the real and nominal sides of the economy is the subject of intense debate. In very general terms, there might be two forces at play.

First, the Phillips curve might have changed. It might, for instance, have flattened, or it might have shifted downwards. Empirically, it is very hard to determine which – if either – of the two things has happened.

And that brings me to the second point, which is that we cannot be sure whether we are measuring slack correctly in the first place. The unemployment rate, for instance, is based on a narrow definition. Just think of people who work part-time. Officially, they are employed, but they could work more, of course. So, the amount of slack could be larger than we think. If that is the case, it's no surprise that inflation has not kicked in.

That said, the economy is still expanding and, at some point, any remaining slack will be used up. As a consequence, pressure on wages will increase, and we are indeed already seeing wages edging up. Wage growth increased from 1.1% in mid-2016 to 1.8% in the fourth quarter of 2017. In Germany, wages even grew at 2.7% in the first quarter of 2018. This, in turn, will prompt inflation to pick up.

So I believe that all we need is a bit of patience. All the conditions for inflation to kick in are in place. So, now might be the time to decide once and for all to gradually end net asset purchases by the end of this year.

But please do not misunderstand me here: I am just referring to the net purchases. There is still the stock of assets we have already bought. And we will still reinvest any proceeds from maturing bonds. Just to put it in perspective: each month we buy assets worth €30 billion. This compares with a stock of assets worth €2,400 billion.

What I want to say is this: even when we end net purchases, monetary policy will still be extraordinarily accommodative. And, at the same time, other tools will remain in place. The Eurosystem has, for instance, committed to granting banks unlimited access to liquidity against a wider range of collateral.

With our targeted longer-term refinancing operations, we provided credit institutions with funding for up to four years. Finally, interest rates are still historically low and will remain so for some months to come. A first hike around the middle of 2019 is not entirely out of the ballpark.

So, we are slowly but surely moving towards the exit. This is the next big thing to happen. But it will not be the end of the story, let alone the end of history. Monetary policy will continue to evolve, new challenges will arise, and many questions still need to be answered.

I will discuss three of these questions now: first, does monetary policy need to refine its targets and update its toolbox? Second, how should it treat financial stability? And third, what is the relationship between monetary policy and the distribution of wealth and income?

Tools and targets

As we know, when the crisis hit in 2008, central banks around the world had to rethink their approach in more ways than one. And they are still doing so.

What will monetary policy look like in the years to come? Should we put some of the tools we used in the crisis near the top of our toolbox where we can easily reach them? Or should we bury them and only dig them out again in the event of a severe crisis? And should we redefine our target?

The debate on these issues, in academic and policy circles alike, has been lively. So let us weigh the potential costs and benefits of redefining our toolbox and our strategy.

Let's start from the beginning. The crisis called for very loose monetary policy, and we responded with our standard tools. However, despite the ECB's efforts, inflation remained at historically low levels. In January 2015, the Eurosystem thus announced that it would start buying government bonds. A year and a half later, in June 2016, it also began to buy corporate bonds.

So, the basic story is simple. Once the Eurosystem had come to the conclusion that the standard tools were not sufficient to reach our objective, it turned to non-standard tools.

Asset purchases are one of those tools. And they have made our job as central bankers even more complex than it used to be. The first challenge we faced was how to go about implementing the purchase programme. Interventions like this can have any number of unintended consequences.

First, as a major actor in the markets for public and private bonds, we have to tread carefully. We have to make sure that the markets continue to work well. We thus placed limits on the share of a bond issue that we would buy, for instance. This ensures that the Eurosystem does not form a blocking minority in the event of a debt restructuring involving collective action clauses.

Second, there is a risk that we might become a drag on market liquidity, in particular in some segments of the corporate bond markets. We have thus tried to minimise this kind of side effect, and not to worsen existing shortages of certain assets.

Third, we must be aware that our actions might distort prices. The more bonds we buy and the longer we go on buying them, the greater the risk that prices no longer reflect market conditions.

These are some of the risks we have to bear in mind. Viewed from today, however, it seems that our non-standard measures did have the desired effects on financial markets and, consequently, on the real economy.

But what does this mean for the future? Seeing the short-term effects, some observers suggest making the balance sheet part of the new orthodoxy of monetary policy strategy – or part of the standard toolbox, as they like to say.

Let me say clearly that I think this should not happen. The short-term benefits should not lead us to overlook the long-term costs and the severe side effects. These costs and side effects can be quite high, and they tend to grow over time.

Thus, a comprehensive asset purchase programme, such as the current one, should only be used to fight a real risk of deflation. In my view, that is the only valid reason for using such tools.

For one thing, I wonder how it would affect the incentives for various stakeholders. Financial market participants, firms, consumers and also governments have to varying degrees adjusted to historically low interest rates and ample liquidity. And for some of them, low interest rates have certainly made life easier. It is therefore crucial to realise that this won't go on forever – the exit will come eventually – and to adjust accordingly.

Second, there is the issue of financial stability. When the central bank buys bonds, it might also fuel asset price bubbles, financed by cheap credit. This risk increases the longer unconventional monetary policy measures continue to be applied.

And third, monetary policy can only buy time – no matter how loose or unconventional it becomes. Monetary policy is not a tool meant to alter the long-term viability of economies, and it would be dangerous to believe otherwise. I will come back to this point in a few minutes.

And it's not just about the tools, it's also about the target. A second idea that is often put forward is that we should change our objective and strive for higher inflation². Proponents of this idea claim that we should no longer aim for inflation rates of below, but close to, 2% over the medium term.

They argue that we should aim for inflation rates higher than that. This idea is based on the observation that higher inflation rates generally lead to higher average nominal interest rates. This would then give central banks more room for manoeuvre, as they would be less likely to hit the effective lower bound.

In my view, aiming for a higher inflation rate would lead to the same problem as making non-standard tools a standard part of the toolbox. Such proposals tend to underestimate the associated costs.

There is evidence that changing the objective would be too blunt a move. Hitting the effective lower bound is costly, but so is higher inflation. Research shows that the key benefit of higher inflation – fewer and less severe zero lower bound events – is easily offset by the costs of positive trend inflation.

What are these costs? Well, price distortions become larger, overall inflation becomes more volatile, and the welfare costs of such volatility increase as well³.

And changing our objective could undermine the markets' confidence in the ECB's commitment to price stability. The transition could prove very hard to manage and could take many years. And during that time uncertainty would increase.

We would thus likely witness increased disagreement among forecasters – inflation expectations might become more volatile. And this is anathema to central bankers. In the end, it is part of our job description to ensure that long-term inflation expectations are well anchored.

In this context, we must also take into account that changing our objective might in itself hurt our credibility – the main asset of any central bank. And this would make it much harder to steer inflation expectations even after the new objective had been met. After all, people might think that at some point in the future, we could revise our objective again. Central bankers are conservative for a reason.

To sum up, it seems to me that these proposals have one thing in common. They are a reaction to the dramatic shifts we have witnessed since the crisis. Hitting the effective lower bound forced a bout of creativity in the world of monetary policy. But I do not believe that the way forward is to entirely revolutionise the way we think about the role of central banks.

Still, we should also be realistic. The crisis revealed shortcomings in our thinking, and this is something we need to work on.

What about financial stability?

So the debate about the future does not end here. Another thing to discuss is how monetary policy and financial stability interact. And this debate also involves our standard tool, the interest rates. Interest rates have been very

low for quite some time now. This has coincided with an upsurge in asset prices and a compression of spreads on risky securities.

Against this backdrop, some economists argue that monetary policy has an effect on both the capacity and the appetite of investors to take on risk⁴. This has been termed the risk-taking channel, and it does not play a role in standard monetary policy frameworks. These focus instead on the interest rate, credit or bank lending channels.

Now, how does this risk-taking channel work? Well, it can work in different ways. For a start, low interest rates mean low returns. Investors might rebalance their portfolios and take on more risk in order to make up for lost returns. Should we be concerned about this? Well, if the process is well managed, there is no need for concern.

However, some financial institutions set rather inflexible target rates of return, for example because investors expect a certain minimum yield. These inflexible targets may lead them to take on more risk than appropriate. It is clear that this could lead to trouble further down the road.

Also, the financial system's behaviour can be procyclical. There is reliable empirical evidence that loose monetary policy lowers both the measured risk in asset prices and the risk premia demanded by investors⁵. But value-at-risk approaches mean that the risk management of banks relies on measured risks. This could then lead to increased leverage, which would add even more liquidity to the global financial system. So there is a view that the risk-taking channel should be incorporated into the models that guide monetary policy.

Let's try to unpick this argument. In my view, there are two conceptual issues here. The first is the idea that policymakers should only be concerned with risk-taking if it is excessive. But establishing whether or not risk-taking

is excessive is quite hard. The second issue is that even if we conclude that there is excessive risk-taking, it is far from clear whether monetary policy would be the best tool to deal with it.

Let's start with the first issue. What qualifies as excessive risk-taking? Well, there are two conditions. Risks would need to be mispriced, and investments would need to have been financed with a dangerous amount of debt. If these two conditions are met, a financial crisis becomes more likely.

Now, where do we stand on these two issues? Well, there is some evidence that banks in the euro area do indeed provide riskier corporate loans when short-term interest rates are low⁶. It seems that banks tend to grant loans with fewer covenants and lower collateral cover. Such loans are riskier in the sense that in case of a default, the impact on the banks might be larger.

However, it is hard to tell whether this kind of risk-taking is excessive or not. Many studies rely on credit register data which do not include loan interest rates. Thus, it is hard to tell whether the loans are mispriced given the risk they contain. It could just as well be that banks grant loans to riskier companies but do so at higher interest rates, which compensate fairly for the higher loss risk.

This brings us to the second issue. Even if we could say with certainty that risk-taking is excessive, we would still need to be sure that monetary policy is the right tool to deal with it.

Some think it is; others think it isn't. The latter believe that central banks would run into trouble if they tried to deal with financial stability. This is because it would involve a conflict of interest. To stop a credit-induced bubble, we would need to raise interest rates, and we might need to raise them by a lot.

After all, potential profits are huge when there is a bubble, so investors would not be deterred by a modest increase in interest rates. But what if a huge increase in interest rates would derail inflation? Which path should monetary policy take in such a situation?

As the economist Jan Tinbergen has observed, you cannot achieve two goals with just one tool. And attempting to do so would damage the credibility of central banks.

It's not easy to say who is right. Financial crises are fortunately rare events, and usually there is no single cause. This means, however, that we do not have a whole lot of data to analyse. Still, in the past, monetary policy was used at least in part to prevent bubbles from forming. This was done in the United States in the late 1920s, for instance, and in Japan in the late 1980s. Suffice to say, these episodes did not end well.

So, it seems wise not to rely on monetary policy when it comes to financial stability. And in this sense, the reforms of the institutional architecture in the Eurosystem after the crisis were indeed wise. The ECB's mandate remains clear: our objective is price stability. But we have also been given powers for microprudential supervision, as well as some macroprudential competences.

On the microprudential side, European banking supervision contributes to the soundness of the banking system. A lot of work has already been done, and we will continue to do more.

First of all, banks are much better capitalised and provisioned than they were in 2014, which makes them more resilient to shocks. Second, we are pushing banks to reduce legacy assets such as non-performing loans. And third, we are requiring banks to improve their risk management, for instance with regard to the internal models they use to calculate the risks associated with the assets they hold.

Macroprudential policy was also developed in the aftermath of the crisis. It still needs to be refined and tested. Available evidence from the euro area and beyond may not be definitive, but it is encouraging. Let me give you a few examples.

With the 2010 Basel III agreement, we introduced countercyclical capital buffers. These can help lean against the build-up of imbalances, and if they cannot fully prevent them, they can at least make banks more resilient in the event of a downturn.

Borrower-based tools also look promising. In Asia, they have been used for many years now. In South Korea, loan-to-value and loan-to-income limits have successfully curbed growth in house prices⁷. But again, more systematic evidence is not clear-cut. Studies based on cross-country evidence show that only loan-to-income limits have had a discernible effect on house prices. But there is still reason to be cautiously optimistic.

And the benefit of macroprudential policy remains clear: it is the most direct way to deal with financial stability concerns. And, over time, we will gather more evidence and gain more experience. This will give us plenty of opportunity to fine-tune these new tools.

Beyond monetary policy: wealth, income and structural reforms

But the discussion about the wider effects of monetary policy is not just about financial stability. Particularly here in Germany, there is a fierce debate about who loses out as a result of monetary policy. Many savers feel that they have to bear a huge burden because interest rates are so low. I understand their frustration. After all, I am a saver myself.

However, we are not just savers. Some of us might have taken out a loan to buy an apartment or start a business – we benefit from low interest rates. Some of us may have invested in stocks or bonds – we benefit from rising markets. And some of us may have kept our jobs because monetary policy propped up the economy.

Monetary policy affects people in different ways. In more technical terms: it has an impact on the distribution of wealth and income. And the important question is whether it makes this distribution more unequal. Does it make the rich richer and the poor poorer?

Let's look at wealth first. Here, the most important item for many households is real estate, the home they live in and any other property they may own. Real estate makes up about 80% of the total assets of households, almost irrespective of their level of prosperity. So, to answer our question, we need to think about how monetary policy affects house prices.

The answer is that quantitative easing raises house prices and, on average, this boosts the net wealth of all households, rich and poor alike. In fact, poorer households might even benefit more because they are more highly leveraged. So their main asset – their house – gains in value, while the debt they used to finance it becomes cheaper.

Now, what about incomes? Well, loose monetary policy props up the economy and thus raises employment. And again, this should mean that people with lower incomes benefit most. After all, unemployment is much higher among those with low incomes than among those with high incomes.

So, it seems that loose monetary policy might also reduce income inequality. However, there are three things that we must keep in mind.

First, the effect of monetary policy on inequality is quite small. In the end, inequality is driven by many things such as technological progress, globalisation and taxes. Compared with these things, monetary policy seems to play a minor role.

Second, the effect is temporary. In the long run, monetary policy is neutral; it does not affect real variables such as output. And third, the effect is symmetric. Those who benefit when monetary policy is loosened suffer when it is tightened.

We have to be aware of these effects, of course. But should it be up to monetary policy to actively engage in redistribution policy? Well, monetary policy has a very clear goal: price stability. So, I would argue that monetary policy should focus on this goal and leave other goals to other policy areas, and that includes redistribution policy.

Imagine inflation were sky-high, for a change. Should monetary policy then refrain from raising interest rates because it might alter the distribution of income and wealth? Again, there is a clear conflict of interest as one tool would have to achieve two objectives at once.

That said, the topic of wealth and income distribution is an important one and it should not be taken lightly. I therefore welcome the fact that academia is paying increasing attention to the matter. The ECB is contributing to the debate with our household finance and consumption survey.

And this links to a broader issue. In the crisis, monetary policy has played a key role. However, it is not the only game in town – it cannot be the only game, and it should not be. Monetary policy is not a substitute for other policy areas such as social policy, fiscal policy or labour policy.

As I and many others have repeatedly said, monetary policy cannot resolve the structural problems of the euro area. All it can do is buy time – at an increasing price. So it is time for politics to kick into gear, overcome reform fatigue and do what needs to be done. The current conditions are very favourable.

The good news is that many countries have come a long way. Ireland was the first success story, and I am glad to be able to add countries such as Spain and Portugal to the list. These and other examples show that structural reforms pay off and pave the way for growth to return.

But coming back to inequality, there is one thing we must do. We must ensure that economic growth benefits everyone. To that end, we should not just rely on redistribution policy. It is rather about creating equal opportunities for everyone.

In this context, education and equal access to it should be at the top of the to-do list of any government. So, a lot remains to be done, not just on equality but on growth in general. After all, growth also plays a big role in fighting inequality.

And when it comes to long-term growth, research shows that the quality of institutions plays a major role⁸. At the same time, the quality of institutions differs between countries. So, some countries have scope to improve judicial systems, public administration and insolvency regimes. This would make their economies more resilient and help them to grow.

And I'm not just referring to institutions at the national level. European institutions are not free of deficiencies either. They too need to improve. If we want European citizens to trust Europe, we need to make sure we deliver on our promises.

And there is a long way to go: according to the latest Eurobarometer survey, only 41% of Europeans tend to trust the EU. And the latest election results show that anti-European parties are still on the rise – think of Germany, think of Italy. So there is a need for reform and a need to explain thoroughly how the European Union benefits each and every European citizen.

Conclusion

History does not end for monetary policy. It did not end with the great moderation, and it will not end with the exit from our unconventional measures. There are still many questions that need to be answered, some of which I have discussed.

But although monetary policy still needs to evolve, it must do so within a certain framework. And this framework is defined by two things. First, even though central banks have assumed a key role in the crisis, their objective is very clearly defined: to ensure price stability.

Second, to achieve this objective, central banks need to be independent. Within this framework, we need to answer all the questions which remain open. So, there is still a lot of work to be done in terms of both theoretical and empirical research. That's where universities come into play. They can help us to gain additional insight, and they can help us to come up with new ideas. From an academic viewpoint, these are certainly interesting times. ■

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Endnotes

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This article is based on a [speech](#) delivered at the Center for Financial Studies Colloquium, Frankfurt, 29 May 2018



Resilience and continuity in an interconnected and changing world

Lyndon Nelson considers the changes and advancements that have occurred during his 30 years in the City of London, and highlights the risks posed by cyber and other operational incidents, given the financial system's increasing reliance on technology and data

In just a few weeks, I will have completed 30 years in the City of London. Such milestones are obviously a cause for reflection and today I want to share some of those reflections with you in the area of technology. I had visited London less than half a dozen times before I started. My family were based in York and we banked with the local regional bank. Indeed, I had been a depositor with my bank since the age of five. On my arrival in London I found myself with only one ATM machine available to me at the branch of my regional bank on Cheapside. There was a small plaque on the ATM that read 'in case of malfunction the nearest ATM is on the High Street in Reading' – a journey of 44 miles.

Given my lack of access to an ATM, I was quick to apply for a bank account at the Bank of England, whereupon I now had access to 2 further ATMs, both next to each other in the Drawing Office in the main building in Threadneedle Street. Fortunately just a few years later my bank joined the Link network of ATMs and my days of hoarding cash came to an end. Link now has 38 member institutions and connects over 70,000 ATMs in the UK and represented a key development in building and maintaining shared services across the sector.

Of course, the major change in banking has been the rapid development of both Internet and mobile telecommunications and the consequent demise of the branch – 'clicks not bricks'. Dial-up internet was first available in the UK in 1992 and the first consumer mobile phone in the UK was launched by Motorola in the same year. It had no screen and limited functions. The first phone capable of browsing the internet was the Nokia 7110 that was launched in 1999.

In 1990, I was one of 17% of UK homes who owned a personal computer. By 2016, 88% of homes owned a personal computer with the bulk of the growth occurring between 2000 and 2010 (when it grew from 38% to 77%). But we're getting ahead of ourselves, because, of course, there was a time when phones were used to make calls.

In 1989, I was on the team responsible for the supervision of the large clearing banks. Midland Bank, which to put it mildly had had a difficult few years, launched First Direct, a division of the bank which offered a telephone banking service. At the time, Midland Bank would advertise itself as the 'listening bank' and wanted to describe First Direct as the 'talking bank'. However, as the term 'bank' was legally protected at the time it was only legally able to describe itself as the 'talking division of Midland Bank'. That really did not catch on.

Organisations are often at their most vulnerable when embarking on change. They often discover too late that weaknesses in their resilience can jeopardise the success of a major project even if those involved believe that they have carried out robust testing

10 years later the first online banking platform was launched by Nationwide Building Society in 1997, but it was not until the 2000s that such services gained meaningful status as consumer utilities. Behind the scenes, the first faster payments were sent in 2008 and in 2012 the Payment Services Regulations introduced the new requirement for payments to reach the beneficiary account no later than the day after the remittance account is debited - not the three or even seven days I was used to back in 1988.

Also, in 2010 mobile banking on smartphones and tablets was introduced. In 2014, PAYM (payment via mobile phone) was launched. So today, I think nothing of paying my groceries with my mobile phone, arranging for a BACS payment to go to the firm that has just mended my roof and to secure these transactions either with my voice pattern or my fingerprint.

It truly is an amazing time to be involved in financial services.

All new technology opens up new opportunities. Be it for the customer or for the bank itself. For the bank, it provides an opportunity to consider their business model and unbundle previously aggregated activities.

This in turn, has enabled the second key development in my 30 years. The rapid growth of outsourcing and the use of third parties. Outsourcing was sometimes motivated by cost and efficiency (many banks had cost to income ratios of around 70% when I started) and in other cases to achieve improvements in the management of risk. These days many of these third parties are entities that are outside of the financial system. Like all outsourcing they create new dependencies on which the financial system must rely.

Indeed, in some instances, firms are now entirely dependent on third party providers. Furthermore, in some areas there are significant concentrations with many firms relying on one or a small number of third-party providers.

Whilst regulators expect firms to manage the risks associated with outsourcing, managing this concentration risk is a challenging task. Especially when there are no ready substitutes, the power to negotiate is limited or substitution is insufficiently tested.

Whilst I have rightly celebrated the developments in new technology over 30 years in truth we have never quite left the past behind. Indeed, for some firms there is still live code on the systems written well before I arrived in the City. Consequently some technology experts appear to have more than a passing resemblance to the local archaeologist, as they scrape away each layer of technology in order to reveal the very old technology on which a system is built.

Some of this buildup is not simply organic, but has been the result of mergers and acquisitions which forced the integration of evermore complex technology platforms with existing older platforms. And as most of those integrations were often explained in terms of promoting cost efficiency, it was often impossible to make the business case to simplify the technology. It was just too expensive.

The next biggest change has been the speed with which we work. When I started work we still had a typing pool and there were two computers, mostly for spreadsheet work, between eight of us. The pace of work was slower. When stock and futures markets crashed in 1987, computerised trading was blamed for exploiting existing market vulnerabilities and causing one of the biggest single day market declines in history.

23 years later, the 2010 Flash Crash, again showed the potential of technology to contribute to sharp market movements, but this time movements were measured in milliseconds rather than days. Faced with this reality, many trading companies have chosen to relocate some of their infrastructure or build super-fast networks in order to beat

their competitors to an arbitrage by the odd nanosecond. This speed means of course that the 'oh no second' (ie. the time between pressing send and realising you have made a mistake) has radically reduced.

I will end my tour of developments, with one of the more recent changes - the Cloud. We have seen a huge increase in the number of firms considering a move to the Cloud. Regulators have also been active - the European Banking Authority issued guidance in December 2017 and they are applicable from 1 July 2018. In many ways, the Cloud is just another outsourcing option and consequently can be viewed in much the same way as we did, other technology outsourcing (to which I have already referred) or the moves by the financial sector to move a number of technology and back-office functions offshore to India for example, twenty years ago.

That means, for the Cloud, it is important for a firm to set out the relative importance of all of its information assets and processes and consequently determine which are within its appetite to put in the Cloud. After that, it needs to determine the level of effective control it retains. The right of access to review controls, and the strength of its contract for example.

Then the quality of service it expects to get and finally what exit options it has. A firm can get very stuck if it has no effective options to move, when its outsource provider is no longer delivering an adequate service. Despite news of some outages, the Cloud can often provide a more secure environment for many firms than they can provide themselves.

However, the dominance of just a few providers means that many buyers are not in a strong position to negotiate contract terms with their Cloud provider. This can leave them badly squeezed between regulatory requirements that will often look through an outsourcing and little leverage with their Cloud supplier who is unregulated to

deliver against the regulations. The concentration of providers is also a concern - given the contagion effect and it has to be acknowledged that they must be a very tempting target to any cyber criminal.

Fortunately the Cloud providers are focused on these risks, given their entire business models are dependent on the provision of operationally resilient services.

So what sort of modern financial system has been created over this last 30 years? Well, it has many components (regulated and unregulated), multiple dependencies (that are no longer fully transparent to either its users or its regulators) and it is highly dependent on technology and data. It is in the truest sense a complex system. In such systems the impact of any shock is difficult to predict and contain. With many multiple transmission channels in play, its perimeter is hard to police.

As the Financial Crisis reminded us with a ferocious intensity, the shocks to the financial system from market or credit risk can be very severe. However, as we are now learning the shock from the operational side can be just as significant. And it will be upon these operational shocks and their consequences, that I shall devote the remainder of my time.

Recently I was asked to say a few words to a group of new Operational Risk managers. I told them that they would be pioneers. I foresaw that operational resilience would be seen to be on a par with financial resilience and a key part of a firm's risk profile. I felt that this would be transformational for many organisations.

So an exciting time? Yes, but operational resilience is hard. However, given the nature of the financial system we have, it is of critical importance.

Banks have been used to safeguarding their financial interests from fraudsters and even bank robbers for decades, but in the case of operational matters the barriers to entry for those who would seek to do harm to the bank are much lower. This brings us to the world of cyber - a key element to operational resilience.

As we have seen in recent years, the cyber attacker like a liquid has found every crack and gap in firms' defences and settled at the level where there are the fewest controls. These can be related to gaps in process, or technology, people, skills and awareness. The cyber threat brings operational resilience into greater focus and requires organisations to understand themselves, their strengths and their weaknesses. It becomes essential for firms to understand their most critical assets and their most critical functions.

What defines critical? Well, several things: the importance to the customer; the importance to the integrity of the firm; and the importance to the sector and the wider economy. Armed with this information they can then allocate their finite resources in the most targeted way. I shall return shortly to this idea of criticality, but I wanted to pause on one further vulnerability.

For many years now in a large number of polls of regulated entities, the number one risk has been the amount of regulatory change. Only recently, has cyber risen to number one on many people's lists. This no doubt is due to the increasing awareness of cyber but perhaps also the slowing down of regulatory change. In truth however, both risks are linked.

Organisations are often at their most vulnerable when embarking on change. They often discover too late that weaknesses in their resilience can jeopardise the success of a major project even if those involved believe that they have carried out robust testing. Even though regulatory change may have slowed, the pace of overall change has not. This means, we must find a way to manage the financial system with this vulnerability.

So, with substantial change a fact of life for the financial system and an increasing reliance and dependence on technology, we have seen an increase in the number of operational incidents - be they caused by internal failures or from external attack. In terms of operational outages the financial sector in the UK has had RBS in 2012 which suffered a major outage in its Irish operations and more recently, of course, TSB.

In between, there have been many short-term outages. Cyber attacks have also been growing a with a number of very prominent cases: WannaCry and the problems it brought to the NHS, there have also been successful attacks on the Bangladesh Central Bank, Equifax, Yahoo, and Sony. It is not surprising, in this context, that management and boards of firms have been pushing operational resilience ever higher on their agenda.

It has become, therefore, more important than ever for regulators to set out clear expectations of firms in respect of their operational resilience. The Financial Policy Committee, for example, has been considering its tolerance for disruption to the key economic functions that the finance sector performs.

As part of this work, it is likely that the FPC will set a minimum level of service provision it expects for the delivery of key economic functions in the event of a severe but plausible operational disruption. I expect this to be a substantial body of work, so it is likely that we will be focused at the beginning and focus on some key economic functions and key providers.

As we have embarked on this work, it has been imperative for me to ensure that all of the financial regulators use a common framework. (The number one complaint I receive from industry is the growth in regulatory requirements across the globe that do not seem to be joined up.) A common framework does not mean common tolerances, but it will allow the regulators to build their own tolerances, expectations and approaches under the umbrella of

the FPC's overall tolerance. The setting of supervisory expectations would then be used as an input to guide firms' actions in managing their own operational resilience.

My expectation is that these tolerances will use a combination of time, volume, market share and measures of interconnectedness. As any good risk manager will tell you, having a risk appetite is a good start, but you need a toolkit in order to manage to that appetite. We have also been developing a suite of supervisory tools that can be used to assess firms' resilience against our expectations and also inform the supervisory priorities we agree with firms. At its most intensive, we will continue with our very successful CBEST programme of threat-led penetration testing. We are also trialling some other diagnostic tools.

In many cases, this is pioneering work and consequently we will start with a Discussion Paper (joint with the FCA), where we will be inviting industry and fellow regulators for their views.

I will leave the detail of our expectations for the Discussion Paper but I thought I would spend a few moments to give you my perspective on these expectations. I would like our firms to be on a WAR footing: withstand; absorb; recover.

To withstand, we will expect firms to set their own tolerances for key business services. These tolerances should be in the form of clear metrics indicating when a disruption would represent a threat to a firm, to consumers or to financial stability. We will expect firms to test their tolerances and demonstrate to their supervisors that they have concrete measures in place to deliver resilient services.

We will further expect firms' boards to play a key role as they develop their operational and cyber resilience strategies. This will include: the setting and reviewing of tolerance; promoting the development of management

information; overseeing resilience programmes; and promoting and overseeing investments in technology, systems and people.

Whilst dedicated focus on building resilience may decrease the likelihood of an operational shock severely causing disruption to a firm's critical functions, we expect the firms to build into their approach that operational incidents will still occur. Hence, the need to absorb such shocks when they do occur. Firms will need to clearly define and regularly test their approaches to incident management. These should also include good communication plans both internally and externally.

And firms need to be able to recover from an operational incident. This requires viable, tested contingency plans for the resumption of critical functions. One pleasing development I can record over these last few years is that firms very rarely these days seem to believe that they should not admit to vulnerabilities.

They accept that this is not a competitive issue. This has boosted collective fora such as the Cross Market Operational Resilience Group ('CMORG'), which provides a platform for coordinating and promoting work, both aimed at strengthening resilience of the financial sector and improving its ability to respond to operational incidents. The CMORG regularly conducts sector wide, scenario-based exercises that can help firms and the sector in this WAR programme.

Past exercises in the UK have led to concrete deliverables, ranging from sector wide contingency plans on how to recover critical economic functions to specific enhancements of joint response protocols. The growth in this collective and collaborative approach has led to improvements in the timely notification of incidents, their underlying causes and successful remedies, to both the authorities and appropriate stakeholders. It is another key plank in the WAR approach.

We can always go further and with this in mind CMORG has commissioned a review of incident management in the financial sector ('Project Strider'). The review has concluded that there is a need for greater coordination and more rapid information sharing during a cyber incident. Recommendations included: creating a standing cyber response capability for the financial sector (both during and outside standard working hours); creating a common incident taxonomy and maintaining the industry's guidance on how to respond to a cyber attack; and bringing together risk assessment capabilities from across the financial sector and the NCSC, with a view to regularly reporting shared analysis and creating a joint risk register.

I'm pleased that some of these lessons are being taken forward internationally. The Financial Stability Board is building its own taxonomy. The G7 is testing incident management protocols. Cyber actors know no boundaries, so the response needs to be cross-border and coordinated. There is much still to do, but I am happy to say that in the issue of cyber and operational resilience I have found the most collaborative approach in all my thirty years as a regulator.

Before I draw to a close, I wanted to spend a few moments on the response to incidents. The UK authorities have a well-established response protocol. It is imaginatively called the Authorities Response Framework or 'ARF'. It consists of the Treasury, FCA and the Bank. In cases of cyber events the National Cyber Security Centre is also a member. Any member can trigger the ARF and it has three response levels: monitor, engage and manage. These response levels are managed by increasingly levels of seniority in the authorities.

Typically it is triggered when events need coordination across the agencies or there are sector-wide implications. A few years ago the ARF was rarely triggered, but more recently this has been increasing. Partly because we deliberately lowered the barrier to trigger - in response to our observations on how operational events developed - but also because of the greater frequency of events. The ARF provides an important co-ordination function for the

authorities, which all have their independent functions to carry out. It allows intelligence to be pooled and common issues to be discussed and approaches agreed.

In the case of operational resilience or cyber this is vital. The UK regulatory system is largely drawn up for consequences not causes: financial stability - the FPC, consumer and market conduct - the FCA and safety and soundness - the PRA. The ARF also feeds into the Government-wide incident response framework - ultimately up to COBRA.

In my thirty years, operational resilience is certainly not a new topic nor are all of its challenges unique, but two broader trends have conspired to make it today one of the most important.

- First, the cyber threat has highlighted why operational resilience matters: cyber incidents exploit weaknesses in the resilience of organisations, its technology, its systems and its people. Moreover, the cyber threat is constantly evolving. And there is growing evidence that those evolutions are happening over much shorter time intervals. As such, when the G-7 published its cyber guidance in late 2017, it emphasised the need for firms and authorities to be adaptive; to embrace continuous learning and to avoid a static fortress mentality.
- Second, there is an increasing awareness that technological change, and our own behaviour in response to change, creates new fragilities. Armed with online applications, market participants can respond quickly to market news. They also expect instant access to accounts and payment services. With the advent of social media, market participants can comment on operational incidents, within seconds. So if someone is unable to access their funds online, the world will know about it a few seconds later.

I was speaking at a conference the other day. I was on in the first session after lunch. In the morning the conference ran a series of plenary sessions and in the afternoon, there were two streams: one was on FinTech and one, mine, on Cyber. I remember thinking that this was a very good personality test: optimists to the left and to the FinTech talk, pessimists to the right and to the Cyber talk. I want to close by being more balanced and remind you of the huge opportunities that technology brings and the incredible change that I have witnessed in my career. Technology can help create new financial services and products, new approaches to risk management and indeed reach new customers.

So what about the next 30 years? Clearly the last 30 years has taught us that there can be few certainties. What will the impact be of consumers wishing instant access to their account or even being able to switch provider in an instant? Or the changes brought about by challenger banks using the latest technology to offer state-of-the-art banking services? Or the incumbent bank finally deciding that keeping their legacy infrastructure is no longer compatible with a robust approach to operational resilience?

Or technology firms, large or small, able to offer new approaches to data analysis, risk management, or frontline financial services? Who can predict the impact of machine learning and artificial intelligence or of FinTech? And given the break-up and re-building of business models, where society will draw the future regulatory perimeter?

But, I'd like to offer two certainties for the future. The first, unless my savings have been taken in a cyber attack, of which I'm currently unaware, I'm clear that I will not be supervising the sector in thirty years time. Second, and as I haven't gone yet, I commit and indeed I call upon you also to commit that whatever the next 30 years brings in terms of technological change, alongside we will have built a far more resilient system.

One able to withstand growing threats, able to absorb shocks when they do occur and able to recover quickly from any operational incident so that the critical functions in which customers, the sector and the economy rely are unaffected. That would be something to celebrate. ■

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This article is based on a [speech](#) delivered at the 20th Annual Operational Risk Europe, 13 June 2018



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Digitalisation of money and the future of monetary policy

Digitalisation can redefine the roles of banks and central banks. Peter Bofinger argues that banks could be massively challenged by new forms of intermediation

The digitalisation of money has the potential to change traditional structures of the financial system. This column discusses four areas in which it may have an impact, and argues that while digitalisation will not erode the importance of central banks, banks could be massively challenged by new forms of intermediation.

Most economists will agree that the future of money will be more digital than today. But while everybody speaks of 'digitalisation', the concrete meaning of this term remains very often unclear. There are four major areas where digitalisation could modify the traditional forms of money and credit and as consequence modify the theory and practice of monetary policy:

- the substitution of cash with electronic money;
- the substitution of traditional bank deposits and bank notes with cryptocurrencies;
- the substitution of bank deposits with central bank deposits for everyone ('universal reserves');
- the substitution of bank lending with peer-to-peer lending on the basis of digital platforms.

Substitution of cash with electronic money

An area where digitalisation has already made progress is the use of cash in payments. In the member states of the euro area from 1980 until today, the share of cash in the money stock M1 has declined from 23% to 14%.

However, as a recent study by the ECB (Esselink and Hernández 2017) shows in terms of number, still 79% of all transactions were carried out using cash, which amounts to 54% of the total value of all payments. But this could

change rapidly. As the study shows, 81% of all payments at point-of-sale terminals in the euro area are below €25. At the same time, more and more payment cards and point-of-sale terminals are enabled with contactless technology for payments below this threshold.

What would a completely cashless economy imply for monetary policy? First, it would remove the zero lower bound for interest rates. This would increase the central bank's room for manoeuvre in deep recessions, above all in a deflationary environment.

... vanishing use of cash in daily payments could facilitate a political decision to abandon cash altogether. However, a fully cashless euro area is very unlikely for the time being

Second, it would remove the risk of a general bank run, as depositors could only switch their deposits between banks but not totally out of the banking system. This would reduce the need for the central bank to become active as a lender of last resort. On the other hand, one could argue that if savers can no longer withdraw their deposits, this could reduce or even remove the market discipline for the banking system.

But for these effects to materialise, it is not sufficient that the usage of cash approaches zero over time. It would require that cash is totally abolished. As long as the convertibility of bank deposits in cash is possible, the use of cash could rapidly rebound if interest rates become significantly negative or if the health of the whole banking system is at stake.

Thus, in the area of cash, digitalisation by itself cannot lead to a qualitative change for monetary policy. But a vanishing use of cash in daily payments could facilitate a political decision to abandon cash altogether. However, at least from the German point of view, a fully cashless euro area is very unlikely for the time being.

Substitution of the traditional monetary base and money stock with cryptocurrencies

A second challenge to the traditional concepts of money and monetary policy comes from cryptocurrencies like bitcoin. They can be regarded as the realisation of Friedrich A Hayek's (1976) dream of the 'denationalisation of money'. He was not very precise about the concrete implementation of such a system of 'competing currencies'. He mainly had in mind private banks issuing banknotes, leaving it open whether they are convertible not.

For a discussion of these issues, it is useful to have a taxonomy that makes it possible to classify types of money along four criteria:

- private versus public issuer;

- convertible versus non-convertible money;
- physical versus electronic money;
- money that is transferred in a peer-to-peer nature (cash or digital money recorded in a distributed ledger) and money that is transferred in accounting systems with a central book-keeping agency.

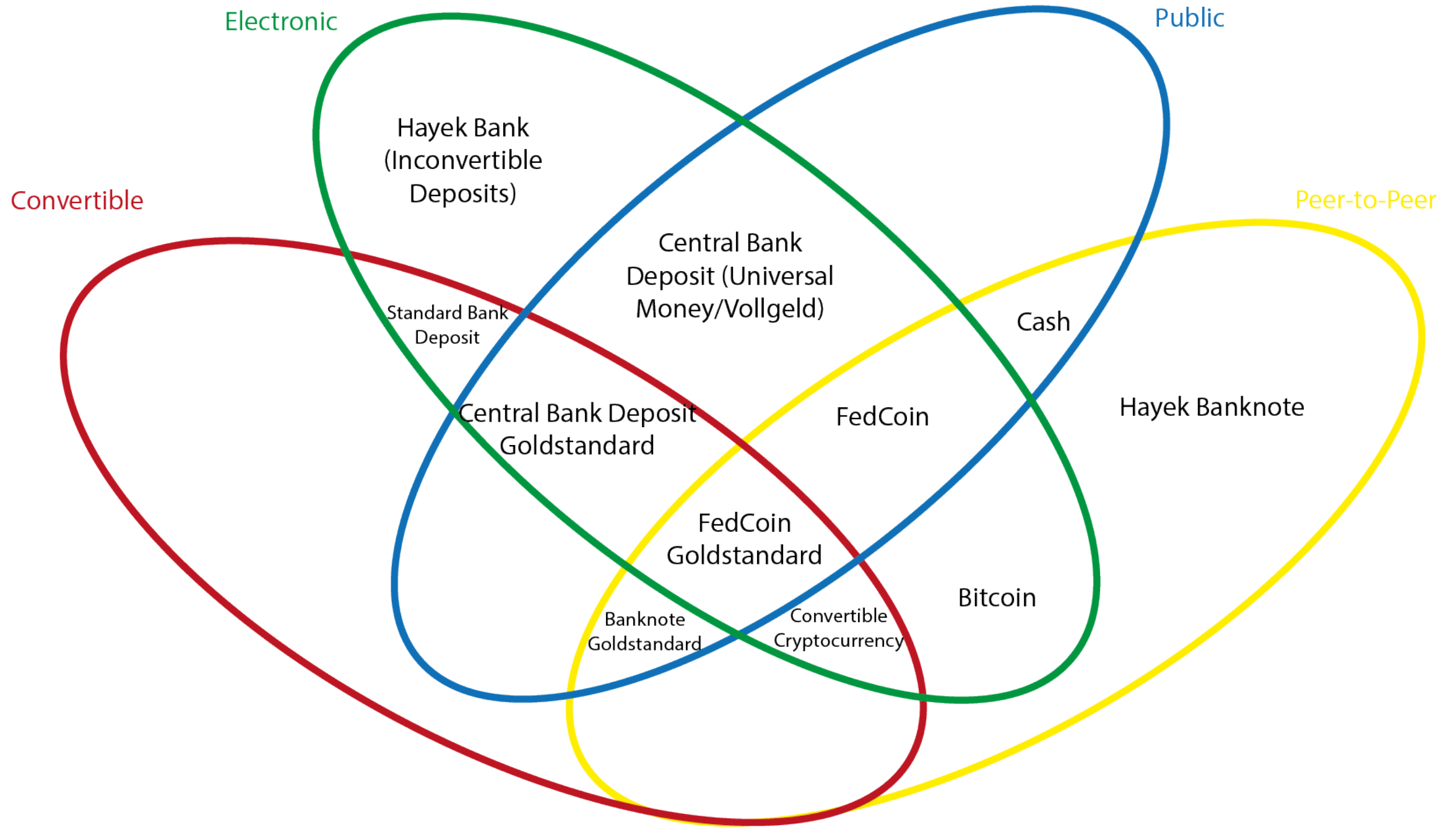
Graphically, such a taxonomy can be represented by a 'money flower' (Figure 1). The idea goes back to a study by the Bank for International Settlements (Bech and Garratt 2017). But instead of the criterion 'convertibility versus non-convertibility'¹, the Bank for International Settlements uses the criterion 'limited versus general accessibility'. The other three criteria are the same.

Without going into detail, the taxonomy makes clear that, due to their inconvertibility, cryptocurrencies have a strong similarity to traditional central bank reserves and cash. In this respect, cryptocurrencies differ from bank deposits, which promise convertibility in cash. Of course, private inconvertible money could be also issued in cash (Hayek banknotes) or by banks that offer deposits that are inconvertible but recorded in traditional centralised accounting systems (Hayek bank deposits).

Are cryptocurrencies a serious challenge to cash, traditional bank, or central bank reserves? Due to their inconvertibility, they do not have an intrinsic value. While this is also true for cash and central bank deposits, the monies issued by central banks have the enormous advantage of being a legal tender.

This is an important protection against the full implosion of the value of a money without intrinsic value. An important additional value protection is provided by the legal mandate of the ECB and other central banks to maintain price stability which so far has been achieved remarkably well.

Figure 1. The money flower



While an individual issuer of a cryptocurrency can try to install a value guarantee by setting an upper limit for the issuance of its currency, the logic of currency competition implies that there is no limit on the number of issuers. Thus, there is also no limit of the total amount of the aggregate stock of cryptocurrencies. Holding a cryptocurrency always bears the completely unpredictable risk of a total loss. In other words, as a store of value the high volatility of cryptocurrencies makes them unattractive for most investors.

Cryptocurrencies are also not attractive as a means of payment. As Bitcoin shows, production costs are becoming prohibitive, transaction costs and transaction times are high. In addition, due to the distributed ledger all transactions are public. In other words, if the public key of a user is known, all his transactions become transparent.

Overall, cryptocurrencies do not have the potential to replace the established national monies nor to have a relevant impact on monetary policymaking. As far as they are used to circumvent laws against money laundering, adequate legal restrictions are required.

Universal reserves: substituting cash and bank deposits with central bank deposits for everyone

With the emergence of cryptocurrencies and the reduced demand for cash especially in countries like Sweden, some central banks have started to develop concepts for allowing non-banks to hold deposits with the central bank. The most elaborate concept is the e-krona developed by the Swedish central bank (Sveriges Riksbank 2017).

Digital central bank money for non-banks could become a substitute for cash, especially if the value is stored locally on an app or a card (value-based solution). At the same time, it could become a substitute for traditional bank deposits if the balance is stored in accounts in a central database (register-based solution). The introduction of digital central bank money for non-banks would not necessarily require an accounting mechanism that is based on a distributed ledger. And even in the case of a distributed ledger, it must not be a blockchain².

Deposits with the central bank could become a very attractive investment as they would provide a totally safe asset. This feature would be appreciated above all by private households and firms with bank deposits exceeding €100,000. With the Bank Recovery and Resolution Directive, such investors are exposed to the risk of a bail-in which they could avoid by holding central bank deposits. Of course, the attractiveness of such deposits depends on their interest rate relative to the interest rate of bank deposits.

Assuming a situation where all citizens have a bank account with the central bank, the run risk for commercial banks (a 'digital bank run'; Cœuré 2018) would be increased, as it makes it much easier to switch especially higher deposits out of the banking system.

In an even more extreme scenario where all citizens hold overnight deposits at the central bank, the central bank's room for manoeuvre would again be increased. It would not only be easier to enforce negative interest rates, it would also become technically possible to use the instrument of helicopter money. The central bank would simply credit a certain amount to the account of each citizen.

Widely used central bank deposits would fundamentally transform the role of banks and their relationship with the central bank. The banks would still be able to provide loans. But the banking system would then always need a corresponding refinancing from the central bank, as the loans have to be paid out on the central bank deposit of the borrower. This would come close to the concept of full-reserve banking restricting the bank's ability to create loans autonomously.

However, it does not imply a 100% refinancing by the central bank. The banking system could always try to attract a longer-term refinancing from non-banks out of their central bank deposits.

An extreme form of universal reserves is 'Vollgeld' (sovereign money). In such a scheme, traditional bank deposits would no longer be allowed. If practiced in a consequent way, the central bank would no longer act as a stabiliser of the money market. This would result in higher interest rate instability (Bofinger and Haas 2018).

Digital central bank money for all could also have far-reaching implications for the payment system which is currently based on bank accounts. The role of banks could be reduced in favour of non-banks offering payment services based on central bank accounts. This could offer a potential for innovation and competition in payment services. Therefore, in my view, central banks should refrain from providing payment services.

Peer-to-peer lending substituting traditional bank lending

A fourth possible innovation is the substitution of traditional bank loans with peer-to-peer lending. China is leading in this field and it shows the risks and the regulatory challenges that are associated with this instrument.

Conceptually, peer-to-peer lending has many similarities to capital market lending as it establishes a direct relation between lenders and borrowers. One can say that peer-to-peer lending creates a 'capital market for small borrowers'. Digitalisation has the potential to widen the scope of this form of finance, especially if it is based on established internet platforms.

Using information from credit scores, social networks or platforms like Amazon, peer-to-peer platforms can provide the screening and delegated monitoring, which is the core function of banks in an environment with asymmetric information.

By distributing the investments over a large group of borrowers, peer-to-peer lending can also offer the traditional risk diversification provided by banks.

As peer-to-peer lending does not need an intermediary, which bears risks, it has the advantage of needing less regulation than traditional bank lending. This concerns above all capital requirements and liquidity requirements. So far, peer-to-peer lending is still in its infancy, but it could have the potential to become a similar challenge to the traditional bank business as Uber is to the traditional taxi business.

For the central bank, an 'uberisation' of banking could imply less influence on financial processes and also on real processes. In the same way as capital markets, peer-to-peer lending makes it possible to mobilise the existing money stock for additional lending.

But as long as bank deposits remain the main input for this form of financing, the central bank will be able to influence peer-to-peer lending with its interest rate policy. The decision of an investor to use money that is held on a bank account for peer-to-peer lending will depend on the interest rate that she receives for such a deposit. With its control of the money market interest rate, the central bank can indirectly target the interest rates for such deposits.

Digitalisation of money does not erode the power of central banks

The digitalisation of money has the potential to change traditional structures of the financial system. It can redefine the roles of banks and central banks. But by itself, digitalisation does not erode the control of central banks over the financial system. Massive regime changes (abolishment of cash, universal central bank reserves) are possible. However, they would require a political decision and they would not weaken but strengthen the role of central banks.

Banks could be massively challenged by new forms of intermediation, above all by peer-to-peer lending. The decision by central banks to offer central bank accounts for all would fundamentally change the function of banks,

above all by limiting their ability to create loans autonomously. In addition, this could also reduce the importance of banks in the provision of payment services.

In spite of cryptocurrency hype, they will not become a serious game changer. They may have some attraction for risk-loving investors. But due to limits of their inconvertibility and the unlimited number of issuers, they will hardly come into a position that they could threaten the dominant role of national currencies and traditional bank deposits. ■

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Endnotes

- 1. This is identical to the 'inside versus outside money' definition of money.*
- 2. Corda replaces blockchain with a 'notary' architecture. The notary design utilises a trusted authority and allows consensus to be reached on an individual-transaction basis, rather than in blocks, with limited information sharing.*

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This article was originally published on [VoxEU.org](https://www.voxeu.org)

No deal is better than a bad deal

A stylized 3D graphic of the Euro star, rendered in a light yellow-green color, set against a dark blue background. The star is composed of several overlapping, semi-transparent planes, giving it a three-dimensional appearance. The background is a solid dark blue.

The recent proposals for euro area reform have initiated an intensive debate. Peter Bofinger argues that the specific insolvency risk of euro area membership is the main risk that should be covered by joint risk sharing

A team of prominent French and German economists have presented a paper which they regard as “*a game changer for the euro area*” (Benassy-Quéré *et al.* 2018). Their proposals have initiated an intensive debate (Bini Smaghi 2018, Micossi 2018, Buti *et al.* 2018, Pisani-Ferry and Zettelmeyer 2018).

While several shortcomings of *CEPR Policy Insight 91* have already been discussed, in this column I argue that the specific insolvency risk of euro area membership is the main risk that should be covered by a joint risk sharing. The authors’ modest proposals for a public and private risk sharing are insufficient in this regard. With a strengthening of market discipline, this risk could even be increased.

So far, there is little evidence that financial markets could play a stabilising role in the euro area. The proposal for an expenditure rule has its merits as it focuses on a target which governments can control effectively. But it requires a sensible debt-to-GDP target, for which the completely arbitrary 60% value of the Maastricht Treaty should not be slavishly adopted. For a productive compromise between France and Germany, the German side has to take the first step by allowing at least some debt financing of public investments within the fiscal framework of the euro area.

The specific insolvency risk of euro area membership

Given the focus on ‘risk sharing’, it is surprising that the authors do not explicitly explain what specific risks they want to be shared. Their proposals focus on the risk of idiosyncratic demand shocks and the risk of a national banking crisis. But this neglects **the unique and existential risk of euro area membership**. Monetary union exposes its member states to an **insolvency risk** which is absent for similar countries which have a national currency. When a country adopts the euro, its debt is redenominated from the national currency into the euro. Thus, member states are in a similar situation as emerging market economies which can only lend in a foreign currency (‘original sin’). In a crisis they can no longer rely on the support of their national central bank.

This specific risk is aggravated by an **easy exit option** that the single currency provides for investors. If, for example, a Japanese pension fund is no longer willing to hold Japanese government bonds and decides to hold US treasuries instead, it is confronted with a currency risk. For institutional investors that are required to hold safe assets, this **'currency wall'** is difficult to surmount. Within the euro area this wall has been removed so that investors can exchange domestic bonds into bonds of other member states without an exchange rate risk.

Above all, Germany must have a strong interest in the integrity of the euro area. The euro has protected German manufacturing against exchange rate shocks vis-à-vis the other member states

The combination of the insolvency risk with the easy exit option leads to a denomination risk (Bini Smaghi 2018) which has manifested itself in the euro crisis. Only with Mario Draghi's commitment to save the euro "*whatever it takes*", which was regarded as an implicit insurance against this risk, could the stability of the euro area be maintained. It is important to note that this risk is not due to "*a poorly designed fiscal and financial architecture*", as Benassy-Quéré *et al.* see it. It is due to the fact that the monetary union is a building which is not yet finished. It would require more political integration to become a stable building.

Above all, Germany must have a strong interest in the integrity of the euro area. The euro has protected German manufacturing against exchange rate shocks vis-à-vis the other member states. One can also assume that the Deutsche Mark would have been a stronger currency than the euro, so that the protection has also been effective vis-à-vis other countries. Thus, one should expect that a proposal by German and French economists for 'risk sharing' would address this risk. But as the Policy Insight not even mention it, proposals for such risk sharing (Delpla and von Weizsäcker 2010, German Council of Economic Experts 2011) are also not discussed.

Two not very effective proposals for political risk sharing

The proposal for a European Deposit Insurance Scheme (EDIS) envisages insurance premiums which are pricing country-specific risks. It also requires that first losses should be borne by the relevant national compartment. Common funds should be provided only "*in large, systemic crises which overburden one or several national compartments*".

But in such a situation, the risk sharing provided by the EDIS (with a target size of 0.8% of covered deposits of participating banking systems) would soon reach its limits. An insurance scheme is effective only if risks are uncorrelated. In 'large, systemic crises' risks are correlated, and the scheme breaks down. Thus, only the ECB as lender of last resort would be able to stabilise the system effectively.

The second proposal envisages a **European fiscal capacity** for “large downturns affecting one or several member states”. The authors compare it to a “catastrophic loss insurance”. With total annual contributions of 0.1% of euro area GDP, the size of the fund is limited as a borrowing possibility is explicitly excluded. As a result, even in a severe recession a country would receive rather limited transfers. For an increase of the national unemployment rate by 4 percentage points, a one-time transfer of only 0.5% of national GDP is envisaged. But this makes a country only better off if it is hit by the shock within the first five years of the existence of the fund

In addition, due to the limited size of the fund the shock must not affect too many member states simultaneously. As a specific hurdle, access to the fund requires that a member state complies not only with the fiscal rules but also with the country-specific recommendations. In a situation with a very large shock, this is very unlikely. And for such an ideal country it should be possible to finance a temporary cyclical deficit on the capital market without major problems.

Both forms of risk sharing resemble the idea of establishing a fire brigade which can only be activated in the case of huge fires. But at the same it is designed with such limited capacities that it will never be able to deal with such fires.

The limits of market risk sharing

Benassy-Quéré *et al.* propose **market risk sharing** as another stabilising factor. One element is the **completion of the Banking and Capital Market Union**: “Euro area citizens and corporations should be able to hold their savings in instruments whose returns are independent of unemployment and output declines in their home country.” But this is already possible under current institutional arrangements. As already mentioned, the single currency has removed the ‘currency wall’ for portfolio investors. And it was an **excessive cross-border bank lending**, above all by German and French banks in in the years 2000-2007, which contributed to the crisis. More generally, it is not clear how bond

and equity markets can provide significant risk sharing given the very asymmetric distribution of wealth in the member states. For households with very little or no financial wealth at all, Capital Market Union cannot provide an effective insurance for the risk of unemployment.

The second element of market risk sharing is the creation of euro area safe assets (ESBies). The authors believe that a *“safe asset in the euro area would create a source of demand for euro area sovereign debt that is not ‘skittish’ in the face of changes in market sentiment.”* But they also admit that this is only the case *“so long as sovereigns do not lose market access since this triggers exclusion from the collateral pool of new issues.”* And they see the risk that *“it may be difficult to find buyers for the junior tranches in time of crisis”*. In other words, their scheme for market risk sharing would fail exactly in the situation when the fundamental insolvency risk of the area becomes manifest.

Market discipline: governments under the control of markets?

The authors regard risk sharing and market discipline as complementary pillars for the euro area architecture. But this raises the question of whether ‘market discipline’ can be regarded as a stabiliser at all. For Benassy-Quéré *et al.* this seems out of question. But almost 20 years ago the *Delors Report* came to the following assessment:

“[...] experience suggests that market perceptions do not necessarily provide strong and compelling signals and that access to a large capital market may for some time even facilitate the financing of economic imbalances. Rather than leading to a gradual adaptation of borrowing costs, market views about the creditworthiness of official borrowers tend to change abruptly and result in the closure of access to market financing. The constraints imposed by market forces might either be too slow and weak or too sudden and disruptive.”

The developments since the start of the euro have confirmed this prediction. The market reaction to the chronic lack of fiscal discipline in Greece came much delayed in the year 2010, and then the reaction was so sudden and

disruptive that the system could only be saved by Mario Draghi's intervention. More generally, it is surprising that the economists' trust in market discipline could survive the financial crisis almost unscathed.

In addition, one must ask whether 'market discipline' is an adequate concept for the organisation of the euro area. In the context of the banking sector it may have its merits, but in the context of the monetary union it implies that markets are assigned a disciplining role over states. This turns the traditional **relationship between state and markets** on its head. In the past there was a consensus among economists that markets must be under the control of the governments. Market discipline calls for governments that are under the control of markets. This concept is especially questionable as financial markets are dominated by mighty players like Goldman Sachs or Blackrock.

In sum, the whole concept of stabilising the euro area by combining enhanced market discipline with homeopathic elements risk sharing is not convincing. While the elements of risk sharing do not address the euro area's most fundamental risk of insolvency, the strengthening of market discipline has the potential to even increase this risk. The authors are aware of this problem, but they regard it as a transition problem only: *"The main lesson is that the 'transition problem' – getting to a state of more effective market discipline and higher stability, without triggering a crisis on the way – needs to be firmly recognised and addressed in proposals to raise market discipline"*.

But how should the transition be managed? The authors propose that the new regime should be introduced *"at a time when the debts of all euro area countries that depend on market access – particularly those of high debt countries – are widely expected to be sustainable with high probability [...]"*. As such a situation is very unlikely for the foreseeable future, this looks much like an escape clause for the French economists.

An expenditure rule set by wise men and women

A third element of the report is a new framework for fiscal policy. The proposal is based on the assessment that the

fiscal rules *“have not worked well”*. While this is true for Greece, which published incorrect statistics, for the large member states this is not so obvious. Comparing the fiscal balances of Germany, France, and Italy on the one hand and of Japan, the UK, and the US on the other, the much lower deficits of member states speak for a pronounced fiscal discipline.

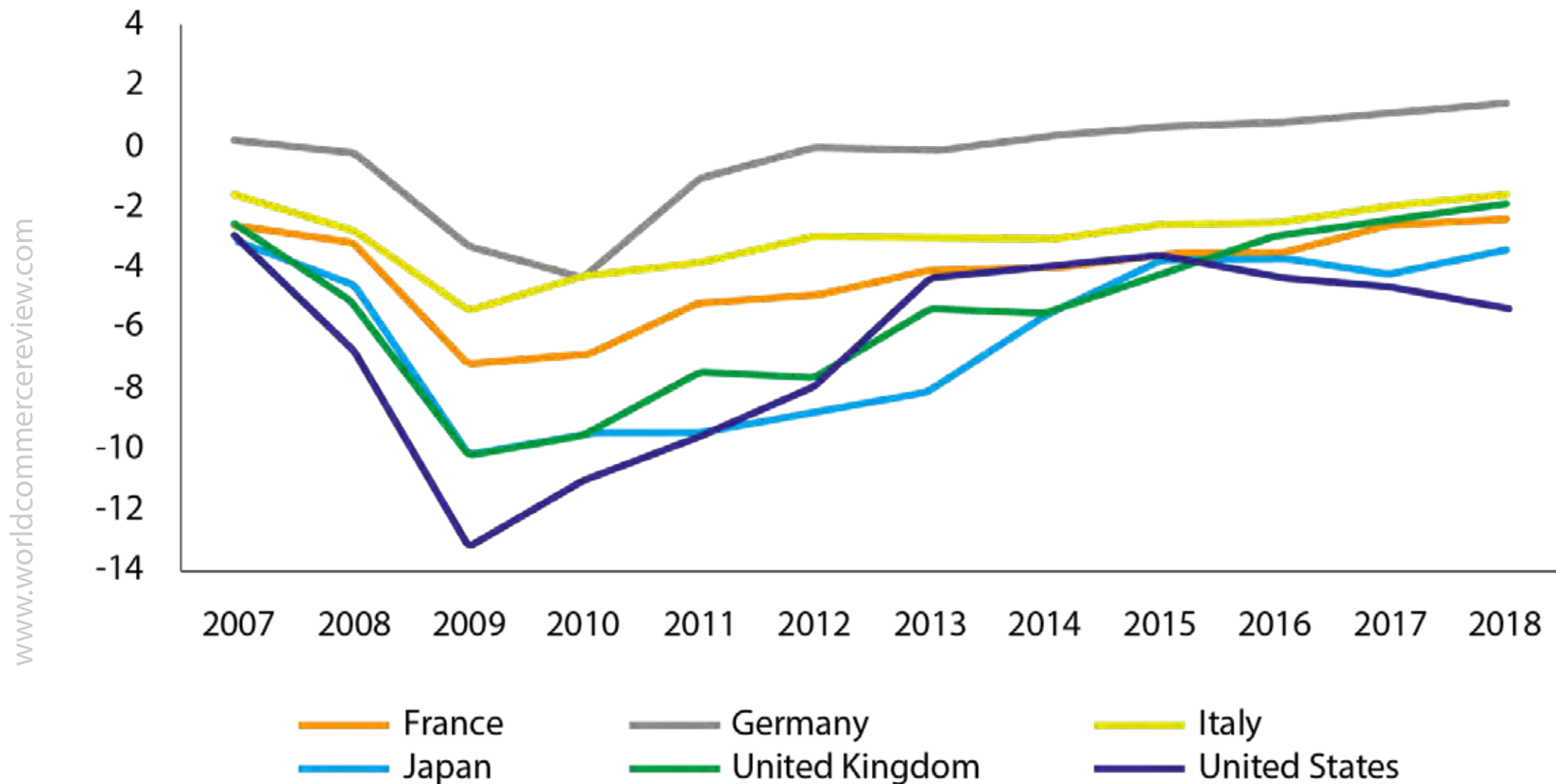
The authors propose a two-pillar approach with a long-term debt target *“such as 60 % of GDP, or a more bespoke objective”* and an expenditure-based operational rule to reach this target. For this purpose, **an independent, national-level fiscal council** shall be established. It shall propose a rolling medium-term debt reduction target, chart a consistent medium-term expenditure path, and use this to set a nominal expenditure ceiling for the coming year. If a country exceeds the target path all excessive spending must be financed by junior sovereign bonds.

There is no doubt that expenditure rules have their merits as they are easier to follow than deficit rules. But it is not clear why the rule should be set by an expert council and not by an elected government or parliament. Economists have **ideological biases** which influence the judgements that must be made given the limitations of the science of economics. Thus, the nomination of specific experts for the council has a strong influence on the outcome of the debt target and the corresponding expenditure path.

In addition, it is far from obvious that the 60% target for the debt level is a sensible medium-term target for the fiscal policy. For the Maastricht Treaty it was derived as the average debt level of the member states at that time. The attempt by Reinhart and Rogoff (2010) to derive a target scientifically failed. Renowned economists have made the case for **evidence-based economics**. David Eddy (1990), who coined the term ‘evidence-based medicine’, puts it as follows:

“[E]xplicitly describing the available evidence that pertains to a policy and tying the policy to evidence. Consciously anchoring a policy, not to current practices or the beliefs of experts, but to experimental evidence. The policy must

Figure 1. Fiscal balances of large member states compared with Japan, the UK and the US (% of GDP)



Source: IMF World Economic Outlook.

be consistent with and supported by evidence. The pertinent evidence must be identified, described, and analysed. The policymakers must determine whether the policy is justified by the evidence.”

The Maastricht 60% target is obviously based on current practices and beliefs of experts and it lacks any pertinent evidence (for example, in the UK the long-term historical average from 1700 to 2016 is 99.5%; Figure 2). Thus, any strategy that tries to make the euro area more stable should entail an intensive analysis of an adequate debt target for the member states. Substituting the 60% target by a target which is closer, say, to the debt-to-GDP level of the US could fundamentally change the perception of the financial soundness of the member states.

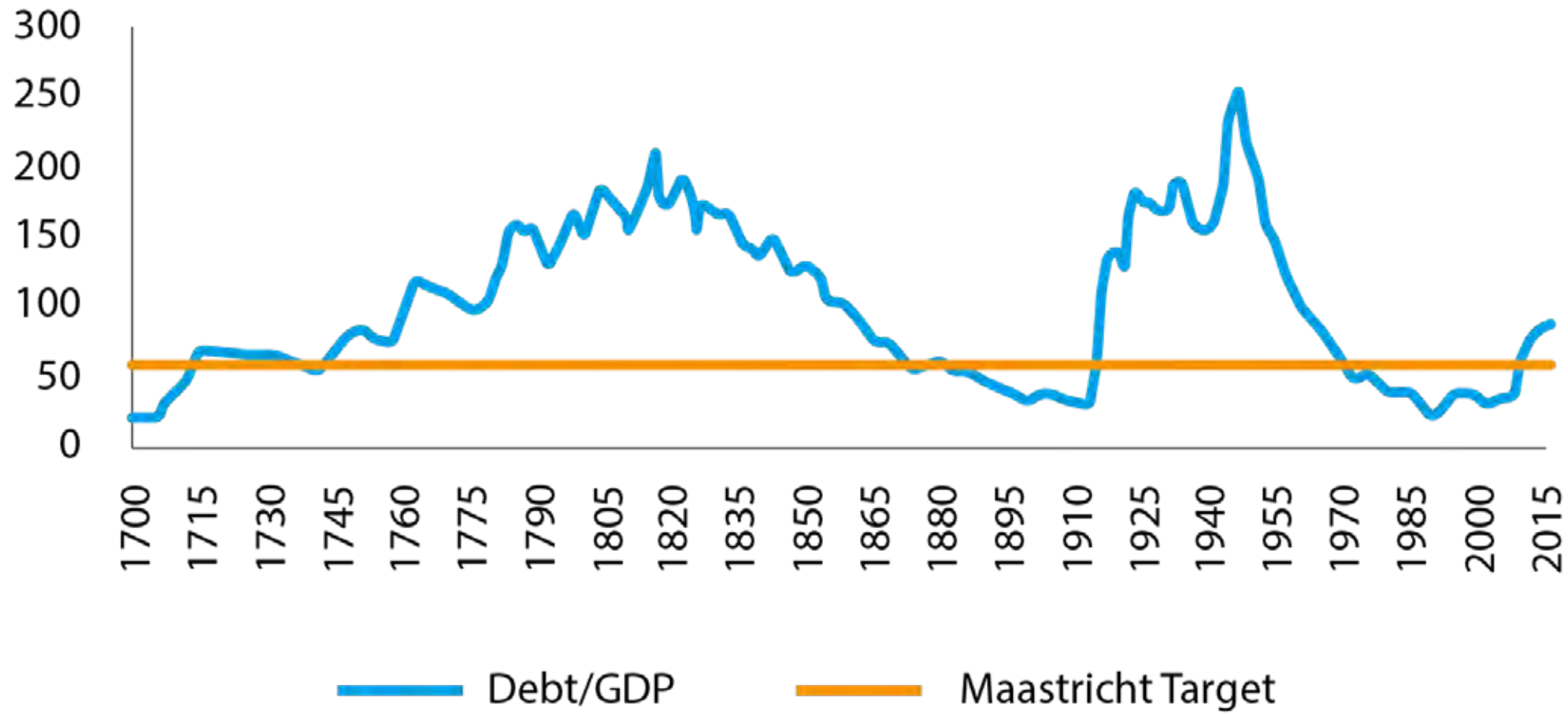
The way forward

The instability of the euro area architecture is not due to a “*poorly designed fiscal and financial architecture*”. It reflects an unfinished building with a supranational monetary policy and 19 independent national fiscal policies. Thus, the only way to make it stable is to go ahead with political integration. This would allow a comprehensive debt mutualisation which would remove the specific insolvency risk of euro area membership.

With the transfer of fiscal policy responsibilities to the supranational level, fiscal discipline of the member states would be enforced by a democratically legitimised euro area finance minister and not by myopic financial investors. In the current situation progress towards a fiscal policy integration is not very likely. But for economists this is not an excuse for not making explicit what is really required to stabilise the architecture of the euro area.

For a productive Franco-German compromise, the German side must make a first step by allowing some flexibility concerning the ‘black zero’. This would allow more room for the golden rule in the Stability and Growth Pact so that at least a limited debt financing of public investments would be possible. As another step forward, one could envisage projects with large euro area externalities (infrastructure, defence, research, industrial policy, environment)

Figure 2. UK Debt-to-GDP ratio, 1700-2016



Source: Bank of England, "A millennium of macroeconomic data".

which are financed by bonds with a joint liability. Finally, a thorough and open-minded analysis of the adequate targets for public debt to GDP would be very helpful.

CEPR Policy Insight 91 calls for “a shift in the euro area’s approach to reconcile fiscal prudence with demand policies, and rules with policy discretion”. But it presents a framework that limits the scope for demand policies by the introduction of fiscal rules and “sovereign concentration charges”. And it reduces the scope for national policy discretion not only by the establishment of independent fiscal councils and but also by exposing governments to more ‘market discipline’. The proposal could indeed be a ‘game changer’, but into the wrong direction. ■

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This column is a lead commentary in the VoxEU Debate "[Euro Area Reform](#)". This article was originally published on [VoxEU.org](#)

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Pace of trade finance digitalization

International Chamber of Commerce's Global Survey shows a move to greater digitalization, and believe that this will lead to a boost in economic growth and sustainable development

Digital technologies, from big data to blockchain, are transforming the global trade finance industry, bringing in a new generation of players and business models and driving the movement towards paperless trade. But while the International Chamber of Commerce's (ICC) 10th annual *Global Survey* shows that 60% of banks are moving towards greater digitalisation, only 9% said technology solutions had so far increased efficiency.

From its creation ten years ago, the *Global Survey* has offered a snapshot of the many challenges and opportunities facing the trade finance industry and, most importantly, puts these trends in their private sector context. To take digitalisation for example, the *Global Survey* moves beyond the much-heralded forecasts of how ripe trade finance is for digital disruption to assess the extent to which banks around the world are actually going paperless on the ground. A better view of where businesses are at, will allow public and private stakeholders to more effectively drive sustainable growth for trade finance in the 21st century.

Over 60% of banks surveyed in the new ICC report—[*Global Trade: Securing Future Growth*](#)—reported to have implemented, or to be in the process of implementing, technology solutions to digitalise their trade finance operations.

However, only 9% of banks reported that the solutions implemented have so far led to a reduction of time and costs in trade finance transactions, in what the report describes as a 'reality check'. 30% of respondents say their banks remain 1-2 years away from implementing technology solutions while 7% say digitalisation is not on their agenda at all.

A heavily paper-based industry with transactions worth over US\$9 trillion in 2017, trade finance is often noted to be ripe for digital disruption. The multitude of documents and players (banks, customs authorities, shippers, and

insurers, among others) involved in trade finance transactions, though, make it difficult for the industry to digitalise quickly.

65% of respondents say that physical paper has to some extent been removed in the issuance/advising and settlement/financing of documentary transactions. A notable exception is the document verification process, where 52% of respondents say that paper has not been removed at all.

The ICC Global Survey gives us invaluable insight into the practical experiences and real challenges of business as we seek to take advantage of game-changing technologies and advance these broader shared goals

ICC Secretary General John WH Denton AO said: *“Digitalisation in the trade finance sector will boost economic growth, and sustainable development. Digitalisation will make trade more inclusive. The ICC Global Survey gives us invaluable insight into the practical experiences and real challenges of business as we seek to take advantage of game-changing technologies and advance these broader shared goals.”*

Conducted annually, the ICC *Global Survey* report is the world’s most authoritative review of the trade finance industry, based on exclusive information from over 250 banks in more than 90 countries. The survey results are bolstered by contributions from an international array of leading voices on trade and finance, including experts from the World Bank, the Boston Consulting Group (BCG) and the World Trade Organization.

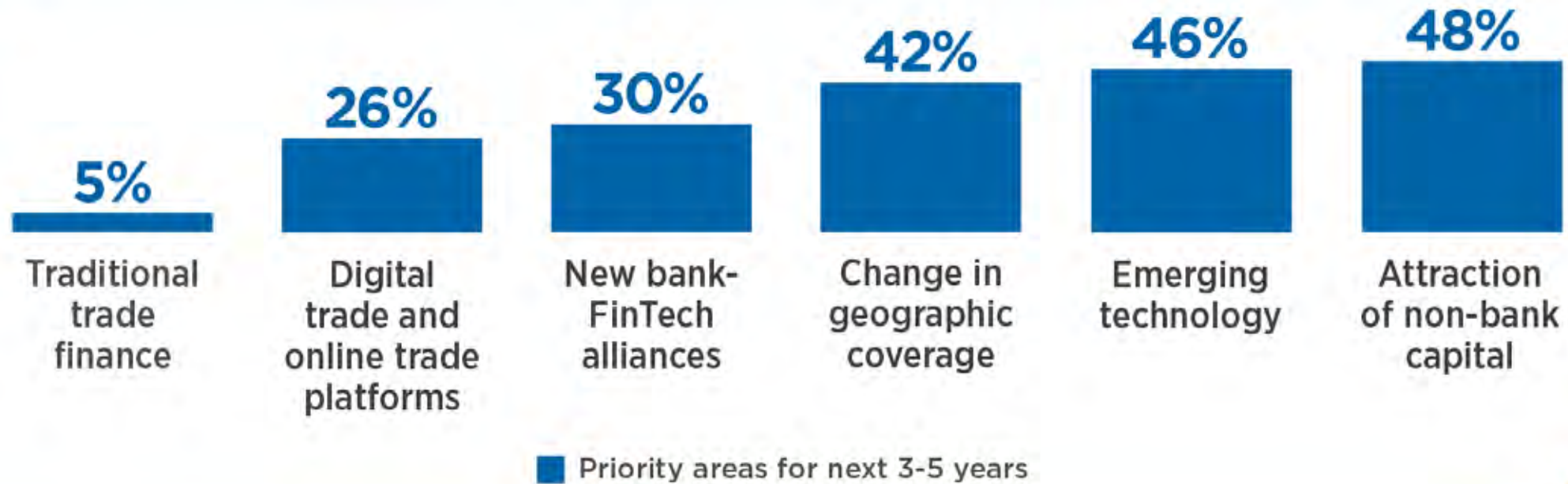
An industry ripe for disruption

A single trade finance transaction can require over 100 pages of documents, with an estimated four billion pages of documents currently circulating in documentary trade. According to BCG estimates, digitalisation could cut trade finance costs by up to US\$6 billion in 3-5 years and boost banks’ trade finance revenues by 10%.

The ICC *Global Survey* figures demonstrate that a majority of banks are moving towards greater digitalisation, recognising its potential gains, yet only a minority have so far seen technology solutions increase their operational efficiency.

“Adapting global trade finance rules to the digital era will play a pivotal role in enabling banks to capitalise on new technologies,” said Olivier Paul, Head of Policy at ICC’s Banking Commission, which launched a [digitalisation working group](#) in June 2017. *“ICC rules underpin over US\$1 trillion of transactions each year. Now, we are working to both ensure these rules are ‘e-compatible’ and establish a set of standards to enable digital connectivity for trade finance service providers.”*

Where will future gains come from?



ICC GLOBAL SURVEY ON TRADE FINANCE 2018

“Digitalisation in the trade finance sector will boost economic growth and sustainable development. Digitalisation will make trade more inclusive.”

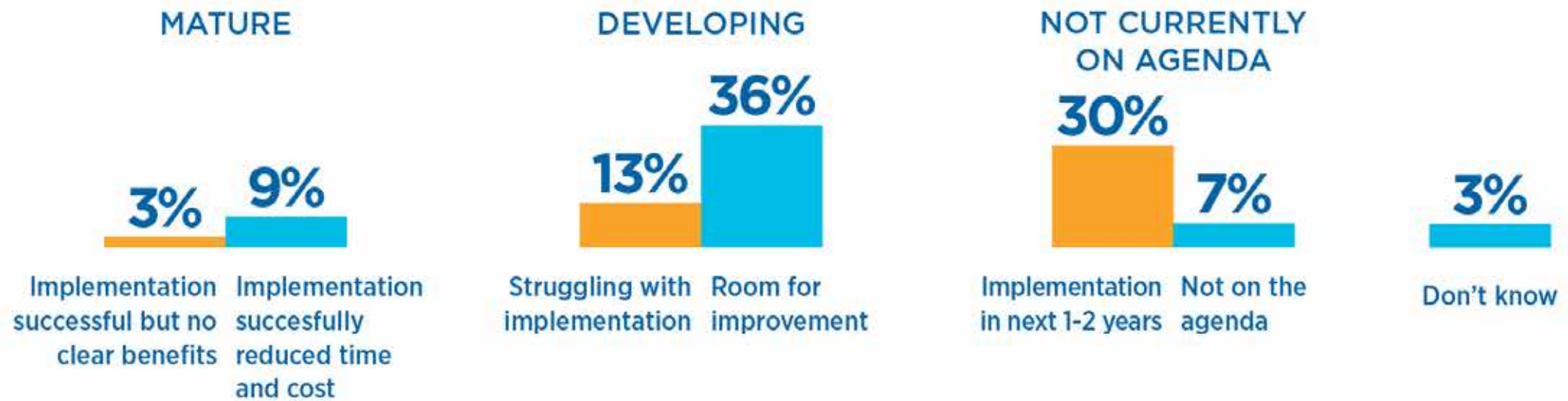
JOHN W.H. DENTON AO
Secretary General, International Chamber of Commerce



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How digitalised are your trade finance operations?



Top 4 factors constraining banking growth in Africa:

1

Lack of
sufficient
risk capital

2

Insufficient limits
from international
correspondent
banks (18%)

3

Inadequate
foreign exchange
liquidity

4

Regulatory
and compliance
restrictions

Source: AfDB

#TradeFinance @ICCBanking iccwbo.org/global-survey-report



SMEs account for more than 80% of businesses in Africa yet represent only 28% of banks' trade finance portfolios

Source: AfDB

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Bullish on future growth despite compliance concerns

Among the many other *Global Survey* findings, responses show that banks are bullish on future trade finance growth trends. Nearly three quarters of banks presented an optimistic outlook for the next 12 months, with respondents headquartered in Africa and Asia Pacific the most positive, at 89% and 81% respectively.

Looking ahead into the medium and longer term, only 5% of respondents consider traditional trade finance a strategic area of focus in the next 3-5 years. In contrast, 72% consider traditional trade finance a priority in the next 12 months.

Nearly half of respondents agreed that attracting non-bank capital, leveraging emerging technologies such as blockchain and shifting geographical coverage were priority areas for the next 3-5 years.

When asked what potential obstacles banks saw to their future growth prospects, respondents' answers were stark. 93% of respondents named regulation and compliance as a potential obstacle while 87% pointed to complying with counter-terrorism and international sanctions regulation.

The ICC Banking Commission has continuously advocated for banking regulation that avoids aggravating geographical disparities in trade finance coverage, specifically across poorer regions in Africa and South Asia. In 2017, following ICC engagement with the United Nations (UN) and national governments, the UN officially recognised the estimated US\$1.5 trillion trade finance gap and pledged to carry out an official review of its underlying causes.

As the only private sector Observer to the UN General Assembly and a leading voice for global business across intergovernmental forums, ICC has long held that an inclusive and evidence-based policy process can drive

global economic growth and further development goals. The ICC *Global Survey* is a concise demonstration of this conviction and its findings will contribute to informing an international policy process that aims to share the gains of global trade more widely among populations that too often see each other as zero-sum competitors. ■



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Addressing Europe's infrastructure gaps

Adequate infrastructure is essential for growth. Philipp-Bastian Brutscher and Andreas Kappeler consider recent data and find fiscal constraints and planning capacity matter

Adequate infrastructure is essential for growth. Since the financial crisis, however, public sector infrastructure investment in the EU has been scaled back. This column uses data from a recent survey to explore the causes of Europe's infrastructure gaps. The results suggest that more coordination and planning are needed for infrastructure projects, both at the EU and national levels. Efforts to attract private investors also need to continue.

The need to invest more in Europe's infrastructure has been heavily discussed in the context of the EU's post 2020 Multiannual Financial Framework. And rightly so – the longer-term economic performance of the EU and the global economy critically depends on the availability of adequate and state-of-the-art infrastructure (EU 2018). A large body of literature has underscored the importance of infrastructure for productivity growth (Berg *et al.* 2012, Calderon and Serven 2014) and for making economic growth more inclusive and sustainable (Woetzel *et al.* 2016, UN 2016).

Investment in infrastructure in the EU is today at 1.8% of GDP, according to the *EIB Investment Report 2018*. This is 20% below pre-crisis levels, though the fall in infrastructure investment in recent years seems to have levelled off. The decline was most-pronounced in the transport sector (EIB 2017).

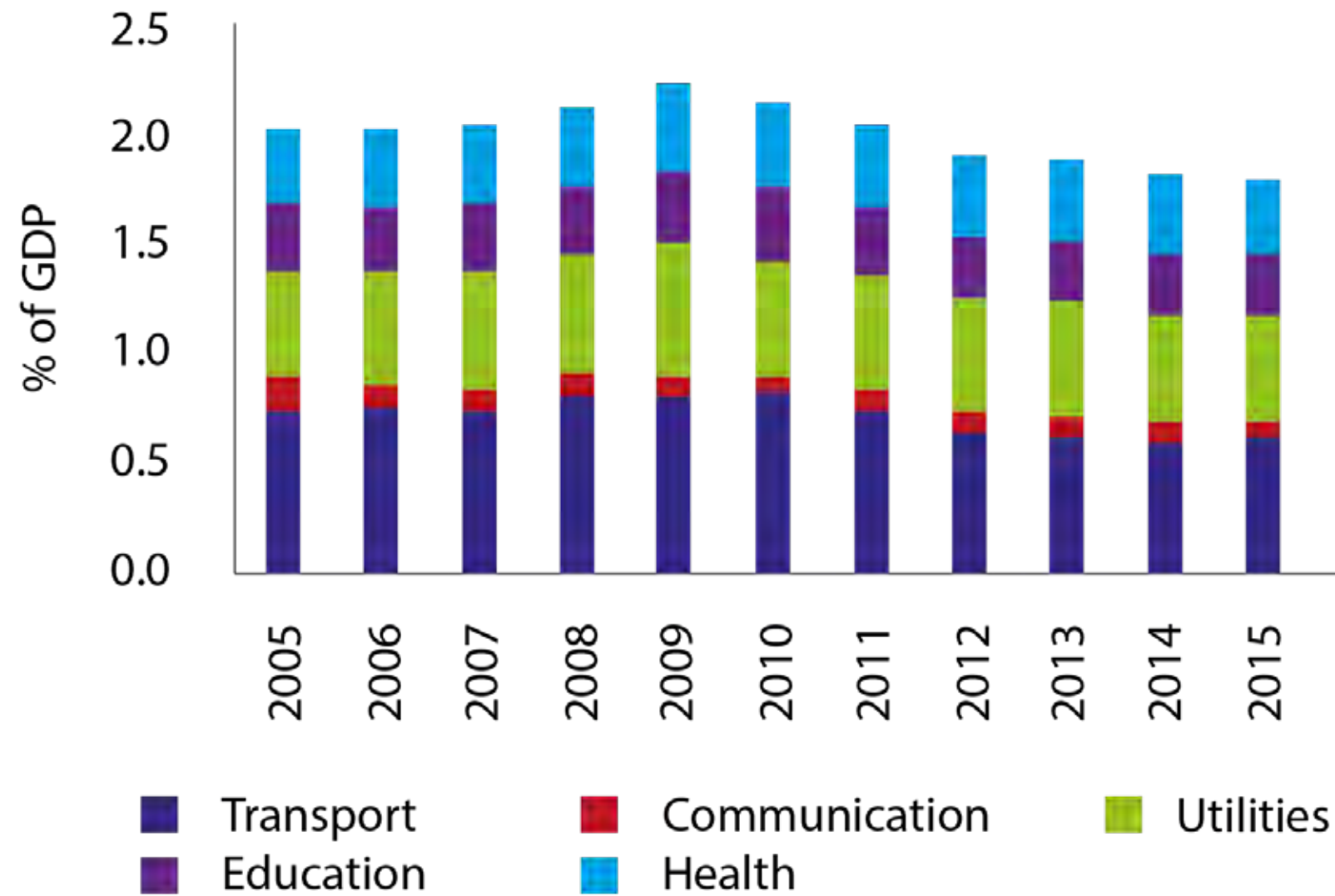
Whether this decline in infrastructure investment is desirable or rather reflects a worrisome gap is at the core of a heated debate. Infrastructure investment gaps are typically defined as the difference between infrastructure investment needs, or how much countries should be spending on infrastructure and actual infrastructure investment. Some argue that the decline in infrastructure investment reflects a healthy saturation effect – key transport, communication, and social infrastructures are already in place in the EU. However, this perspective risks overlooking the need to replace old infrastructure, complete long overdue connections, and respond to technological advances.

Several papers have attempted to estimate infrastructure investment needs and identify substantial gaps. For the world as a whole, estimated infrastructure investment needs range between 3.9% to 9.7% of GDP annually (OECD 2017, Bhattacharya *et al.* 2016, Woetzel *et al.* 2016, GCEC 2014). Annual infrastructure investment needs in Europe are estimated at 4.7% of GDP for energy, transport, water and sanitation, and telecoms (EIB 2016). The underlying methodologies vary substantially and often depend on assumptions about potential GDP growth and elasticities of infrastructure spending to growth (OECD 2017a).

While there is little doubt that more investment in the EU's infrastructure is needed, it is equally important that the planning and implementation of infrastructure projects is strengthened at the EU, national, and sub-national levels

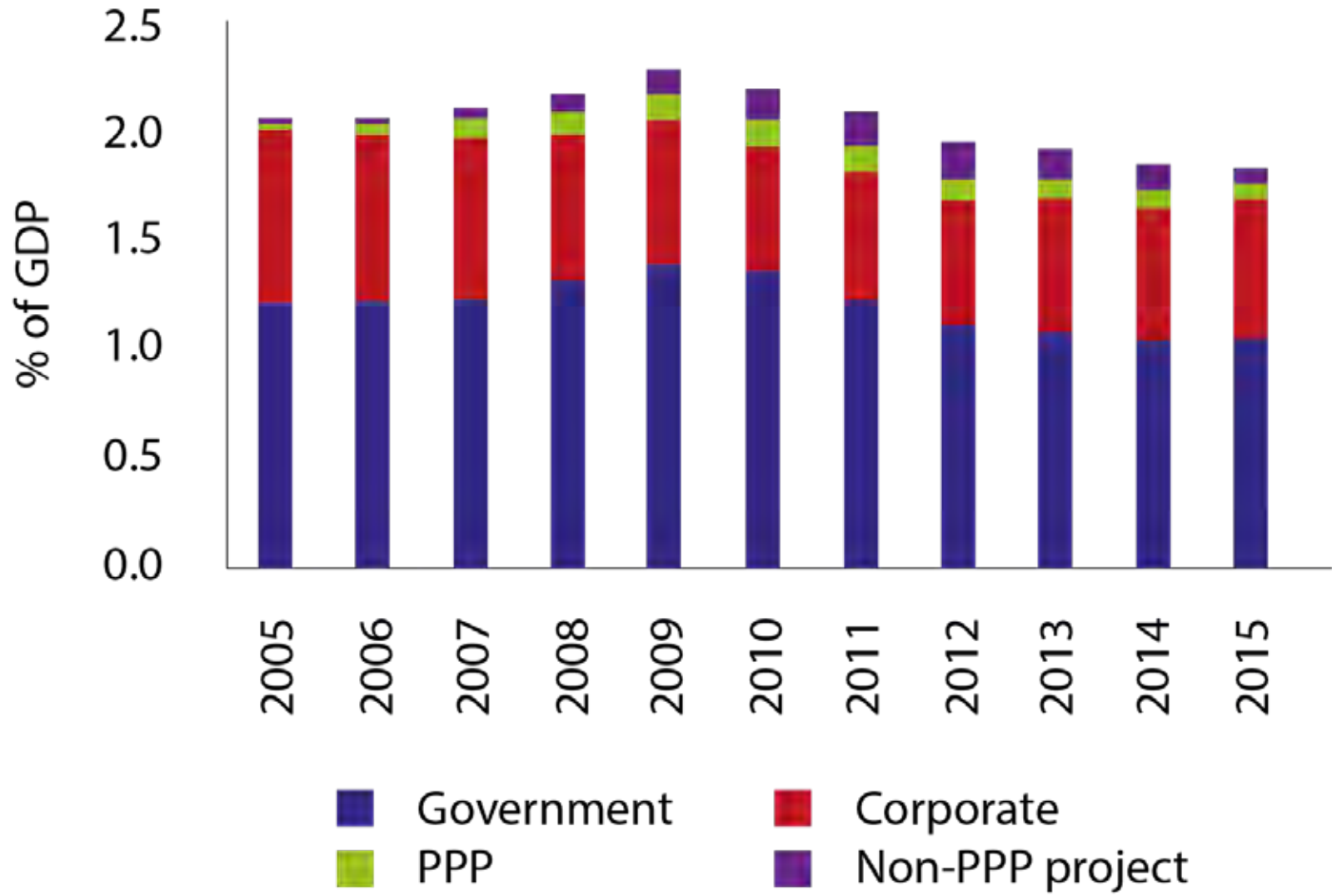
Figure 1. Infrastructure investment by sector and source, 2005-2016

Panel A. By sector



Panel B. By source

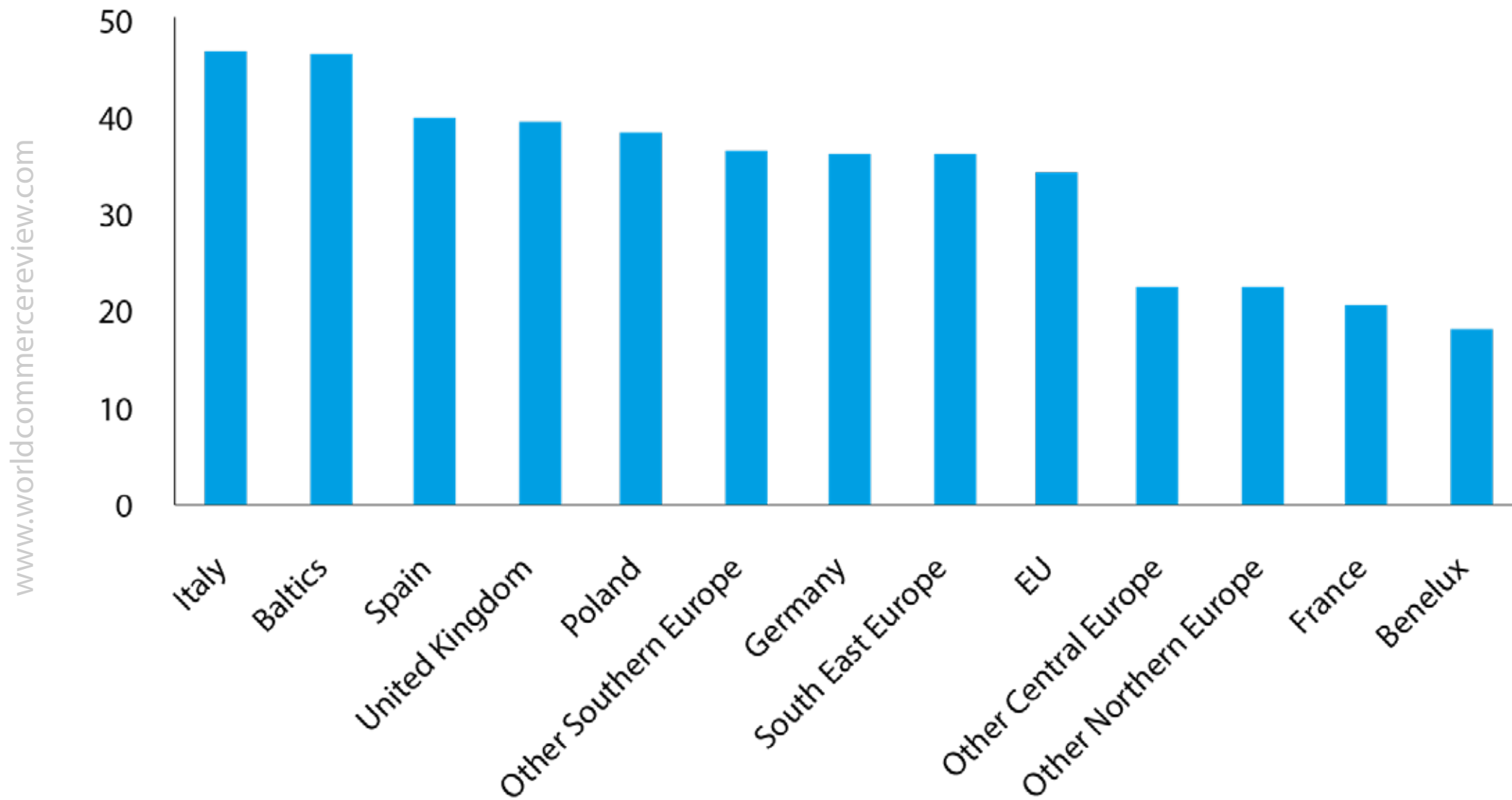
www.worldcommercereview.com



Sources: EIB estimates based on Eurostat, Projectware, EPEC.
 Note: Based on EIB Infrastructure Database. Data are missing for Belgium, Croatia, Lithuania, Poland, Romania, and the UK. 2016 figures are preliminary. PPP: public-private partnership.

Figure 2. Perceived under-provision of infrastructure

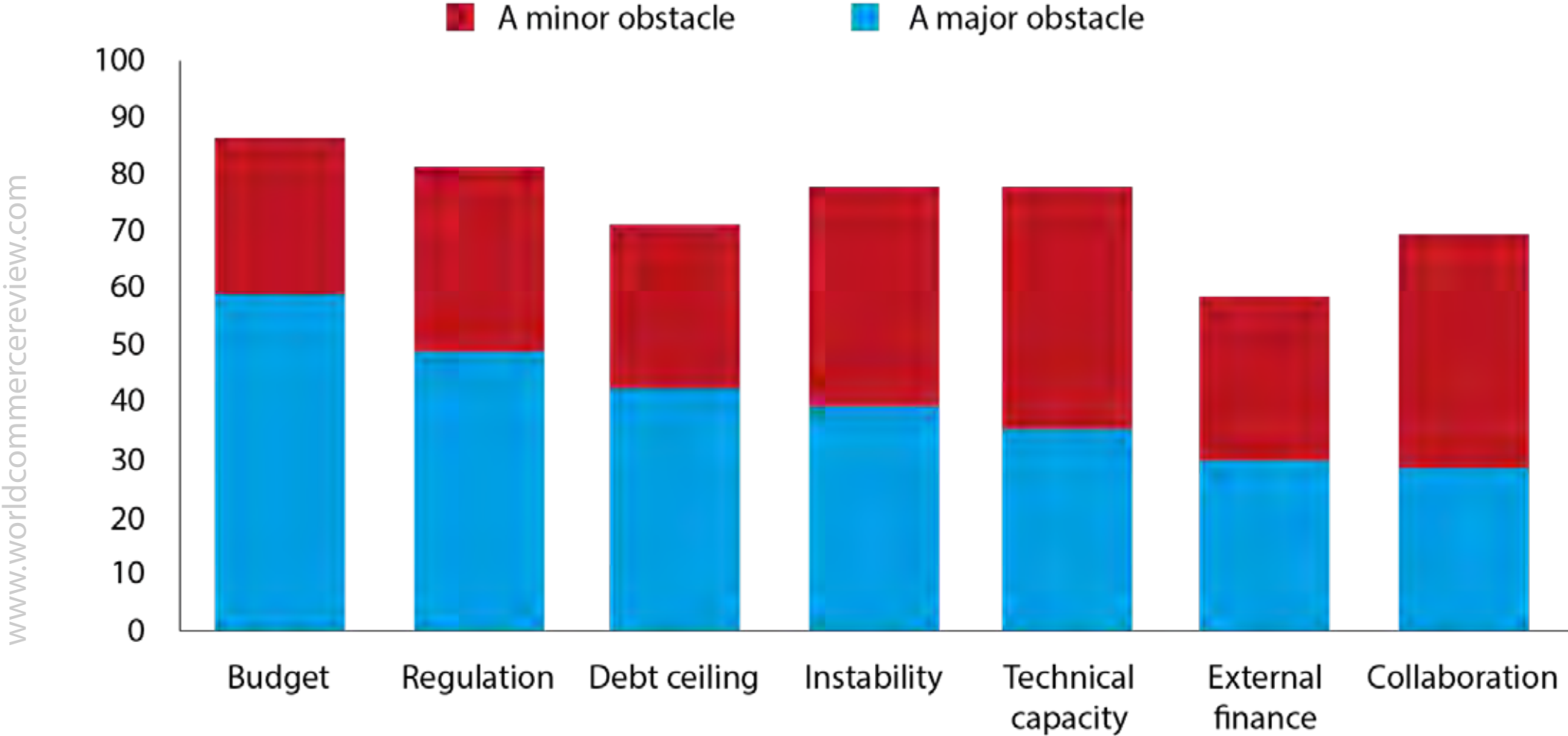
Share of municipalities



Question: For each of the following, would you say that, overall, past investment in your municipality has ensured the right amount of infrastructure, or led to an under provision or over provision of infrastructure capacity?
Source: EIB Municipality Survey 2017.

Figure 3. Obstacles to infrastructure investments reported by municipalities

Share of municipalities



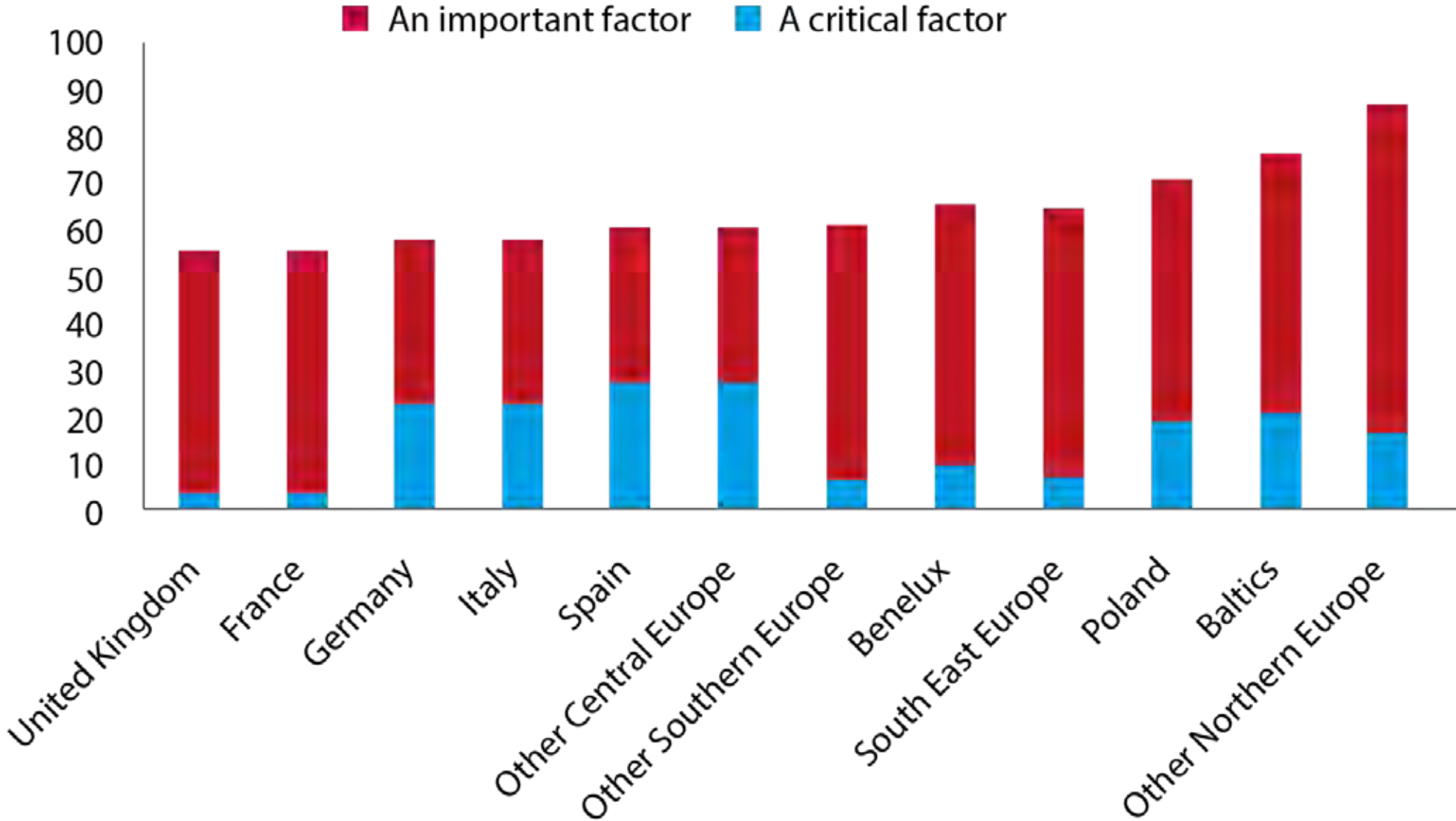
Question: To what extent is each of the following an obstacle to the implementation of your infrastructure investment activities? Is a major obstacle, a minor obstacle or not an obstacle at all? (1) Balance between revenues and operating expenditure; (2) Limit on amount of debt the municipality can borrow; (3) Access to external finance (excluding funding from other government bodies); (4) Technical capacity to plan and implement infrastructure projects; (5) Co-ordination between regional and national policy priorities (including among municipalities); (6) Length of regulatory process to approve a project; (7) Political and regulatory stability.

Source: EIB Municipality Survey.

Figure 4. Importance of ex ante assessments of infrastructure projects

Share of municipalities

www.worldcommercereview.com



Question: And how important would you say are the results of the independent assessment/s when deciding whether or not to go ahead with a project?

Source: EIB Municipality Survey.

Municipalities in Europe report substantial infrastructure gaps

To contribute to the discussion on infrastructure investment needs in Europe and add a new perspective, the EIB conducted a representative survey of 555 municipalities in 2017. A key motivation for carrying out this survey was that municipalities should be well placed to assess infrastructure investment needs, gaps, and impediments in their jurisdiction.

According to the *EIB Municipality Survey*, one third of municipalities reported underinvestment in infrastructure in recent years (Figure 2). It is important to note that this refers to infrastructure investment overall and not just the part of the infrastructure that municipalities are in charge of themselves. Municipalities particularly often perceive infrastructure gaps in urban transport, ICT, and social housing.

Poor infrastructure investment risks undermining convergence and competitiveness

Poor municipalities over-proportionally report infrastructure gaps. This imbalance in infrastructure investment gaps weighs on the convergence process in Europe. Macro-data support this finding by showing that the decline in infrastructure investment is particularly pronounced in countries with the lowest infrastructure quality to start with (EIB 2017).

Upgrading Europe's infrastructure is also key to preserving Europe's competitiveness. Linking the quality of local infrastructure in the areas of transport and ICT to firms' investment activities, a clear pattern emerges – poor local infrastructure hampers firms' ability to respond to global growth opportunities and keep up with competition (EIB 2017, Revoltella *et al.* 2016).

Fiscal constraints hold back government investment in infrastructure...

What is behind the decline in infrastructure investment in Europe? Figure 1 shows that government investment

in infrastructure has declined particularly strongly. At the core of this decline is a shift in public outlays from gross fixed capital formation towards current expenditure. While in some countries, governments have recently presented plans to reverse this trend, in others, budgetary outlooks suggest a continuation of this negative development.

In line with this finding, when asked about the main obstacles for infrastructure investment, 70% of municipalities report fiscal constraints (budget and/or debt ceilings, see Figure 3). Among municipalities that report infrastructure gaps, 75% consider fiscal constraints to be a major obstacle. The length of regulatory processes to approve a project is mentioned by close to 50% of municipalities as a major obstacle.

... but effective project planning and execution is key to reviving infrastructure investment

Loosening fiscal constraints requires, however, mechanisms that ensure that additional investment goes into the projects with the highest social, economic, and environmental impact.

The *EIB Municipality Survey* suggests that there might still be room for improvement in this respect – at first glance, municipalities seem to be aware of the complexities associated with an efficient allocation of resources. More than 80% of municipalities state that they have an urban development strategy. However, not all municipalities take these strategies into consideration when it comes to actual infrastructure planning. Of all municipalities that have an urban development strategy, only 72% consult this document in the process of planning infrastructure projects.

Examining the importance that municipalities attribute to ex-ante assessments of infrastructure projects reveals a similar picture. Of the roughly 60% of municipalities that carry out some type of ex ante assessment, only about two-thirds consider it a critical or important factor. Consequently, less than 40% of the surveyed municipalities assess the quality of infrastructure projects prior to implementation and consider this information important in decision-making.

Also, when it comes to the coordination of infrastructure investment activities with other bodies, there is room for improvement. Only 45% of municipalities say that they coordinate their infrastructure investment activities with the region in which they are located; and only 37% coordinate with neighbouring municipalities.

More efforts are therefore needed to strengthen coordination and the planning and implementation of infrastructure projects at the EU, national, and sub-national levels to ensure effective use of public funds.

Making infrastructure investment more attractive for institutional investors

The combination of substantial infrastructure gaps and fiscal constraints may require a greater involvement of private investors in infrastructure financing.

Infrastructure investments have many characteristics that should appeal to institutional investors. They have a long duration, facilitate matching of long-term liabilities with cash flows, and provide opportunities for portfolio diversification because of the low correlation of returns with other assets (OECD 2011). Yet average infrastructure investment by these investors, in the form of unlisted equity and debt, accounts for only 1.1% of total assets under management (OECD 2016).

The limited involvement of private investors can partly be explained by practical issues. For instance, low returns have held back corporate sector investment (Grayburn and Haug 2015). Unlike in the US, it seems that regulators in Europe did not sufficiently account for the increase in equity risk premia, which should have pushed up allowed returns. Moreover, pension funds and insurers are dis-incentivised from investing in infrastructure by a lack of data, some solvency and funding regulations, and limited investment and risk management expertise (Della Croce and Yermo 2013, OECD 2017b).

It is also likely that a clear planning and prioritisation system of infrastructure projects also matters for potential private investors' willingness to engage in infrastructure projects through PPPs or corporate infrastructure projects.

Conclusion

While there is little doubt that more investment in the EU's infrastructure is needed, it is equally important that the planning and implementation of infrastructure projects is strengthened at the EU, national, and sub-national levels. Effective use of public funds has to be ensured by strong coordination, planning, and implementation procedures. This is also key to attracting private investors. Just like taxpayers, private investors want to be sure that the projects they invest in are sound and well executed.

In 2017, the EIB provided €18 billion to support infrastructure projects worth €55.5 billion, drawing in public as well as private investors. The European Public-Private Partnership Expertise Centre and the European Investment Advisory Hub are two initiatives that helped raise the technical capacity of many of these projects and, together with EIB financing, made them bankable. ■

Philipp-Bastian Brutscher and Andreas Kappeler are Economists at the European Investment Bank

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This article was originally published on [VoxEU.org](https://voxeu.org)

Europe's future: the value of an institutional economics perspective

To reform the European project which institutions and rules are needed and when? Nauro Campos and Jan-Egbert Sturm introduce a new eBook that makes the case that such questions are of fundamental importance for the future of Europe

One can no longer be sure whether Europe is just at a crossroads or on the brink. The multi-faceted economic crisis has deepened. It has also become a widespread political crisis. There is little disagreement that the European integration project needs to be reformed and that this needs to be done now, before the next economic downturn. The costs of doing nothing are large and rising, and we must think of innovative ways to make reform happen in a democratic, efficient, and sustainable manner.

Economists have debated what to do and how¹ but have been mostly silent on who and when. Which institutions and agencies are needed? In our view, not even asking the question, "*Which institutions should be redesigned or even created from scratch to carry out reform in Europe?*", goes a long way towards explaining why reforms have not been implemented.

This column introduces a new eBook ([Campos and Sturm 2018](#)) making the case that addressing such institutional questions is of fundamental importance for the future of European integration.

The individual chapters distil the lessons from the Bretton Woods institutional framework and from the globalisation wave that followed it. The overarching questions that motivate the eBook are: is a European Monetary Fund (EMF) sufficient? Are other institutions needed? How should these other institutions be designed and implemented? And how should they fit into the existing institutional framework?

The eBook is organised into five parts. The first examines the Bretton Woods system and European integration. The second looks at prominent European institutions (the European Parliament, the Structural Funds, and the ESM). The third focuses on financial institutions and on labour mobility. The fourth discusses key institutional aspects of monetary union. The fifth and final part highlights strategies for, and obstacles to, redesigning European institutions.

Bretton Woods and European integration

Harold James argues that the idea of an EMF has been with us for the last four decades and remains a source of lessons for Europe, chiefly regarding current account imbalances, debt sustainability, conditionality, and security. Axel Dreher examines the lending operations of the Bretton Woods institutions to distil lessons for the design of European institutions. He warns that an EMF risks ending up providing funds to those who need the least or to those that are politically connected. Nicholas Crafts evaluates the economic benefits from European integration

The European integration project needs reform and it needs it now. The next economic downturn may have severe political and economic consequences if it finds Europe unprepared. The costs of doing nothing are enormous

in light of the UK's sojourn. He argues that the political sustainability of those positive net benefits was due to enhanced social safety nets (eg. the rise in social transfers as a share of GDP).

Giuseppe Bertola argues that the European integration project can only be properly understood from a political economy perspective. Nationalistic political sentiments have challenged a mode of operation based on trust that in the past discouraged opportunistic behaviour and prevented open conflict. Harald Badinger provides a critical perspective on the debate on the future institutions of Europe. He argues that economic theory suggests different optimal levels of centralisation for different policy fields.

European institutions

Simon Hix, Abdul Noury and Gerard Roland study how the workings of the European Parliament have changed recently. They argue it has experienced a shift away from the traditional left-right divide towards a new cleavage between anti-globalisation/EU (mostly on the extreme right and extreme left) and pro-globalisation/EU. Sascha Becker, Peter Egger, and Maximilian von Ehrlich revisit structural funds as the key institutions for convergence.

They find their effects on per capita income growth have been smaller than before the crisis, while the effects on employment have been larger. Kari Korhonen offers a history of the European Stability Mechanism (ESM). He shows how it has acquired various new tasks over time and how it gradually developed closer coordination links (for example, the April 2018 cooperation agreement with the European Commission).

Financial institutions and labour mobility

Isabel Schnabel and Christian Seckinger argue that the disintegration of the European banking sector after the crisis was at least partly triggered by regulatory intervention and it has proven to be very costly. Mathias Hoffmann,

Egor Maslov, Bent Sørensen and Iryna Stewen postulate that cross-border interbank lending is not sufficient for better risk sharing. Following the crisis, banking integration was reversed, and this exacerbated macroeconomic asymmetries across countries.

Hence, deep cross-border financial integration is highly desirable. Chris House, Christian Proebsting and Linda Tesar show that differences in austerity policies across countries can account for roughly two-thirds of the observed variation in GDP after the crisis. They also argue that if Europeans were as mobile as Americans, the variation in unemployment rates across euro area countries would have declined by almost 40%. Davide Furceri and Prakash Loungani show a convergence of adjustment processes in Europe and the US, reflecting a fall in interstate migration in the US and a rise in Europe.

Overall, mobility has picked up since the crisis and played an important role in labour market adjustments. Yet migration runs into political headwinds: recipient countries threaten with barriers, despite ample evidence on the economic benefits of migration.

Monetary and fiscal union

Jakob De Haan and Patrick Kosterink argue that fiscal discipline is a necessary precondition for national fiscal policy to play a role in the stabilisation of both idiosyncratic and common shocks. They note the need for fiscal risk sharing hinges on the relevance of idiosyncratic shocks and the potency of national fiscal policy to stabilize the effects thereof.

Paul De Grauwe and Yuemei Ji argue that financial engineering cannot cure the fundamental instability in the euro area sovereign bond markets that is created by national governments issuing debt in a currency not their own.

They believe that real stabilisation can only be achieved through a backstop of the ECB and the introduction of Eurobonds that are based on the participating national governments' joint liability.

Philippe Martin notes that the European fiscal rules have allowed for too lax a policy during good times and forced too much austerity during the crisis. Stronger rules on the financial architecture and more effective fiscal rules are needed. Creating fiscal capacity at the EU level to help countries when facing large negative shocks can also prevent a situation where the ECB is the sole institution capable to provide macroeconomic stimulus.

Lars Feld argues that fiscal competences of the EU should be introduced after its transition into a democratic federal system with sufficiently well-developed legal control. The euro crisis has shown that national responsibility for fiscal policy is not sustainable unless the doom loop between banks and sovereigns eases. Hence, a genuine Banking Union is needed.

Redesigning euro area institutions

Xavier Vives argues that the attempt to impose fiscal and market discipline through the Maastricht Treaty and Stability and Growth Pact has failed. The game now is to find a solution in which countries remain sovereign and engage in risk sharing, while maintaining market discipline in order to control moral hazard. The EMF could build a sufficient amount of risk sharing while keeping market discipline but it should then be responsible for liquidity and solvency problems of countries, thus allowing the ECB to concentrate on liquidity help to banks in need and on monetary policy.

Clemens Fuest agrees that while financial stability and resilience to economic shocks requires risk sharing, hard budget constraints and incentives for sound policies need to be preserved. There is a worrisome lack of trust both between member states and in European institutions. Trust grows with the experience of successful common

undertakings in areas like defence, border protection, migration, and education that offer huge opportunities for adding value over and above what individual member states can achieve. Yet relying on current institutions until trust has grown is risky.

What have we learned and what should we do next?

A serious omission in the future of Europe debate, in our view, is that the institutional question has not been raised. It must be. Thinking about 'who' may unlock the difficulties in compromising on 'what' and 'when'. We studied a few selected institutions above, but this list was not exhaustive and there are many we have not touched upon, such as labour market institutions (Blanchard 2018). An institutional map of Europe should be a priority for future research.

How does the 'institutional approach' compare with others in the future of Europe debate? The main difficulty in answering this lies in the multitude of different proposals, suggestions, and policies that have emerged in the last five years or so. Indeed, the European Parliament created a website that tracks such proposals and prepared a report comparing them (European Parliament 2018a, 2018b). Yet the most important proposal in our view is that from the '7+7' French and German economists (Bénassy-Quéré *et al.* 2018), many of which contributed to the eBook.

Their proposal encompasses reforms of the financial, fiscal, and institutional architectures. In our opinion, the reform of the institutional architecture should receive greater priority and greater weight and should have been fleshed out more ambitiously.

The European integration project needs reform and it needs it now. The next economic downturn may have severe political and economic consequences if it finds Europe unprepared. The costs of doing nothing are enormous. We must be creative, determined, and able to implement the needed reforms in a democratic, efficient, and sustainable manner.

We are aware this eBook cannot fully address the many issues surrounding the institutional question of how to design a new framework for the European integration project. We are convinced, however, that if it succeeds in raising and adding these issues to the current debate on the future of Europe, our task has been accomplished. ■

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Endnotes

1. See, for example, the VoxEU debate on euro area reform [here](#).

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This article was originally published on [VoxEU.org](https://voxeu.org)

Download the Vox eBook [Bretton Woods, Brussels, and Beyond: Redesigning the Institutions of Europe](#) [here](#).



The troubling transformation of the EU

Hans Kundnani writes that the EU has already undergone a substantial transformation, but that a rigid focus on 'competitiveness' should give cause for concern

'Pro-Europeans' in Brussels and elsewhere tend to think about European integration in a somewhat linear way. They intuitively see integration as good and 'disintegration' as bad. Thus, the European Commission proposal to deepen integration of the eurozone by creating a eurozone finance minister and budget and turning the European Stability Mechanism (ESM) into a European Monetary Fund – which is currently being discussed by European leaders – is generally seen by 'pro-Europeans' as a step forward. Indeed, much of the debate how 'pro-European' the new German government would be has focused on whether it would be open to these ideas, which were originally put forward by French President Emmanuel Macron.

However, there are two quite different ways of thinking about the Commission's proposals. For Macron, they were part of a vision for a 'Europe qui protégé' in which there would be greater 'solidarity' between citizens and member states. In the context of this vision, the new European Monetary Fund would be a kind of embryonic treasury for the eurozone. But many in Germany, including Wolfgang Schäuble, seem to support the same idea for entirely different reasons. They see it as a way to **increase control** over EU member states' budgets and more strictly enforce the eurozone's fiscal rules and thus increase European 'competitiveness'. If that vision were to prevail, 'more Europe' would mean 'more Germany' – as many of the steps that have been taken in the last seven years since the euro crisis began have.

These different visions illustrate the way that deepening European integration is not automatically or inherently a good thing. In fact, steps such as turning the ESM into a European Monetary Fund may form part of a troubling transformation of the EU that goes back to the beginning of the euro crisis. Although integration has continued since then – and indeed EU member states have agreed to pool sovereignty in ways that would have been almost unthinkable otherwise – there are some reasons to think that this integration is qualitatively different from previous phases of the European project. It may be that, in the name of 'more Europe', a quite different EU is emerging in reality than the idealised project of the 'pro-European' imagination.

The remaking of the EU in the image of the IMF

Central to the transformation of the EU that seems to be taking place is the use of conditionality. Conditionality was originally used in the context of the accession process – ‘external conditionality’. EU member states that wanted to join the euro were also subject to conditionality through the terms of the Maastricht Treaty and the Stability and Growth Pact.

After the euro crisis began, ‘internal conditionality’ on eurozone countries was tightened under ‘Maastricht III’. However, it still seemed softer than ‘external conditionality’ because threats against EU member states [lacked](#)

The figure, who, more than anyone else, embodies this transformation of the EU – and has done more than anyone else to make the case for it – is Angela Merkel

[credibility](#). But that changed with the threat to eject Greece from the euro in July 2015 – which was revived during the German election campaign by Free Democrat leader Christian Lindner.

This increased use of ‘internal conditionality’ has transformed the meaning of ‘solidarity’ within the EU. Since the beginning of the euro crisis, there has been much discussion of the concept of ‘solidarity’ in the EU. During the euro crisis, debtor countries demanded ‘solidarity’ and felt they did not receive it because of the resistance by creditor countries to further debt mutualisation.

Meanwhile, creditor countries felt they had shown ‘solidarity’ by agreeing to bailouts. The truth is somewhere in the middle: there has been a kind of ‘solidarity’ in the eurozone since the crisis began, but it is the kind of ‘solidarity’ that the International Monetary Fund (IMF) shows – that is, loans in exchange for structural reform (or ‘structural adjustment’ in IMF terms). This is not how ‘solidarity’ was previously understood in the EU.

It is as if the EU is in the process of being remade in the image of the IMF. It increasingly seems to be a vehicle for imposing market discipline on member states – something quite different from the project that the founding fathers had in mind and also quite different from how most ‘pro-Europeans’ continue to imagine the EU. Indeed, it is striking that, in discussions about debt relief for crisis countries, the European Commission has often been even more unyielding than the IMF. As Luigi Zingales [put it](#) in July 2015: *“If Europe is nothing but a bad version of the IMF, what is left of the European integration project?”* The transformation of the ESM into a European Monetary Fund may be the final, logical step in this process of remaking the EU in the image of the IMF.

A ‘competitive Europe’

The figure, who, more than anyone else, embodies this transformation of the EU – and has done more than anyone else to make the case for it – is Angela Merkel. She has spoken endlessly of making Europe ‘competitive’ – that is,

able to compete economically, and perhaps also geopolitically, with other regions in the world. But in the process of becoming more 'competitive', another subtle transformation is taking place. 'Pro-Europeans' once thought of the EU as a kind of model for the rest of the world. Led by Merkel, they are now abandoning this idea and increasingly thinking of the EU as a competitor. Supporters of this approach will say that in order to be a model, the EU needs to be 'competitive'. But in order to become 'competitive', the EU may be hollowing out the model for which it once stood.

In particular, Merkel clearly believes that, in order to be 'competitive', Europe needs to cut back on the generous welfare state for which it is known. She [likes to say](#) that Europe has 7 percent of the world's population, 25 percent of its GDP and 50 percent of its social spending in order to suggest that *"it cannot continue to be so generous."* This logic is behind the imposition of austerity on 'crisis countries'.

For example, former Greek Finance Minister Yannis Varoufakis [says](#) that, in their first meeting, Schäuble told him that *"the 'overgenerous' European social model was no longer sustainable and had to be ditched"* in order to make Europe *"competitive"*. This 'competitive' Europe bears little resemblance to the one of the 'pro-European' imagination with its emphasis on the 'social market economy'.

Perhaps the most striking – and disturbing – image for the new EU that seems to be emerging comes from Mark Leonard's book, [Why Europe Will Run the 21st Century](#). In it, he evoked the Panopticon – the circular prison designed by Jeremy Bentham – as a metaphor for the EU. In [Surveiller et Punir](#) (translated into English as *Discipline and Punish*) Michel Foucault saw the Panopticon as emblematic of a modern form of discipline that aimed to create 'docile bodies'. Leonard intended to apply Foucault's analysis to the EU in a positive sense – the idea was to illustrate how the EU used power in such an efficient way that rules ultimately become internalised. But the idea of the EU as

Panopticon may turn out to have been prescient in a somewhat darker sense. What seems now to be emerging is not so much a 'Europe qui protégé' as a 'Europe qui surveille et punit'. ■

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This post originally appeared on the [European Politics and Policy \(LSE\) blog](#)



Explaining Germany's exceptional recovery

Dalia Marin introduces a new VoxEU eBook that explores how Germany transformed itself from the 'sick man of Europe' to 'economic superstar'

In the late 1990s Germany was called 'the sick man of Europe' (Bertram 1997). Today, Germany is an 'economic superstar'. Unemployment declined from 13% in 2005 to 6.1% in 2016. Germany is one of the world champions in exporting, accounting for almost 8% of world exports. A new eBook explains how Germany's extraordinary recovery came about (Marin 2018).

The contributors to the eBook find that changes in the labour market institutions and in firms' business models as a result of trade liberalisation with Eastern Europe after the fall of communism explain Germany's exceptional export performance. They also explain why Germany absorbed the 'China shock' more easily than other countries and why globalisation did not contribute to the rise in voting for the far right in Germany.

The astonishing transformation of Germany's economy happened at the same time as international trade with Eastern Europe was liberalised after the fall of communism. This event profoundly changed the way firms and workers operated. Trade liberalisation with the formerly planned economies after the fall of communism led to decentralised wage bargaining lowering wages; to a decentralised, less hierarchical management style in firms improving the quality of German exports; and to the expansion of production networks to Eastern Europe lowering costs; and finally it allowed Germany to absorb the 'China shock' more easily than in other countries, in particular the US.

The institution of labour relations

One leading explanation for Germany's recovery is the astonishing transformation of Germany's industrial relations from a rigid system of national wage negotiations to a decentralised flexible system of wage bargaining at the firm level as Dustmann *et al.* and Baccaro argue in Chapters 1 and 2 of the eBook. This led to a dramatic decline in unit labour costs and to an increase in competitiveness. The decentralisation of wage bargaining was triggered by the new opportunities to move production to the emerging market economies of Eastern Europe. This changed the

power equilibrium between trade unions and employer federations and forced unions and work councils to accept deviations from industry-wide agreements. Dustmann *et al.* emphasise that the 'Hartz reforms' – commonly viewed in Germany as the critical turn around for the economy – played no essential role in this process, which had started a decade before (see also Dustmann *et al.* 2014). Baccaro points out that the old, rigid, high-cost system of wage bargaining may have had its advantages by acting as a 'beneficial constraint' which forced firms to upgrade the quality of their products to stay competitive in world markets (see also Streeck 1997).

One leading explanation for Germany's recovery is the astonishing transformation of Germany's industrial relations from a rigid system of national wage negotiations to a decentralised flexible system of wage bargaining at the firm level

Globalisation and technology

Marin argues in Chapter 3 of the eBook that wage moderation cannot explain Germany's more recent success in exporting. After the financial crisis exports in Germany rebounded more quickly in spite of more rapid increases in wages compared to other European countries. Trade liberalisation with Eastern Europe had a profound effect on Germany's way of doing business (see also Marin and Verdier 2014). Firms reorganised to a more decentralised, less hierarchical style of management which provided workers with incentives for product quality. Workers at lower levels of the firm hierarchy are better informed about market demands. Giving these workers more autonomy in decision making encourages firms to introduce products that customers appreciate. Marin finds that decentralised management contributed to large gains in export market shares (see also Marin *et al.* 2015). This way, the high-cost industrial labour regime before the 1990s may have had a lasting effect on a business culture of quality ('Made in Germany') that persisted even when the disciplining role of high wages and a strong Deutsche Mark vanished.

The opening-up of Eastern Europe after the fall of communism also affected German business in another way: German firms expanded production networks to Eastern Europe. Eastern Europe was rich in skilled labour and this offered not only new market opportunities for German firms, but also a pool of skilled and inexpensive workers. This helped Germany to cope with a skill shortage which became particularly acute in the 1990s. Offshoring to Eastern Europe lowered costs and helped to win market shares globally (Marin 2010).

Trade liberalisation with Eastern Europe was also a driving force behind Germany absorbing the China shock so much better than the US, as Suedekum emphasises in Chapter 4. The job losses from import penetration from China following its accession to the WTO were more than offset by additional jobs which were created from rising export opportunities to Eastern Europe. China's rise has a different effect on Germany than the rise of Eastern Europe, because these two trade shocks are quite distinct. Trade with China is of the inter-industry type (trade across sectors, eg. cars versus textiles), while trade with Eastern Europe takes place within the same sector (intra-industry

trade, eg. BMW versus Skoda) and within the same multinational firms (intra-firm trade, eg. car parts versus cars) (Dauth *et al.* 2014).

Moreover, Suedekum finds that robots had a milder effect on Germany's labour market compared to the US. The reason is Germany's particular way of coping with technical change of retaining and retraining incumbents. This way, the robots did not raise the displacement risks for incumbent workers but have replaced potential jobs for young labour market entrants.

The more favourable labour market conditions in Germany may explain why, in Chapter 10 of the eBook, Cantoni *et al.* do not find that globalisation and increasing job insecurity have contributed to the rise of the vote for the far-right. Somewhat worryingly, they identify a stunning historical persistence in voting behaviour: municipalities with high vote shares for the Nazi party in the 1920s-30s also had higher vote shares for the AfD in the 2016/17 state elections.

Cantoni *et al.* identify this correlation after 2015 – the time when the conservative, anti-immigrant members took over the leadership of the party – and not before. They rule out other explanations of the vote for the far-right such as the inflow of refugees to Germany in 2015. They see the success of the AfD as the result of a political supply shock rather than a backlash against economic policies.

Harhoff and Schnitzer point out in Chapter 5 that the loss of human capital and talent after WWII did not create the initial conditions for long-term growth in Germany. Only after 2005 did R&D spending start to rise substantially and the government start an initiative to rejuvenate German universities. They also identify a lack of entrepreneurial dynamism in the German economy.

The current account surplus

With almost 8% of GDP in 2017 Germany has the largest current account surplus in the world. There are two possible sources for the large surplus: large exports or low imports. Chapters 1 to 3 of the book show that Germany is indeed a very successful exporter because of low wages (via decentralised wage bargaining), excellent product quality (via decentralised management in firms), and low production costs (via offshoring to Eastern Europe).

In Chapter 6 Wolff focuses on the import side of the current account. From a national accounts perspective, a country will face a current account surplus if its savings are large and its investments are low. Many of the investment goods are imported. Therefore, little investment leads to low imports. He finds that the German current account surplus is mainly driven by low corporate investments, which are lower than in Italy and France. He suggests that the government should increase public investment (to address the low intangible capital stock that he documents) and should encourage private investment.

In the mid-2000s Germany introduced a mix of taxes which may have shifted relative prices and the external balance in Germany's favour, as Ghironi and Benjamin Weigert explore in Chapter 7. Germany combined an increase in the value-added tax with a decrease in the payroll tax. This menu of taxes corresponds to a fiscal devaluation which is equivalent to a depreciation of a country's currency, as has been shown recently (Farhi *et al.* 2014).

Absent the ability to devalue the currency in a monetary union, countries may introduce this mix of taxes to depreciate their currency. Ghironi and Weigert then ask whether Germany did in fact pursue a fiscal devaluation to improve its external competitiveness. Their answer is no, because policymakers did not intend to use the policy mix to change Germany's external competitiveness, but rather to address domestic problems such as the reduction of distortions in the economy and the need to preserve tax revenue.

The role of history

Chapters 8 and 9 of the eBook turn to a different topic – why Germany's way of operating often leads to tensions in the euro area. Wyplosz argues that with the Maastricht Treaty Germany became the de facto leader of the euro area. The treaty delivered central bank independence and low inflation compared to previous years. This worked until the financial crisis. The unwillingness to act as a lender of last resort transformed the banking crisis into a public debt crisis. The Stability and Growth Pact to control public indebtedness was designed after the German system of federalism, which was a source of tension because the majority of the Europeans do not see themselves as a member of a common state.

James explores in Chapter 9 why the French and the Germans do not communicate effectively. The two countries have a different understanding of the role of the state. The German vision is of rules and consistency, while the French emphasise flexibility and adaptability. From a historical perspective, the beliefs in both countries have been reversed. He thinks that a crisis can be a productive moment for a profound rethinking of the old ways of organising European affairs.

What can be learned?

Is the German success story transferable to other countries? Dustmann *et al.* suggest that existing institutions in other countries restrict the decentralisation of wage bargaining, which they consider as a key factor in Germany's transformation from sick man of Europe to economic superstar. Many of the regulations which are determined by labour contracts in Germany are either legally enforced or nationally implemented and therefore require consent at a much higher level in order to be changed.

Dustmann *et al.* also do not believe that copying the Hartz reforms in other countries, as some economist and policymakers have suggested, would be sufficient. They argue that in addition, decentralisation of wage bargaining

is essential to improve competitiveness. Macron's reforms, fostering labour market flexibility at the firm level while strengthening worker's representation, can be seen as a promising way forward for France.

Marin also doubts that a decentralised management style could be easily copied in any other country. The reason is that more autonomy in decision making not only frees up managers to respond to market demands, it also allows them to put their own career interests above the wellbeing of the firm. France is a case in point. She finds that French exporters decentralise their organisation much less frequently, and when they do decentralise they do not win in export markets. Germany is a high-trust society, according to the World Value Survey, in which citizens have confidence in one another's behaviour. Countries which can rely less on trust may have to introduce stronger economic incentives. ■

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This article was originally published on VoxEU.org



The myth of Franco-German friendship

Ashoka Mody considers the friendship between France and Germany and finds that their national interests have diverged, and that their friendship will not plug the gaps in the euro area architecture

Since Emmanuel Macron's election as French president in May 2017, hope has lingered that a mythical friendship between France and Germany will help complete the gaps in the euro area architecture. As this column discusses, however, history provides no basis for such an expectation. National interests, always central to the decision calculus, have diverged even further. French leaders have a pressing task at hand: they need to rejuvenate their own economy and build domestic social cohesion. This may take a generation or more.

The last time the French successfully led a European unity initiative was in May 1950. WWII still cast a heavy shadow over Europe, and France's foreign minister Robert Schuman invited Germany's chancellor Konrad Adenauer to join in creating a European Coal and Steel Community. Adenauer exclaimed to his aides, "*Das ist unser Durchbruch*" ("*This is our breakthrough*"), and readily agreed (Judt 2006). For Germany, Europe was a way to regain international legitimacy.

Later the same year, when the Americans insisted on allowing Germany to rearm, the French reluctantly proposed a European Defence Community (EDC), which would merge national armies into a European army supported by a European budget. The EDC Treaty, signed in May 1952, remains to this date Europe's farthest-reaching attempt at political union. Adenauer reluctantly agreed to the arrangement, which would have placed German soldiers in clearly inferior ranks in the European army. But, in August 1954, the French National Assembly backed out of the agreement. The unity drive had run out of steam. French Prime Minister Pierre Mendès-France complained, "*In the EDC there was too much integration*" (Judt 2006).

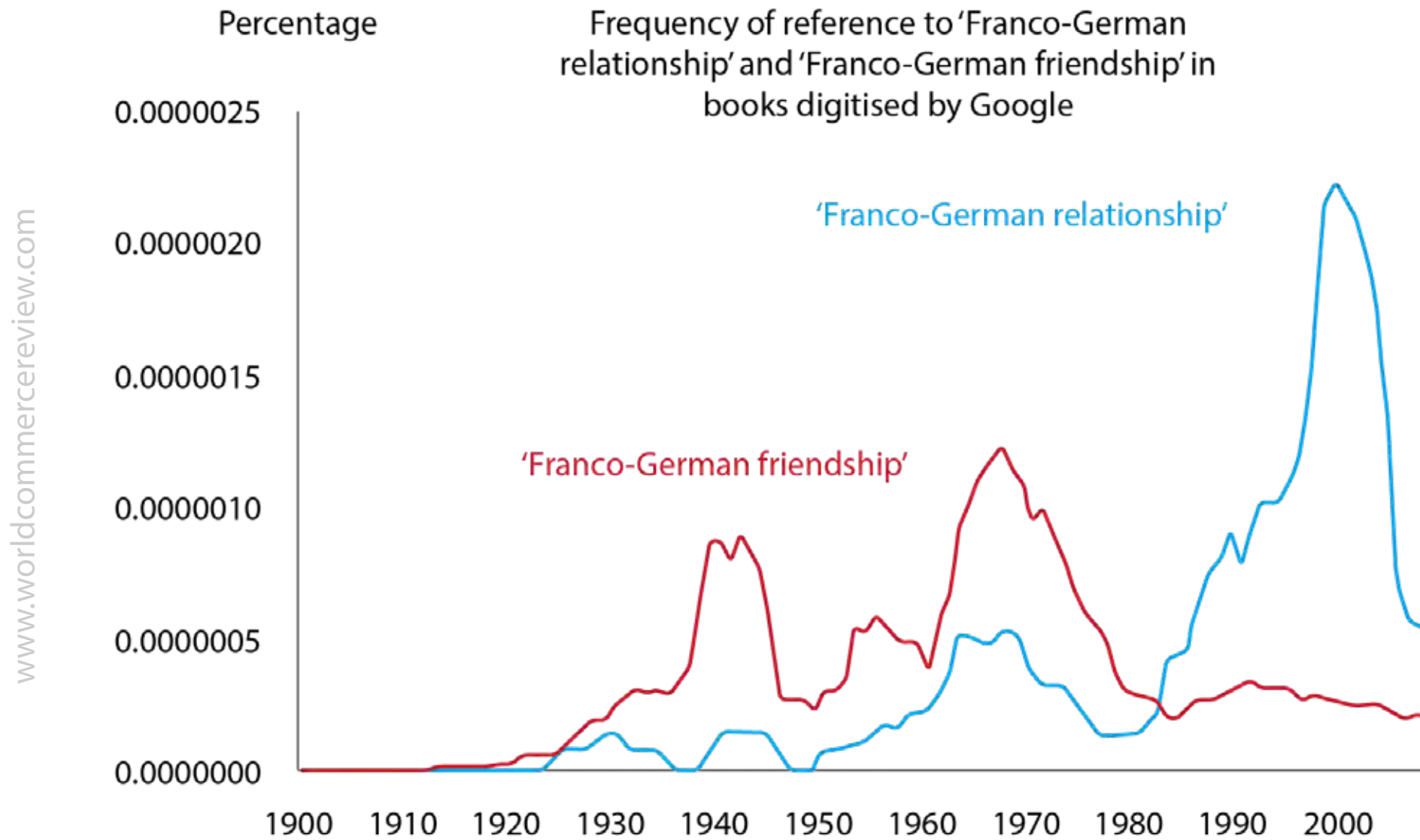
The Netherlands and Belgium led the next phase of European integration, culminating in 1957 in the Treaty of Rome, Europe's greatest postwar achievement, which opened national borders to trade within Europe. German authorities were unhappy because they believed that borders should be opened to all countries, not just European

nations. French leaders opposed the Treaty of Rome because they believed that borders should not be opened at all, even to European nations. As the price for agreeing, the French installed the egregious Common Agricultural Policy (CAP), a system of subsidies for European farmers that helped undercut farmers in developing countries and even today remains a financial drag on the meagre EU budget.

A narrative of Franco-German friendship first emerged in the lead-up to the Franco-German Treaty of Friendship, the Élysée Treaty, signed in January 1963 (Figure 1). French President Charles de Gaulle viewed the Élysée Treaty as a way of creating a united European front against the US's economic and political might. But Adenauer needed the reassurance of the US's political and military support; and US President John F Kennedy was anxious to retain

A new vision for the future of Europe – even if stirred rhetorically by a mythical Franco-German friendship – cannot be based on a redesign of the euro area

Figure 1. The narrative of Franco-German friendship ebbs and flows



Note: The figure was created using the Google Books Ngram Viewer (<https://books.google.com/ngrams/info>). It reports the frequency with which the phrases 'Franco-German relationship' and 'Franco-German friendship' are mentioned in English-language books scanned by Google.

Germany as an important political ally. Thus, in May 1963, the German Bundestag, while ratifying the Élysée Treaty, introduced in the Treaty's preamble language that recognised Germany's special relationship with the US. Upon hearing of the Bundestag's changes, de Gaulle famously moaned, "*Treaties, you see, are like girls and roses. They last while they last*" (Deutsche Welle 2012). Kennedy, on the other hand, travelled to Germany in June and won the hearts of adoring West Berliners when twice in a short improvised speech he declared, "*Ich bin ein Berliner*".

Although the impetus from the Élysée Treaty faded, a narrative evolved that, if not friendship, at least a constructive transactional 'relationship' existed between the two European nations. The phrase 'Franco-German friendship', although relegated to secondary status, remained alive and was periodically recharged to temporarily mask differences in the two nations' interests.

The narrative of Franco-German cooperation grew to a crescendo in the run-up to Europe's single currency, the euro. In fact, however, relations between France and Germany were fraught during these years. Starting with President George Pompidou in 1969, successive French presidents – Valéry Giscard d'Estaing and François Mitterrand – pushed for a single European currency, believing that by eliminating the humiliation of regular French franc devaluations, France would gain greater equality with Germany (Mody 2018b: Chapters 1 and 2). German chancellors pushed back. Starting with Willy Brandt and continuing with Helmut Schmidt and then Helmut Kohl in his first two terms, German chancellors emphasised that a single currency was ill-suited for divergent economies. When Schmidt briefly seemed to concede ground to Giscard d'Estaing, the Bundesbank held him back.

Many have speculated that after the fall of the Berlin Wall in November 1989, Kohl agreed to satisfy Mitterrand's obsession with a single European currency in return for France's green light to unify East and West Germany. There is no evidence to support this speculation. Kohl was backed US President George HW Bush, who viewed German unity as a central objective of US foreign policy. Kohl bought the acquiescence of Soviet leader Mikhail Gorbachev with a

generous financial contribution to prop up the teetering Soviet Union (Mody 2018b: 78). Elisabeth Guigou, one of Mitterrand's closest advisors, says that she was present at every meeting between Mitterrand and Kohl, and the idea of a quid pro quo never came up (Schabert 2009: 248).

Kohl did change his position. From 1991 on, he pushed the single currency with boundless vigour for the rest of the decade. Why he did so we will probably never know, because he operated with great autonomy, relying on a close circle of advisors. Superficially, Kohl gave the French the euro, but he did so on German terms. The French wanted a European central bank under political supervision; Kohl, following the Bundesbank model, insisted on a hyper-independent central bank. The French wanted a European fiscal framework that allowed national policy discretion; Kohl insisted on a rigid framework centred on a budget deficit limit of 3% of GDP.

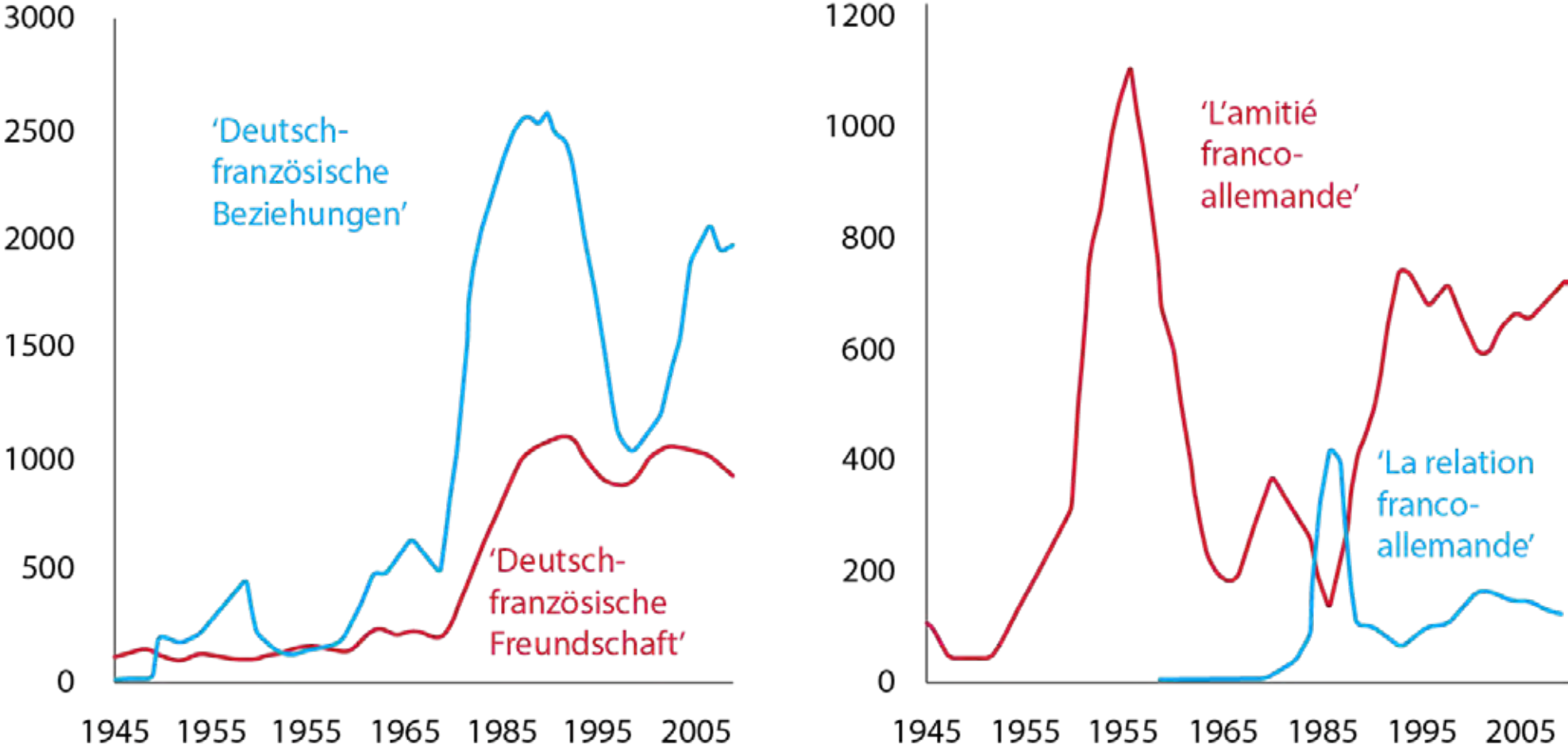
At the Amsterdam summit in June 1997, French leaders pleaded to have the fiscal framework also reflect the goal of fostering economic growth. Kohl agreed only to a name change – the system of fiscal rules would be called the Stability and Growth Pact, rather than the Stability Pact. Philip Stephens of the *Financial Times* commented: “*We are accustomed to Eurofudge, but rarely has it been so richly sweetened with cynicism*” (Stephens 1997). A year later, Kohl made another fateful decision. Despite fierce opposition from his advisors, he insisted that Italy join the euro area with the first batch of members (Mody 2018b: 120).

After the euro's introduction on 1 January 1999, German Chancellor Gerhard Schröder and French President Jacques Chirac continued a tense relationship, sparring at the Nice summit in December 2000 over the allocation of voting rights in the EU's governance. The narrative of Franco-German friendship nevertheless continued, reaching a new fervour in German and French scholarship, curiously enough, around 2002–2003 (see Figure 2). Those were indeed years of rare coincidence in German and French national interests. Both countries were struggling to bring their fiscal deficits below the 3% of GDP limit. Hard pressed by the intrepid European Commission President

Figure 2. The Germans believe in a relationship with France; the French seek friendship

References to 'friendship' = 100 in 1945

www.worldcommercereview.com



Note: Three-year moving average. 'Deutsch-französische Freundschaft' and 'L'amitié franco-allemande' in 1945 equals 100. The figure was created using the Google Books Ngram Viewer (<https://books.google.com/ngrams/info>). It reports the frequency with which the phrases 'Deutsch-französische Freundschaft,' 'Deutsch-französische Beziehungen,' 'L'amitié franco-allemande,' and 'La relation franco-allemande' are mentioned in German- and French-language books scanned by Google.

Romano Prodi, Schröder and Chirac pushed back against any imposition of penalties specified under the rules. Prodi recognised that the rules were 'stupid,' but he felt compelled as European Commission president to implement them. German and French leaders, rather than making an effort to undo the rules, merely waved them aside.

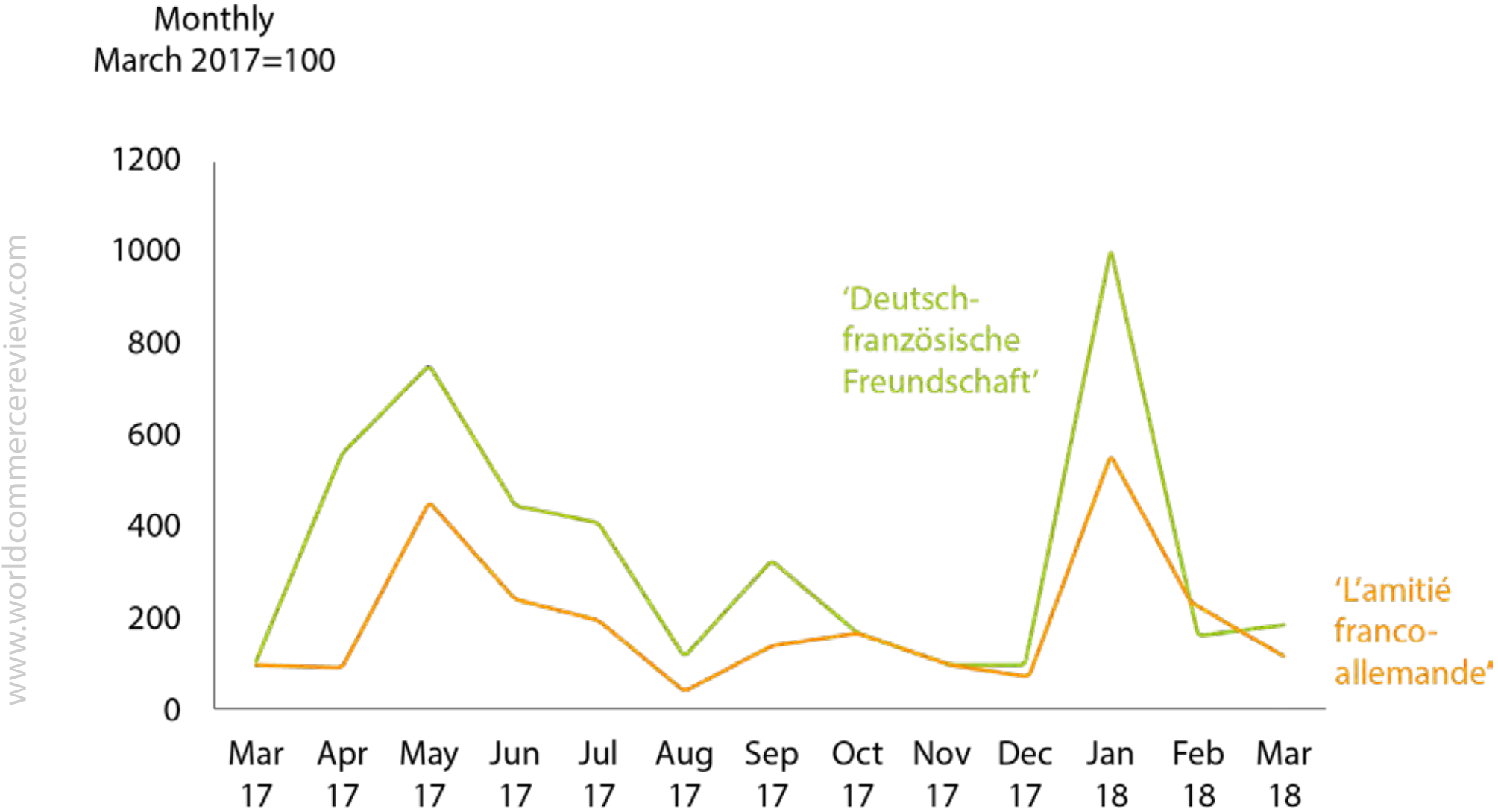
When the Global Crisis reached its most fearsome phase after the fall of Lehman Brothers in September 2008, US authorities established a \$700 billion financial rescue fund, the Troubled Assets Relief Program (TARP). Under pressure to take an equivalent initiative, French President Nicolas Sarkozy proposed a similar European fund. German Chancellor Angela Merkel and her finance minister Peer Steinbrück peremptorily dismissed the idea. In December 2012, at the height of the euro area crisis, Herman Van Rompuy, president of the European Council (the gathering of European heads of government), proposed a euro area budget to assist countries in trouble.

At the Brussels summit later that month, an annoyed Merkel asked: *"Where is the money supposed to come from?"* When French President François Hollande helpfully suggested that the intention was to create a *"solidarity mechanism,"* Merkel nixed the idea, repeating: *"And where is the money supposed to come from?"* (Mody 2018b: 324).

Through the global and euro area crises, Merkel ensured that the German taxpayer was called on only to do the bare minimum to prevent the euro area from imploding. She firmly squashed fanciful ideas such as euro area budgets and eurobonds (bonds that would carry the joint guarantee of repayment by euro area governments).

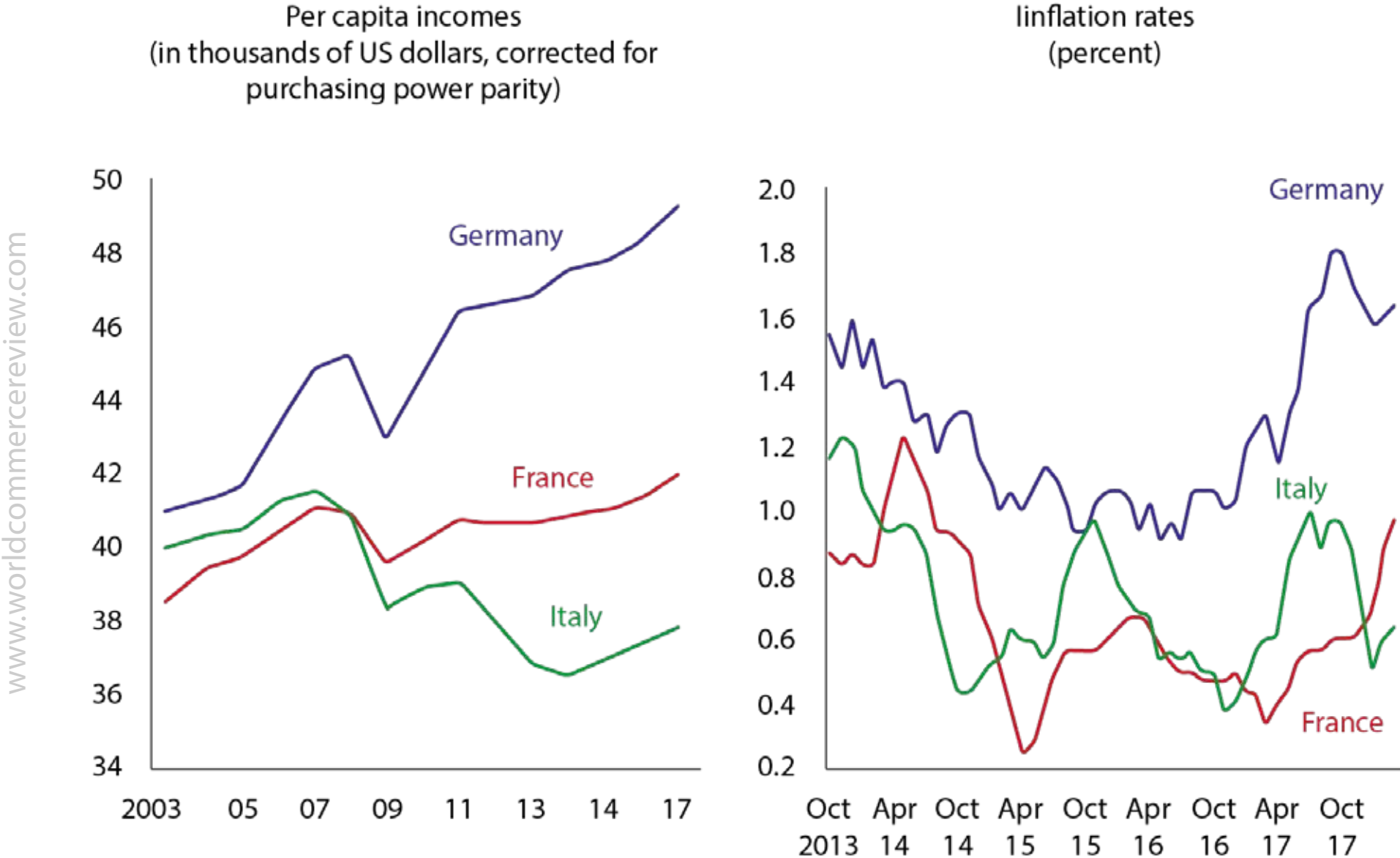
In May 2017, Emmanuel Macron became French president with a promise that he would persuade a reluctant Germany to agree to a euro area budget. A new hope was kindled. The media quickly revived the narrative of Franco-German friendship (see Figure 3). Macron gave stirring speeches in Athens and at the Sorbonne in Paris (Macron 2017a: 2017b). He invoked warm but fuzzy themes, especially a call for European sovereignty. The narrative of Franco-German friendship quickly began to fade, but it was reinvigorated in January 2018, the 55th anniversary

Figure 3. Macron’s election revives the Franco-German friendship narrative



Source: Factiva. This figure reports the frequency with which the phrases 'Deutsch-französische Freundschaft' and 'L'amitié franco-allemande' are mentioned in Factiva's global news database.

Figure 4. The great divergence in euro area incomes and inflation



Sources: Conference Board, "Total Economy Database (Adjusted Version)"; Eurostat.
 Note: Core inflation is the annual percentage change in the Harmonized Index of Consumer Prices excluding unprocessed food and energy.

of the Élysée Treaty. A romantic view of that treaty bolstered the sense that Germany's substantial economic lead over France and the differences in the two countries' national interests could be overcome by a common desire to promote European unity.

The prospects don't look good. However daring and appealing Macron's European vision may be, France has fallen so far behind Germany that any partnership between the two countries is unrealistic. While the German economy recovered quickly from the Global Crisis, the French economy stalled and the country's inflation rate fell into near deflationary territory (see Figure 4). France's economic woes during the crisis years reflect deep-rooted economic weaknesses.

France is one of the few advanced countries with an expanding 'informal' or 'shadow' economy. The shadow economy's expansion reflects a weak governance system, with France substantially below Germany in the World Bank's governance metrics. Weakness in such metrics is associated with low long-term growth rates, as a ECB study shows (Masuch *et al.* 2017). As further evidence of the French economy's weakness, the innovative energy of French firms is dissipating (Mody 2018b: 393).

The German economy has its own troubles, as Marcel Fratzscher (2018) highlights. But set against Germany's, France's challenges are staggering. The French government's extraordinarily high expenditures have been stuck above 55% of GDP. Soon after Macron was elected, the inimitable European Commission President Jean-Claude Juncker said, "*We have a real problem with France. The French spend too much money and spend it on the wrong things*" (Saeed 2017). Because of its high expenditures, the French government struggles to rein in its budget deficit below 3% of GDP. Its debt-to-GDP ratio remains stubbornly close to 100% of GDP. In contrast, the German government spends about 45% of GDP, now runs a budget surplus, and its debt-to-GDP ratio at 65% of GDP is quickly falling.

Even more worrisome for France are its long-standing social problems. The traditionally high youth unemployment rate rose during the crisis. And for a country that boasts such a large government expenditure outlay, France has amongst the lowest rates of upward intergenerational mobility in Western democracies. Annie Genevard, who served on the French Parliament's committee for cultural affairs and education, said in December 2016, "*France retains its sad title as champion of social inequalities at school*" (France 24 2016). Such social divisions ultimately are a drag on long-term growth prospects.

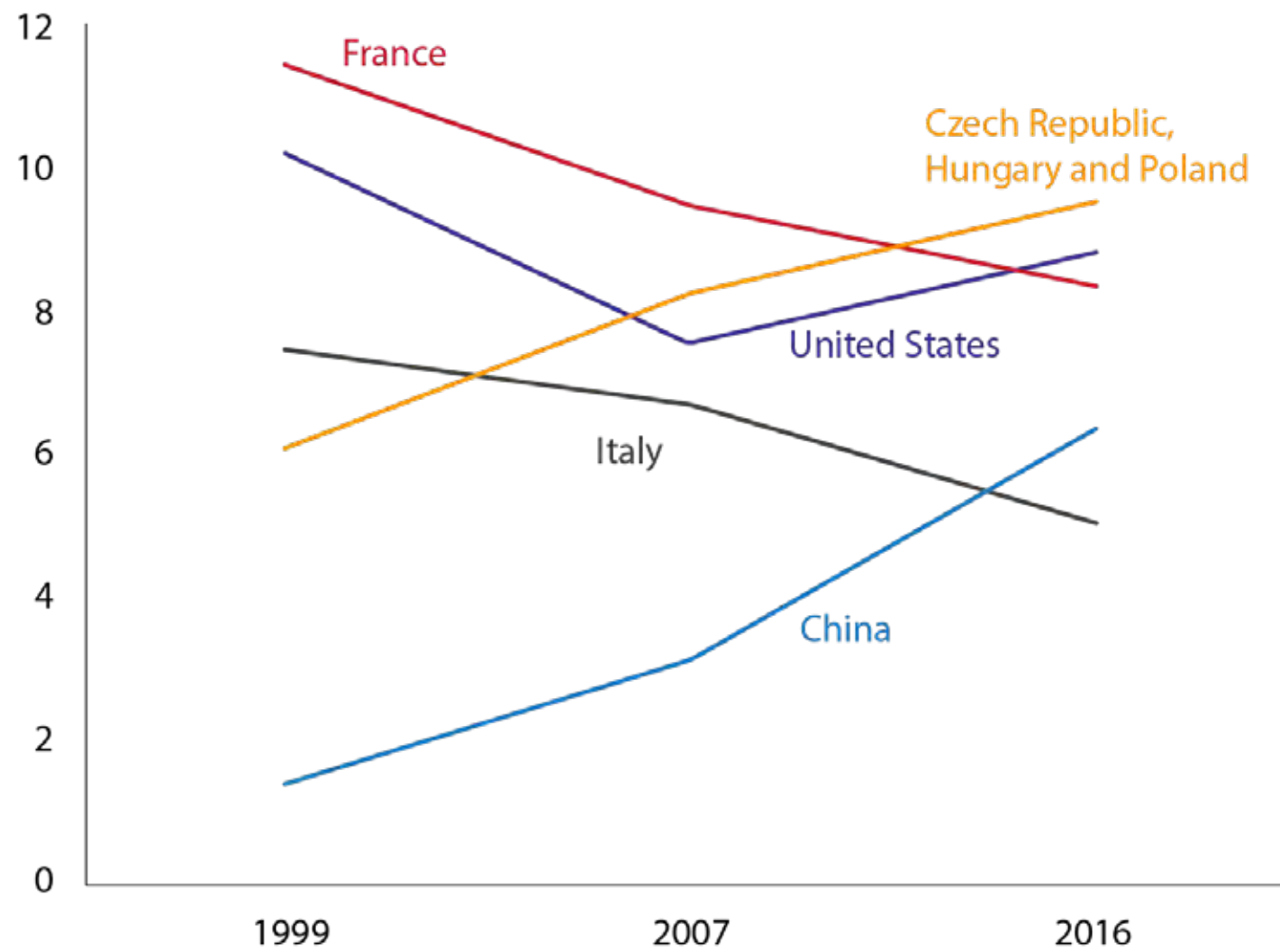
The widening economic gap between France and Germany is starkly evident in international trade flows. Two decades ago, France was the prime destination for German exporters (see Figure 5). Since then, the share of exports to France has fallen sharply, while exports to three non-euro area European economies – the Czech Republic, Hungary, and Poland – have steadily increased. With German exporters looking increasingly to China, Franco-German trade ties are set to weaken further.

Although Macron seems to recognise France's handicaps, the measures he has taken so far barely make a dent in addressing the country's enduring problems. Indeed, to the extent that his labour market reforms create more temporary and precarious jobs, the level of social anxiety will remain high. His promise to create greater social insurance is restricted by the realities of French budgetary stresses. And education reforms have so far remained caught in bureaucratic tangles.

A new vision for the future of Europe – even if stirred rhetorically by a mythical Franco-German friendship – cannot be based on a redesign of the euro area. The single monetary policy under the euro will always favour either Germany or France, and, hence, will continue to divide rather than unify (Mody 2018a). For Europe to move forward, the primary tasks are at home: to rebuild economies in long-term decline, especially when measured against the most dynamic countries in the world. At the same time, governments need to sensitively address social stresses.

Figure 5. German exporters shift their sights away from the euro area

Percent of total German exports to the various countries



Source: IMF data.

German leaders have their own homework to do; for France's leaders, their task at home is the monumental challenge for the next generation. ■

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This article was originally published on [VoxEU.com](https://voxeu.com)

A proposed EU directive on whistleblower protection



Theo Nyrreröd and Giancarlo Spagnolo compare the whistleblower protection policies in the EU and the US and argue that reward programmes are particularly appropriate for specific regulatory areas where wrongdoing can cause substantial harm

The European Commission has recently proposed a directive that provides horizontal protection for whistleblowers in the EU. This could put the EU on a par with the US with respect to protection, but recent episodes of retaliation suggest that it may not be enough.

On 17 April 2018, the European Commission proposed a directive that provides increased protection for whistleblowers in the EU¹. This is important given that global organised crime is becoming increasingly sophisticated making traditional enforcement methods less and less effective (Radu 2016).

Meanwhile, whistleblowers and journalists are being hunted in the EU by governments and criminal organisations. Examples abound. On 26 February, Ján Kuciak, a Slovakian journalist, was murdered in his home for investigating political connections to organised crime in the heart of Europe (*Washington Post* 2018). In October 2017, Daphne Caruana Galizia was killed by a car bomb after writing about corruption in Malta in connection with the Panama papers (*Financial Times* 2017). Maria Efimova, an employee at a private bank who claimed that her employer had moved illegal funds for Maltese politicians, is under an arrest warrant from Malta and Cyprus on seemingly unrelated charges (*The Guardian* 2018).

Hervé Falciani, who blew the whistle on the bank he was working for in Switzerland that helped clients evade billions of dollars in taxes, was arrested in April in Spain after an arrest warrant issued by Switzerland on 19 March, though he has now been released on bail (*Financial Times* 2018). The last two examples, in particular, suggest that improving whistleblower protection should have a high priority in Europe.

The EU directive and why protection may prove insufficient

The proposed directive should in principle offer increased protection to whistleblowers. It bears some resemblance to the US Sarbanes-Oxley Act (2002) but applies more extensively. It includes the mandatory establishment of

confidential internal reporting channels for all firms with more than 50 employees and a large range of public administrations that also allow for anonymous reporting (Article 5). It prohibits a wide range of retaliatory actions (Article 14), places the burden of proof on the employer in cases of alleged retaliation (Article 15), and defines 'whistleblower' broadly to encompass sub-contractors, trainees, and any other person associated with a wrongdoing firm in a 'work-related context' (Article 2).

EU whistleblower protection is likely to be incomplete and insufficient, and the available evidence indicates that reward programmes hold the promise of acting like a scalpel for specific regulatory areas where wrongdoing can cause substantial harm

The directive is a move in the right direction, as European protection for whistleblowers is low and uneven among member states, with some of them offering little to no protection. In 2013, Transparency International rated only four European countries as having an acceptable level of whistleblower protection. In a report by Wolfe *et al.* (2014) several European countries, including Germany, France and Italy, were judged to have inadequate laws with respect to whistleblower protection².

If competently implemented, the proposed directive may finally put the EU on a par with the US which still offers the strongest protection for whistleblowers. However, the US has gone above and beyond protection by also granting whistleblowers financial incentives in key regulatory areas. For federal procurement, whistleblowers have been eligible for rewards under the False Claims Act since 1863. In the tax enforcement area, whistleblowers have been eligible to receive rewards from the Internal Revenue Service for a long time, and the system was considerably strengthened in 2006.

In 2010, as a response to the financial crisis, the Dodd-Frank Act was enacted introducing reward schemes for financial whistleblowers managed by the Securities and Exchange Commission and the US Commodity Futures Trading Commission. The reason why the US introduced financial incentives in key areas is that in their experience protection is insufficient and always incomplete.

Even in the UK, the country recognised to have some of the best protection in the EU (Wolfe 2014, Transparency International 2013), whistleblowers are still experiencing significant pushback. The recent case of Jes Staley, Barclays Bank's CEO, is enlightening. He ordered his security team to unveil the identity of an uncomfortable whistleblower, going so far as to request video footage of the person who bought the postage for the letter. Yet, the Financial Conduct Authority and the Prudential Regulation Authority decided to fine him only £642,000 – a small fraction of his pay package that year (Reuters 2018).

Cases like this suggest that the US Congress was right in pushing for rewards. The mild sanctions established by the UK regulators sent a loud and clear message to prospective whistleblowers. Even in the UK, where protection was judged as high in the above-mentioned reports, a CEO that violates the law trying to uncover the identity of someone reporting his potential mismanagement (probably not to give him a premium), will just have to pay a mild fine, if he is caught, of course!

The EU directive does not even mention financial incentives. This is rather unfortunate, given the substantial amount of empirical evidence on the US experience suggesting that these can be very effective, if competently designed and administered (see Nyrreröd and Spagnolo 2017 for a recent overview).

Objections to reward programmes

Despite the evidence on the performance of these programmes in the US, European authorities have been critical of them. The Bank of England's Prudential Regulation Authority and the Financial Conduct Authority, for example, came out strongly against financial incentives for whistleblowers in 2014, with a seven-page note³ arguing, among other things, that financial incentives will encourage malicious or fraudulent claims and produce high administrative costs⁴.

The experience of the US, however, suggests that the risk of eliciting malicious or fraudulent claims, an issue sometimes raised also in reference to protection (Mechtenberg *et al.* 2017a, 2017b), can be controlled, as it has not emerged as a major problem for US programs (Nyrreröd and Spagnolo 2017). This is probably the case because claims are submitted under penalty of perjury, and fraudulent claimants would be liable for defamation suits (Buccirossi *et al.* 2017a, 2017b).

As for administrative costs, they must be weighed against the benefits of these programmes. Although there is a legitimate concern that rewards generate unmeritorious claims that lead to higher administrative costs, US agencies suggest that these costs can be contained, and that their benefits in terms of improved evidence largely outweigh these costs (Nyreröd and Spagnolo 2017). If one disregards benefits and considers only costs, the most efficient means of law enforcement would be not to enforce the law at all.

Conclusions

EU whistleblower protection is likely to be incomplete and insufficient, and the available evidence indicates that reward programmes hold the promise of acting like a scalpel for specific regulatory areas where wrongdoing can cause substantial harm. Of course, if these programmes are negligently designed or implemented by incapable or captured regulatory agencies, the promise will not be kept. But this is the case also for protection, as the case of Barclays's CEO demonstrates. ■

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Endnotes

1. See http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=620400
2. Since then France and Italy have introduced new and extensive whistleblower protection laws, while Germany has worked hard to make its protection even worse. No wonder nobody spoke up on Volkswagen's emission fraud or Siemens' global corruption system.
3. See <https://www.fca.org.uk/publication/financial-incentives-for-whistleblowers.pdf>

4. They also falsely claim that “There is as yet no empirical evidence of incentives leading to an increase in the number or quality of disclosures received by the regulators”, even though Dyck et al. (2010) is a famous research paper presenting such evidence was published in the most distinguished finance journal and widely circulated for years before There was more evidence in contrast to that statement published before the note, including Bigoni et al. (2012) and Engstrom (2012, 2014). Other papers falsifying that statement were published later, but were already publicly available as working papers at the time (see Nyrreröd and Spagnolo (2018) for an overview).

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This article was originally published on [VoxEU.org](#)

Italian populism calls for hard choices

The economic agenda of Italian populists is likely to exacerbate Italy's long-standing problems. Alessio Terzi suggests that if the defenders of the European project want to regain popularity, they will need to present a clear alternative to setting the house on fire

Prompted by an unfolding political crisis and financial-market sell-offs, several international observers have only just tuned in to Italy's current situation. Often, they have been shocked by the strength of support in an EU founder-country for parties embracing such inflammatory, populist and illiberal rhetoric.

In the best case, many have jumped to simplistic explanations, the most frequent of which argues that The League voters just seek lower taxes, while Five-Star Movement supporters – largely located in the poorer south – want easy money through a universal basic income. In the worst cases there have been arrogant explanations posited, along the lines of: *"People don't understand, they are irrational, or daft."*

Looking at the economics of Italian populism, most of the proposals appear to be superficial, unbacked by evidence or careful reasoning, and likely to augment rather than alleviate Italy's long-standing problems – including poor competitiveness, shaky public finances, high spending on retirees and low spending on youth, and rising inequality. However, some of their premises are far from far-fetched. In particular, they are rightfully calling out national and European ruling classes, who have prevaricated over long-known problems and inconsistencies, because they required hard choices.

Though the list could be longer, two cases in point particularly apply to Italy. The first relates to public debt¹. As is widely known, Italy has the fourth-highest debt-to-GDP ratio in the world, roughly 135%, and by now the government spends more annually on interest payments than on public investment². Reinhart *et al* (2015) have shown how the debt levels we observe nowadays are unprecedented in advanced economies in non-war periods. They go on to show that the menu of solutions to reduce it can be divided between 'orthodox' (fostering growth, privatisation, primary surpluses) and 'unorthodox' (eg. financial repression, inflation, restructuring, etc).

In the Italian case, the orthodox toolkit does not hold bright hopes. The 1980s and 1990s were characterised by large-scale privatisations, which might have had a positive one-off impact but hardly set debt on a downward trajectory. Running large primary surpluses is the official approach enshrined in the EU's Fiscal Compact. However, Italy has run a primary surplus in nearly every year since the early 1990s. While some will claim that these should have been larger, Eichengreen and Panizza (2014) showed how the primary surpluses required to reduce debt significantly are rare birds in recent economic history and as such are unlikely to do the job for Italy³.

In the Italian case, the orthodox toolkit does not hold bright hopes. The 1980s and 1990s were characterised by large-scale privatisations, which might have had a positive one-off impact but hardly set debt on a downward trajectory

The most favoured option is fostering growth, which usually comes as a recommendation to implement wide-reaching structural reforms. While this is a safe call⁴, we know that reform waves have a heterogeneous impact and only occasionally yield the significant positive boost of the kind that Italy would need to break out of the current low-growth-high-debt equilibrium (Marrazzo and Terzi 2017; Peruzzi and Terzi 2018). In advanced economies, this has generally happened in post-military-conflict periods (Reinhart *et al.* 2015).

Unorthodox measures – though more frequently used in the past than we are often led to believe, even in advanced economies – are, however, generally against current EU treaties, or they cross red lines of other member states.

Stuck between a rock and a hard place, the approach at national and European level has been to focus on the short term, employing a combination of the orthodox options, keeping fiscal accounts broadly under control, trying to reduce debt at the margin in good times, and hoping for a supportive external environment.

The second case in point relates to the eurozone architecture more broadly. By now, it is widely accepted that economic and monetary union (EMU) as it stands is incomplete and dysfunctional, leading for example to harsher drops in GDP during bust cycles (Martin and Philippon 2017). While individual solutions to this problem differ, most economists agree that without a political union the whole euro construct cannot hold together long-term⁵. Having concluded that this is politically unfeasible, the approach has been to focus on short-term patches and hope that a crisis as large as 2008 will not hit any time soon.

This piecemeal, small-step approach might be tolerable for euro area member states under normal economic conditions. However, in a country that underwent 20 years of real GDP stagnation, and with no clear path to exiting

this negative equilibrium in the near term, radical changes are more likely to be sought rather than small tweaks around the status quo.

As Harvard economist Dani Rodrik recently [remarked](#), at least Italian populists are clear about how to solve his famous trilemma, which in a euro setting states that it is impossible to simultaneously have a functioning EMU, national sovereignty, and democratic politics. National and European ruling classes are yet to provide a clear answer.

If defenders of the European project want to regain popularity, they can no longer hope to brush problems under the carpet and will need to present a clear functioning alternative to setting the house on fire. The current populist agenda might well lead to a poorer Italy; however, simply highlighting the sharp costs of dismantling the status quo will soon no longer suffice. ■

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Endnotes

1. A useful reference for this is [“A New Start for the Eurozone: Dealing with Debt”](#) by Corsetti et al (2015)
2. See [“Clouds are forming over Italy’s elections”](#) by Terzi (2018)
3. In their words, *“The point estimates do not provide much encouragement for the view that a country like Italy will be able to run a primary budget surplus as large and persistent as officially projected”*.
4. On this point, it is worth remembering a [quote](#) of the World Bank chief economist: *“Structural reform is safe advice. No one knows what it means. If economy grows: I told you. If it stalls: You didn’t do structural reform.”*

5. See [“Does Europe Really Need Fiscal and Political Union?”](#) by Rodrik (2017)

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This article was originally published on [Bruegel](#)



Addressing Europe's failure to clean up the transport sector

Simone Tagliapietra and Georg Zachmann write that Europe would benefit from greater EU action on road transport to cut greenhouse gas emissions and ensure European decarbonisation targets

The issue

Under the Paris Agreement the European Union has committed to cut its greenhouse gas emissions to 40 percent below 1990 levels by 2030. Between 1990 and 2015, emissions decreased significantly in all sectors with the exception of transport, which has seen a 20 percent increase. Transport is thus becoming a key obstacle to EU decarbonisation and more aggressive policies are needed to decarbonise this sector. A particular focus should be decarbonisation of road transport because it is responsible for more than 70 percent of overall transport emissions. Decarbonising road transport would also improve air quality in cities, which remains a fundamental challenge for better public health in Europe.

Policy challenge

So far, national and EU policies have failed to foster road transport decarbonisation. However, this trend can be reversed by adopting a new EU post-2020 strategy with three main components. First, the EU should foster political momentum and encourage countries and cities to adopt plans to ban all diesel and petrol vehicles by 2030-2040. This would be a strong signal to the automotive industry to invest more strongly in clean vehicles, and to citizens to adopt more sustainable transport modes.

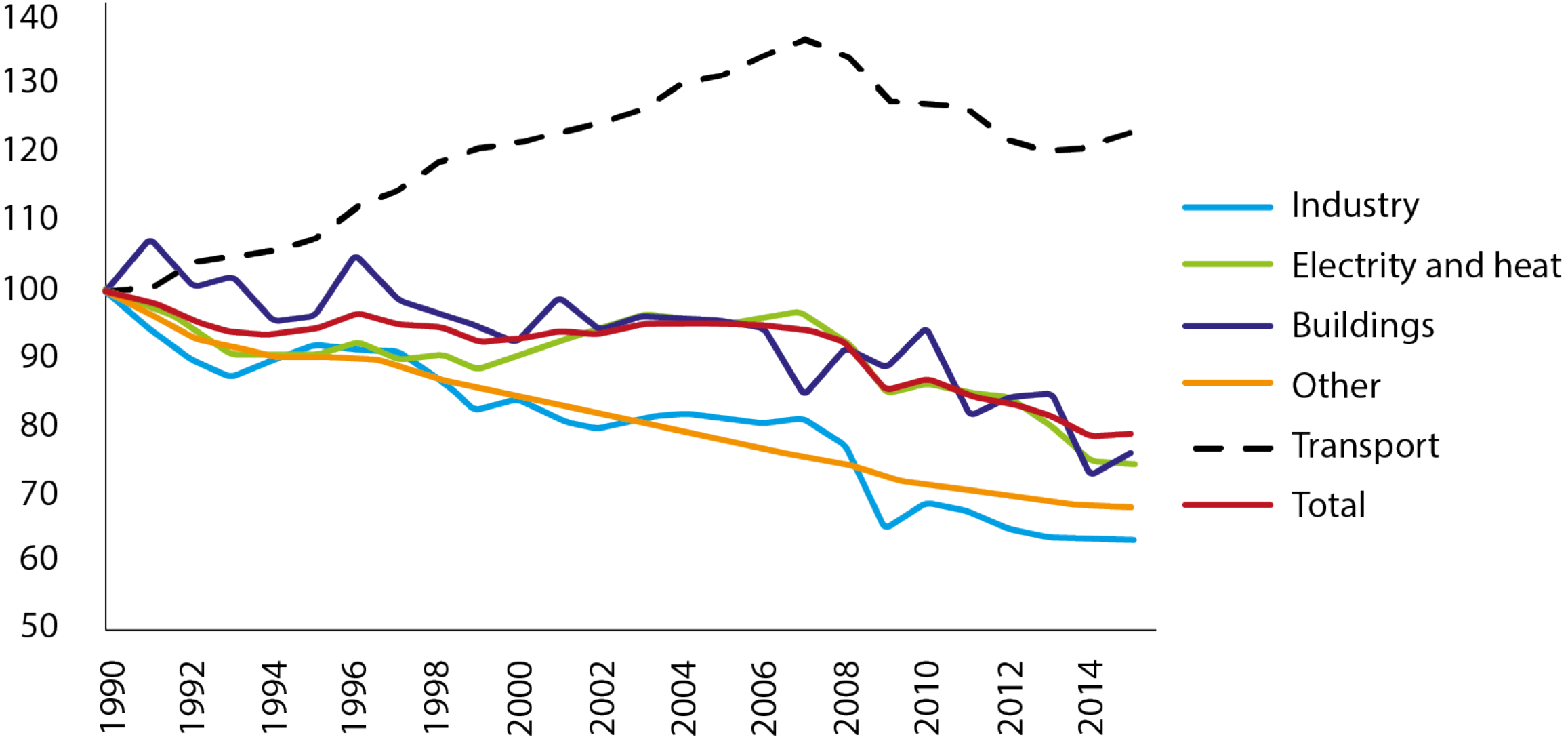
The EU should provide support to countries and cities that take this route through a new EU Clean Transport Fund. Second, the EU should promote a Europe-wide discussion about the future of transport taxation. Third, the EU should focus its transport-related research and innovation funding on supporting new clean technologies that are not yet viable, but are potentially key to ensure deep decarbonisation of road transport in the longer term.

Transport: a major obstacle to European decarbonisation

The European Union has the long-term vision to reduce its greenhouse gas emissions by 80-95 percent by 2050 compared to 1990 (European Commission, 2011a). In this framework, it adopted in 2014 a binding 40 percent

Transport: the only sector in which Europe's CO₂ emissions are on the rise

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Source: Bruegel based on EEA (2017). Note: 1990 = 100.

emissions reduction target to be achieved by 2030 compared to 1990 – a target that also represents the EU’s international commitment to the Paris Agreement. Meeting these targets requires a profound transformation in all the EU’s key greenhouse gas emitting sectors: electricity and heat generation (currently responsible for 27 percent of EU emissions), transport (26 percent), industry (19 percent) and buildings (12 percent)¹.

Between 1990 and 2015, greenhouse gas emissions from the main emitting sector – electricity and heat – decreased by 26 percent, partly as a result of the sector’s transformation underpinned by rapid advances in renewable energy technologies and by decarbonisation policies. In the same period, greenhouse gas emissions from industry decreased by 36 percent, from agriculture and waste by 32 percent and from buildings by 24 percent.

The EU has the potential to encourage innovation in low-carbon transport technologies and promote a reduction in road-kilometres. But to do so, it needs to reshape its transport policies

The only sector with rising emissions has been transport, with a 23 percent increase over the period. Transport is therefore set to become the main obstacle to the achievement of the EU's decarbonisation goals, especially as transport activities are expected to grow in Europe, by 42 percent between 2010 and 2050 for passenger transport and by 60 percent over the same period for freight transport (European Commission, 2017a). To meet the current 2050 target of reducing transport emissions by 60 percent compared to 1990 (European Commission, 2011b), stronger policies are already required.

However, to achieve net-zero emissions by mid-century – as implied by the Paris Agreement – transport would actually have to be completely decarbonised shortly after 2050. This obligation cannot be met without much stronger policies. Under current policies, emissions from the transport sector are projected to exceed 1990 levels by 15 percent in 2050 (EEA, 2016).

Policy should primarily focus on road transport, which is responsible for 73 percent of the EU transport sector's emissions (Figure 1). Decarbonising road transport is also decisive to improve air quality in cities, which remains a fundamental challenge for public health in Europe. Air pollution is responsible for more than 400,000 premature deaths each year in Europe (EEA, 2016). Pollution from road transport, including sulphur dioxide, nitrogen dioxide and particulate matter, is a key contributor to this problem, notably in urban areas with high traffic volume².

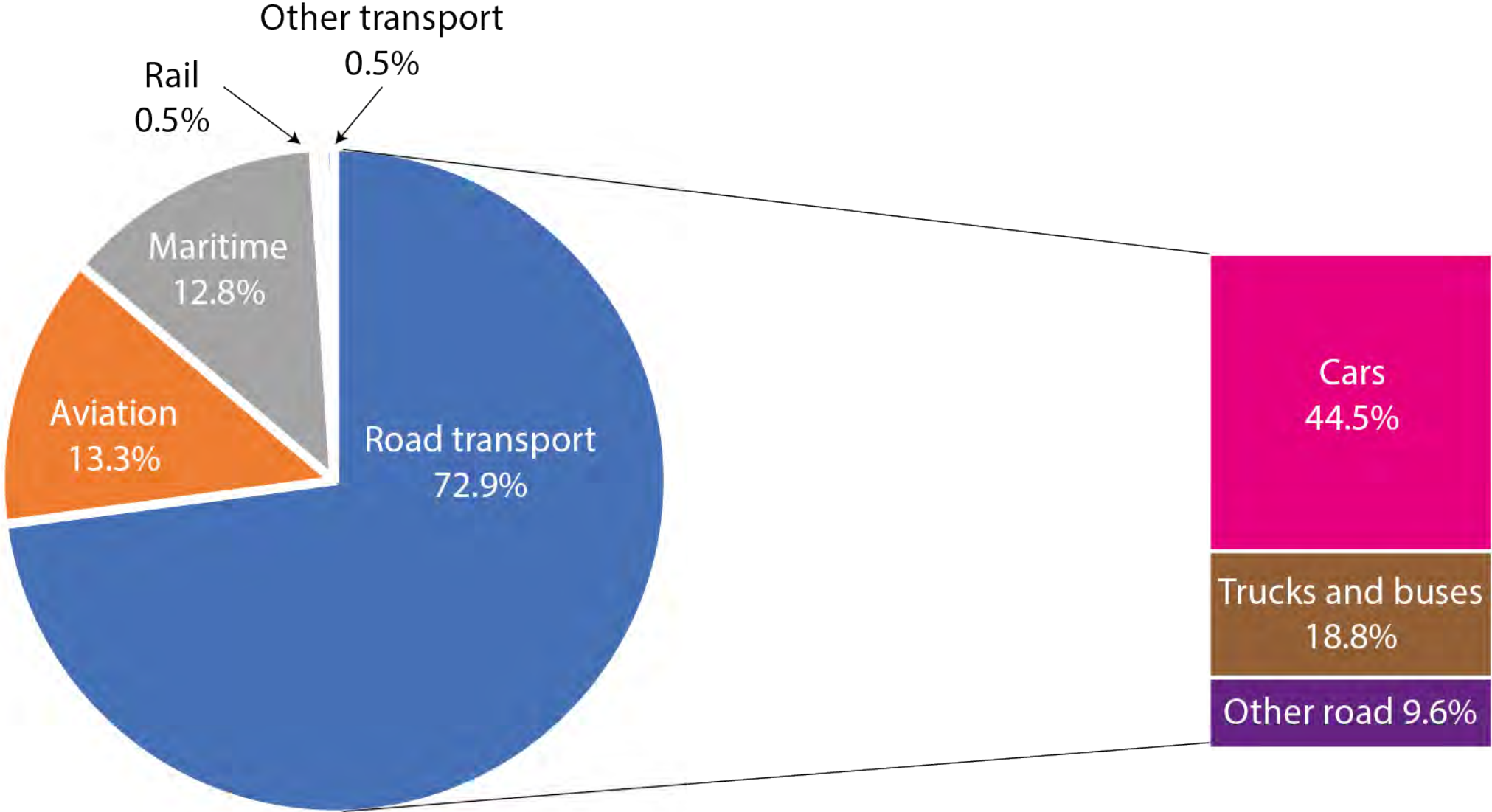
Though necessary, decarbonising road transport is difficult. The two toughest challenges are fostering technological innovation and deployment of clean vehicles, and promoting a modal shift.

Fostering technological innovation and deployment of clean vehicles

Technological development in principle can enable a switch from fossil-fuelled vehicles to clean vehicles. Electric vehicles (EVs) combined with renewable electricity generation are seen as a promising approach to decarbonise a

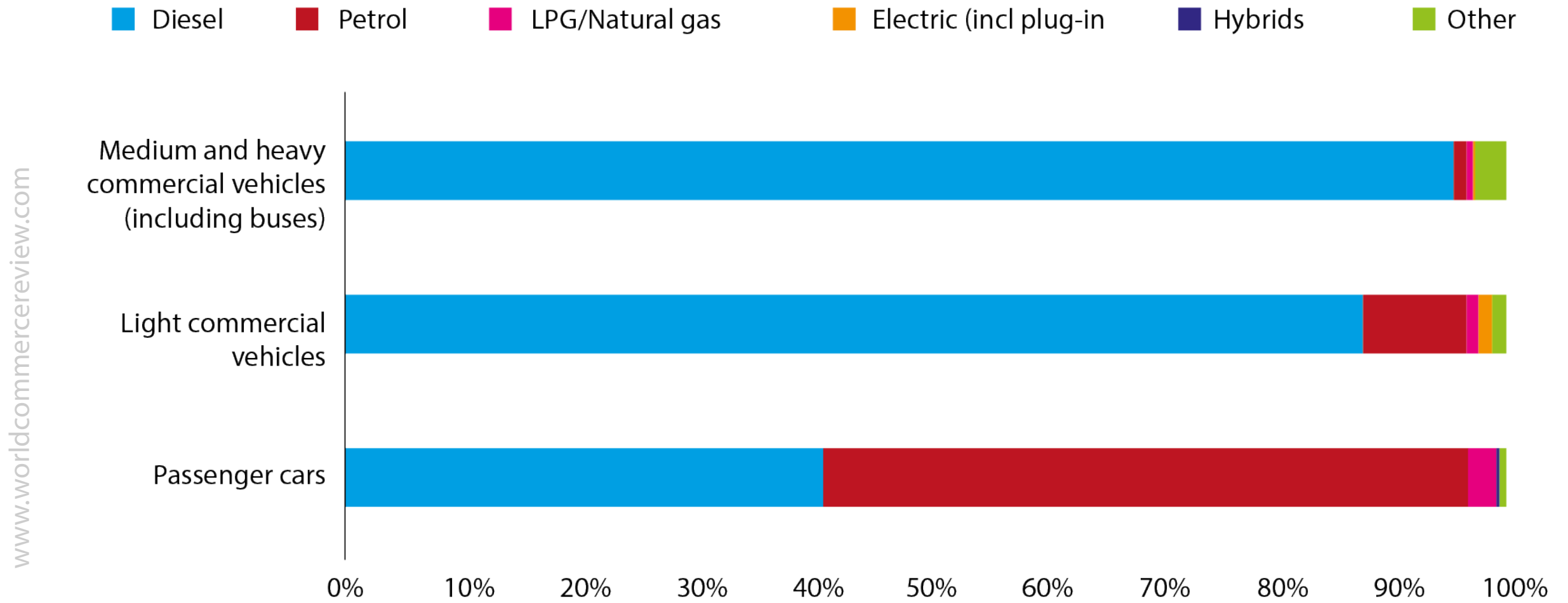
Figure 1. EU transport greenhouse gas emissions by mode, 2015

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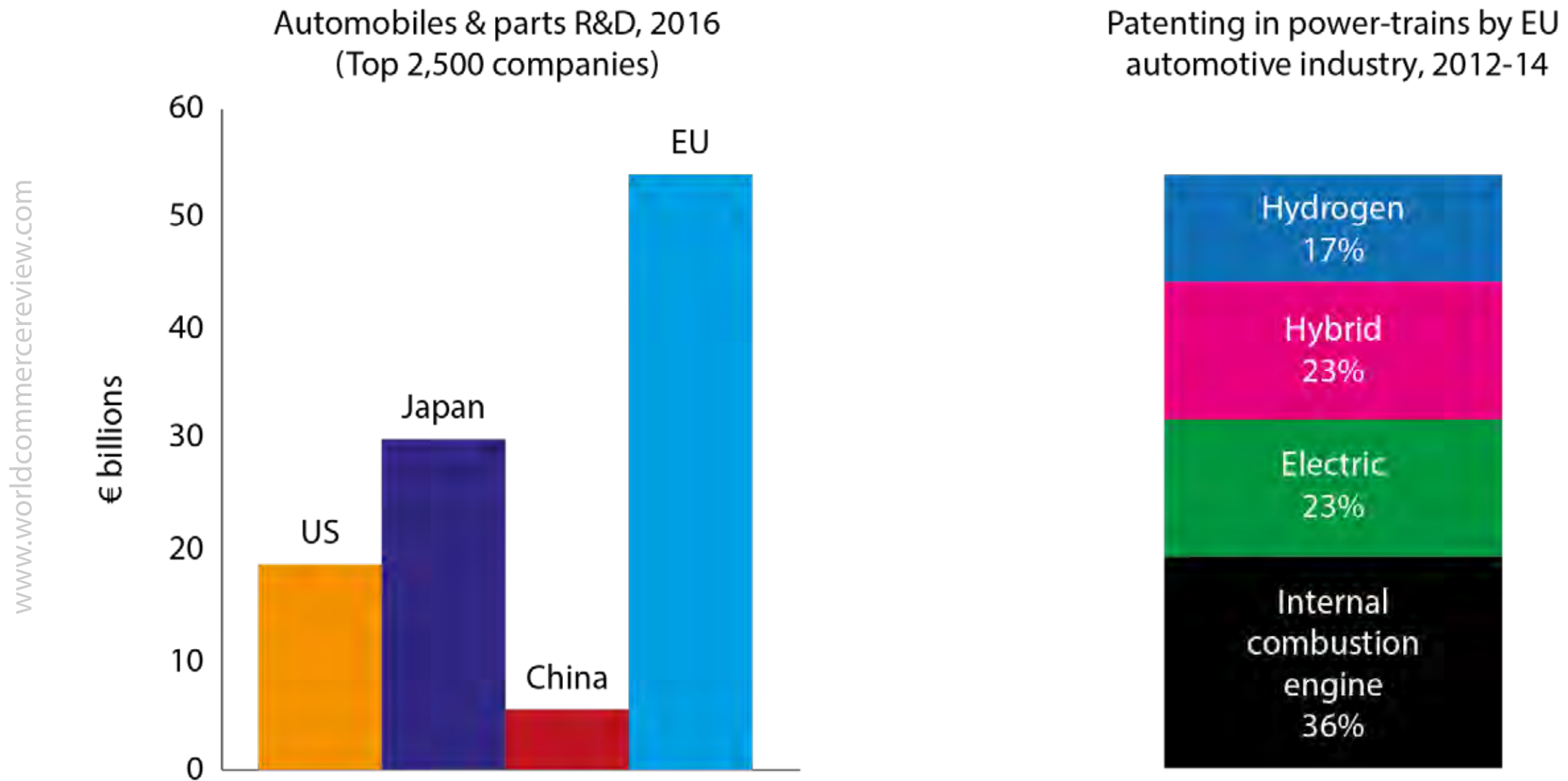
Source: Bruegel based on EEA (2017).

Figure 2. EU vehicle fleet by technology, 2015



Source: Bruegel based on ACEA (2017a).

Figure 3. EU automotive industry, R&D investment and patenting activity



Source: Bruegel based on European Commission (2017b) and OECD (2017).

substantial fraction of road transportation. However, further technological breakthroughs to reduce the cost and increase the range of EVs might be needed if EVs are to replace a significant proportion of fossil-fuelled vehicles. EVs represent only 0.2 percent of the EU's total vehicle fleet (Figure 2). If EVs continue to penetrate the market at the current growth rate, it will take around 60 years for them to reach 50 percent of the current passenger car total fleet³.

In addition to EVs, other clean technologies might emerge in the future. This will only happen based on major research and development investment in clean vehicles by the automotive industry.

The good news for Europe is that it is by far the world's largest investor in automotive R&D, with €54 billion spent in 2016 compared to €30 billion in Japan, €18 billion in the US and €5 billion in China (Figure 3). However, in terms of the patenting activity resulting from this investment the European automotive industry still appears to be primarily focused on further developing internal combustion engines rather than on advancing hybrid, electric or hydrogen technologies (Figure 3). This represents a risk not only to road transport decarbonisation in Europe, but also to the longer-term competitiveness of the European automotive industry.

Promoting a modal shift

A more structural approach to decarbonise road transport would be to replace the kilometres travelled by road vehicles. This entails promoting public transport, alternative transport modes such as walking and cycling, and more integrated modes of mobility. New mobility such as 'mobility-as-a-service' can be enabled by ongoing developments in digital technologies (Transport & Environment, 2018).

For instance, smartphone apps can allow information about transportation services from public and private providers to be better combined through a single gateway that creates and manages the trip, for which users

can pay via a single account. New approaches could help overcome a major comparative disadvantage of public transport – the longer door-to-door travel times – which mainly arise from the first and the last mile in the transport chain. The environmental impact of freight transport could be reduced by promoting a switch from road to rail and maritime, and including the environmental cost of transport in the final purchase price of goods.

But all this is challenging, as reducing demand for transport means changing people's daily habits and taking an integrated policy approach. The governance issue is particularly relevant, considering that road transport is governed by a complex series of policy frameworks developed separately at different levels – cities, national and EU (Table 1). And national and local policies on taxation, infrastructure choices and other matters seem to determine road transport demand. For example, Belgians used 741 kilogrammes of oil equivalent of diesel and gasoline in 2016, which was 30 percent more than the EU average, while Germans used 623kg and French drivers only used 581kg.

Cities are responsible for a wide range of transport policies, such as public transport, enabling car-sharing, congestion charges, parking management and cycling and walking zones. EU countries have different transport taxes and charges, and different policies in relation to the development of transport infrastructure and the creation of alternatives to road transport for freight and in urban areas. On top of this, the EU has developed a wide range of policies aimed at making European transport systems more connected, competitive and sustainable. Such fragmented governance risks impeding the decarbonisation of transport because policy measures implemented at the various levels without coordination can neutralise or even hinder each other.

A notable example of the variety of approaches that could be adopted by countries and cities in decarbonising transport is the introduction of bans on diesel and petrol cars. In 2017, France and the United Kingdom announced plans to ban the sales of diesel and petrol cars and vans by 2040 (Petroff, 2017).

Table 1. The governance of road transport: who regulates what?

	City level	Country level	EU level
Ban on diesel and petrol vehicles	Red	Red	White
Emissions standards	White	White	Red
Alternative fuels infrastructure	White	Red	Orange
Car-sharing	Red	Orange	Orange
Car-pooling	White	Red	Orange
Ride-sharing	Red	Red	White
Walking and biking	Red	White	White
Public transport	Red	Orange	Orange
Public procurement	Red	Red	Orange
Parking fee	Red	White	White
Congestion areas	Red	White	White
Speed limits	White	Red	White
Energy taxation	White	Red	Orange
Road charging	White	Red	White
Spatial planning	Red	Orange	White
Rail activity	White	Red	Orange
Maritime activity	White	Red	Orange

Source: Bruegel. Note: red for direct competence, orange for indirect competence.

These plans are mainly driven by a political commitment to reduce air pollution, and are based on the expectation that the already underway shift to clean vehicles will continue to gather pace over the coming years. These plans are also meant to provide a strong signal to the EU automotive industry, encouraging it to innovate and become a global player in clean vehicles.

Cities are also starting to move in this direction, notably to fight air pollution. Paris is developing a plan to completely phase out diesel cars by 2024 and petrol cars by 2030 (Paris, 2018). Copenhagen is discussing a proposal to ban diesel cars by 2019 (Embury-Dennis, 2017), while Madrid and Athens are considering similar proposals to be applied by 2025 (Brunsden, 2017).

Reversing Europe's failure in decarbonising transport

The EU has the potential to encourage innovation in low-carbon transport technologies and promote a reduction in road-kilometres. But to do so, it needs to reshape its transport policies. The EU has mainly tried to promote road transport decarbonisation by introducing mandatory emissions standards for new cars and light commercial vehicles, and by introducing a 10 percent renewable energy target for transport fuel by 2020 (Table 2).

However, emissions reductions have been much less than intended and tighter vehicle fuel economy standards have not delivered. In terms of renewable fuels, the use of food-based biofuels might even have led to a net increase in CO₂ emissions if indirect emissions (ie. emissions generated from indirect land-use change) are taken into account (Valin *et al*, 2016).

In November 2017, the European Commission (2017c) proposed the 'Clean Mobility Package', a new set of policies to decarbonise transport, including new CO₂ emission standards, new rules for public procurement of

Table 2. EU transport targets and emissions standards, year of adoption and enforcement

Emission standards		
130g CO ₂ /km target by 2015	2009	
95g CO ₂ /km target by 2021	2014	Non-compliant manufacturers can be fined
175g CO ₂ /km target by 2017	2011	
147g CO ₂ /km target by 2020		
Targets		
60% greenhouse gas emissions reduction for transport in 2050 compared to 1990	2011	
20% greenhouse gas emissions reduction for transport in 2030 compared to 2008	2011	Not binding
10% of transport fuel to come from renewable sources by 2020	2009	

Source: Bruegel based on European Union (2009a, 2009b, 2011, 2014), European Commission (2011a, 2011b). Note: gCO₂/km = grams of carbon dioxide per kilometre.

clean vehicles, new rules to promote the combined use of different modes for freight transport and measures on batteries. These measures, which are at time of writing under discussion in the European Parliament and Council of the EU, represent a positive attempt to make EU policies more effective.

The measures should be promptly approved and implemented. However, this set of rules might still not be sufficient to ensure road transport decarbonisation. In the past, the Council has resisted stricter car emission standards because of resistance from some countries, such as Germany (Carrington, 2013). Europe needs to overcome this political barrier, allowing some member states to move ahead in decarbonising road transport – and allowing cities in all EU countries to also move ahead, and to take advantage of incentives put in place by the EU. The EU therefore needs to develop a new post-2020 road transport strategy. This strategy should have three pillars:

1. Encourage EU countries and cities to adopt plans to ban diesel and petrol vehicles

More EU countries should follow the example of France and the United Kingdom, and adopt plans to ban diesel and petrol vehicles by 2040 or, even better, by 2030.

The more EU countries that make these commitments, the stronger the signal will be to the European automotive industry that it should invest more in the development of clean vehicles.

That is, these commitments should also be seen as a simple but effective tool to provide investment certainty to the European automotive industry, and to foster its focus on clean vehicles. Clear planning of these commitments would leave the automotive industry a window of 10-20 years to fully switch from the traditional internal combustion engine business model to the new clean vehicles and clean mobility business models.

Cities should also be encouraged to adopt plans to ban the circulation of diesel and petrol cars, which could be a major factor in inducing behavioural change on behalf of citizens and promoting modal shift.

For example, an EU Clean Transport Fund could be established to provide dedicated financial support to countries and cities committed to the phase-out of diesel and petrol vehicles. This fund should allow cities to bid for EU money to support measures such as the deployment of alternative fuels infrastructure, zero-carbon public buses, sharing and pooling solutions allowing a reduction in car ownership or the promotion of more sustainable modes of transport such as cycling⁴.

Such a fund could be created by making better use of existing financial resources, such as from the Connecting Europe Facility for Transport (CEF-T) or from the Structural and Cohesion Funds. For the period 2014-20, CEF-T has a budget of €24 billion (European Commission, 2018a), while the Cohesion Fund and the European Regional Development Fund have a budget for transport and energy network infrastructure of €71 billion⁵.

2. Stimulate an EU-wide reflection on the future of transport taxation

Taxation is a key policy tool to foster road transport decarbonisation. Different taxes apply throughout the transport system, from the initial purchase of a vehicle, to ownership taxes (eg. annual registration tax, company car taxation) and usage taxes (eg. taxes on fuel, tolls, roadspace, parking, commuter tax deductions) (Green Fiscal Commission, 2010).

These taxes can be used to influence user decisions, and possibly also to influence the automotive industry's strategies. For instance, to promote the deployment of clean vehicles, taxes can be differentiated on the basis of vehicles' carbon emissions, or simply allow for deductions or other special provisions (eg. subsidies, grants, tax credits, tax exemptions).

European countries still have very different transport taxation regimes. For example, only ten countries take into account CO₂ emissions in the composition of their vehicle registration taxes (ACEA, 2017b). Fuel cost savings –

which largely arise from the different taxation of gasoline and electricity – provide EVs with an important cost advantage. Savings are significant in Norway where running an electric vehicle can cost 64 percent less than running a diesel or petrol vehicle. In Germany, by contrast, the difference is only 25 percent (Lévay *et al*, 2017).

Given the importance of this policy tool in delivering decarbonisation, the EU should promote a new discussion among EU countries on the future of transport taxation, as is being done in the field of digital taxation (European Council, 2017).

3. More focused and impactful research and innovation funding for transport

After 2020, the EU should improve its transport research and innovation funding. In particular, it should carefully allocate this money, targeting areas in which it can truly have leverage. EU transport research and innovation funding should become mission-oriented, or directed at solving specific problems, as more generally suggested by Mazzucato (2018).

The introduction of bans on diesel and petrol vehicles by countries and cities could lead to a quick take-up of already commercially-viable clean vehicles, such as EVs. Though necessary to foster road transport decarbonisation in the short-to-medium term, this should not prevent currently less-mature technologies from developing and demonstrating their longer-term potential to contribute to road transport decarbonisation.

To avoid this risk, the EU should focus its post-2020 transport-related research and innovation funding on early-phase technologies, such as hydrogen, solid-state batteries or electrofuels (liquid fuels produced from CO₂, water and electricity). This would be the most sensible way to invest the limited available resources (equivalent to 0.2 percent of the European automotive industry's total investment in research and innovation) in areas that otherwise might not find adequate private funding.

Conclusions

Cleaning up road transport is a fundamental prerequisite if the European economy is to be decarbonised, if air quality is to be improved and if – indirectly – the European automotive industry is to have a sustainable future. Given the still-limited level of ambition at national level, Europe would greatly benefit from stronger EU action on road transport. For this reason, the EU should foster political momentum and promote the collective adoption of bans on diesel and petrol vehicles by 2030-40 by European countries and cities.

This will provide a strong signal to the European automotive industry that it should invest more in clean vehicles, thus contributing to the industry's long-term competitiveness and sustainability. This will also provide a signal to citizens to adopt more sustainable transport modes.

The EU can provide support to countries and cities in deploying already viable clean transport options by making better use of its transport-related funding through a new EU Clean Transport Fund. Through the launch of an EU-wide reflection on the future of transport taxation and its central role in decarbonisation, the EU can promote more ambitious and coordinated actions by member states. Through better use of its transport-related research and innovation funding, the EU can also support the development of new clean technologies that might otherwise never be explored. ■

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Endnotes

1. *Other sources account for 16 percent of the EU's greenhouse gas emissions.*

2. "The annual EU limit value for nitrogen dioxide, one of the main air quality pollutants of concern and typically associated with vehicle emissions, was widely exceeded across Europe in 2014, with 94 percent of all exceedances occurring at road-side monitoring locations. Also, in 2014, about 16 percent of the EU urban population was exposed to PM10 [fine particles] above the EU daily limit value" (EEA, 2016).
3. Between 2015 and 2016, new registrations of electric passenger cars grew by 11 percent (EEA, 2018).
4. The EU LIFE programme already provides some support to urban mobility projects, mainly aimed at reducing transport impacts in order to improve air quality.
5. These funds have mainly targeted Poland (€28 billion), Romania (€8 billion), the Czech Republic (€7 billion), Slovakia (€4 billion) and Hungary (€4 billion). See European Commission (2018b).

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The authors are grateful to Gustav Fredriksson and Alexander Roth for excellent research assistance. This article is based on [Bruegel Policy Brief](#).



Trade war: how tensions have risen between China, the EU and the US

The multilateral trading system has been challenged by unilateralist measures and subsequent threats of retaliation. Francesco Chiacchio discusses possible scenarios for the EU

The multilateral trading system has been challenged by unilateralist measures and subsequent threats of retaliation. We collect the main events that have shaped the current situation and show which trade flows have been and will potentially be affected by the various measures. We end by discussing possible scenarios moving forward for the EU.

Since the beginning of the year, the multilateral trading system has been challenged with a number of decisions and announcements on tariffs. The trade conflict between the United States and China may be escalating, while the European Union finds itself in a precarious position in responding to the US' challenges.

So what has and what has not yet happened this year? We focus on the measures taken and announcements made by China, the EU and the US in terms of trade policy. Here is the timeline:

- January 11: US secretary of commerce reports results of an investigation into the effect of imports of steel mill articles on national security.
- January 19: US secretary of commerce reports results of an investigation into the effect of imports of aluminium on national security.
- January 22: President Trump approves recommendations to [impose safeguard tariffs](#) on imported large residential washing machines and solar cells and modules.
- February 28: President Trump's policy agenda and annual report "[for free, fair, and reciprocal trade](#)" are released.
- March 6: the European Commission (EC) [extends anti-dumping measures on Chinese steel products](#).
- March 7: the [EC outlines EU plan to counter US trade restrictions](#) on steel and aluminium.
- March 8: proclamation of US' tariffs on imported [steel](#) (25%) and [aluminium](#) (10%), effective from March 23, without prejudice to (temporarily) exempted countries.

- March 16: the EC launches a public consultation on the US' tariffs and possible EU retaliatory measures (EU list of products), considering the US tariffs as de facto safeguard measures.
- March 21: Commissioner Malmström met US Secretary of Commerce Ross, "with a view to identifying mutually acceptable outcomes as rapidly as possible".
- March 22: following the Office of the US Trade Representative (USTR) investigation on "China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation", President Trump announces his decision to take actions on China.

In the event of a full-fledged China-US trade war, trade diversion constitutes a risk to the EU, as the redirection of flows towards the EU may cause an impairment of the position of local industries

- March 22: the Chinese Ministry of Commerce (MOFCOM) [decides to launch anti-dumping measures](#) for imports of photographic paper from the EU, US, and Japan, from March 23 and for 5 years.
- March 23: [USTR launches a WTO challenge](#) to address China's technology licensing requirements.
- March 23: [MOFCOM issues a list of discontinuation concessions](#) against the US' steel and aluminium tariffs, involving approximately US\$3 billion worth of trade, and solicited public comments on tariffs to be imposed on certain products imported from the US.
- March 26: the [EC launches a safeguard investigation](#) on imports of steel products to prevent trade diversion into the EU, in response to the US' steel and aluminium tariffs.
- March 27: [MOFCOM launches an anti-dumping investigation](#) against phenol products imported from the US, the EU, the Republic of Korea, Japan, and Thailand.
- April 3: [USTR publishes a proposed list of products](#) imported from China that could be subject to 25% tariffs. A public hearing will be held on May 15.
- April 5: [MOFCOM publishes a list](#) of US' products potentially affected by 25% import tariffs of its own, in response to recent US' announcements. On the same date, it files a [request for consultation at the WTO](#), claiming that US' steel and aluminium tariffs are actually safeguards.
- April 17: [MOFCOM decides to launch provisional anti-dumping measures](#) for grain sorghum originating in the US, starting from April 19.
- April 20: [MOFCOM launches provisional anti-dumping measures](#) against the imported halogenated butyl rubber originating in the US, the EU, and Singapore.
- April 24-27: [President Macron](#) (April 24) and [Chancellor Merkel](#) (April 27) meet President Trump, holding talks that included trade relations.
- April 27: USTR releases 2018 Special 301 [report on intellectual property rights](#), identifying 36 countries on the Priority Watch List or Watch List (Greece and Romania are the only EU member states included, in the Watch List; China is in the Priority Watch List).

- May 1: extension until 1 June of the [EU's exemption from US tariffs](#) on steel and aluminium imports.
- May 3-4: [US' trade delegation meets Chinese officials](#) on the US-China economic relationship, providing a ['draft framework'](#) in advance. A second round of trade talks is scheduled to start on May 15th.
- May 8: [President Trump and President Xi](#) discuss bilateral trade over phone call.

The result of those is the looming prospect of continuous trade restrictions and retaliation measures involving a variety of products. Apart from steel and aluminium, the US targeted over 1,300 imported Chinese products worth around \$50 billion, possibly aiming at [China's high-tech and industrial sectors](#).

China announced discontinuation tariff concessions for 128 products and a longer list of its own (also worth approximately \$50 billion), focusing more on [lower-end products](#), while the EU has a two-part list of products imported from the US that it could target if the US moves forward with steel and aluminium tariffs (worth approximately \$7.5 billion, of which \$3.2 billion from Part A, and \$4.3 billion from Part B), targeting very 'American' goods from specific regions.

Below is a table on which trade flows are mainly affected. The affected numbers are in red.

The four charts below depict the network of international trade flows between China, the EU, and the US for different categories of goods (steel and aluminium targeted by US tariffs, the US list of products, China's long list of products, and the EU's total list of products). The thickness of the bilateral linkages is proportional to trade value, and highlighted are those (potentially) affected by the announced/implemented tariff schemes.

The charts show how much is being exported of each of the goods that would be affected by tariffs. Imagine for a moment that a good is perfectly substitutable.

Table 1. Trade value of main products possibly affected by announced/implemented tariff schemes (billion USD)

	<i>Destination</i>	<i>Steel</i>	<i>Aluminium</i>	<i>US list</i>	<i>CN's long list</i>	<i>EU's list A</i>	<i>EU's list B</i>	<i>Total EU's list</i>
China	EU28	3.8	2.0	80.6	1.0	8.2	18.2	26.4
China	USA	1.0	1.8	46.2	6.2	-	-	36.5
EU28	China	2.6	0.5	113.4	1.0	1.8	2.4	4.1
EU28	USA	6.0	1.2	206.4	62.7	6.2	7.3	13.4
USA	China	0.4	0.3	26.2	49.2	-	-	1.4
USA	EU28	1.0	0.6	77.2	23.3	3.2	4.3	7.5

Source: USITC, Eurostat, Comtrade.

Note: Product categories selected up to the 8-digit code where possible, otherwise the 6-digit aggregate is used. Product lists retrieved from the Office of the US Trade Representative (USTR), China's Ministry of Commerce (MOFCOM), and DG Trade. Data for 2017, except for US exports to China of products affected by China's proposed retaliation list (2016 data).

For example, the goods exported from China to the US that would be affected by the US list amount to \$46 billion. China exports \$81 billion-worth of the same kind of goods to the EU. Chinese producers could compensate for a 10% reduction in Chinese exports to the US, due to the tariff, if they were able to increase their exports to the EU by only some 5%. In turn, the EU could compensate for the newly arriving supply from China by increasing its exports to the US by only 2%.

In the event of a full-fledged China-US trade war, trade diversion constitutes a risk to the EU, as the redirection of flows towards the EU may cause an impairment of the position of local industries. Furthermore, greater

Figure 1. Network of bilateral trade flows – China’s list

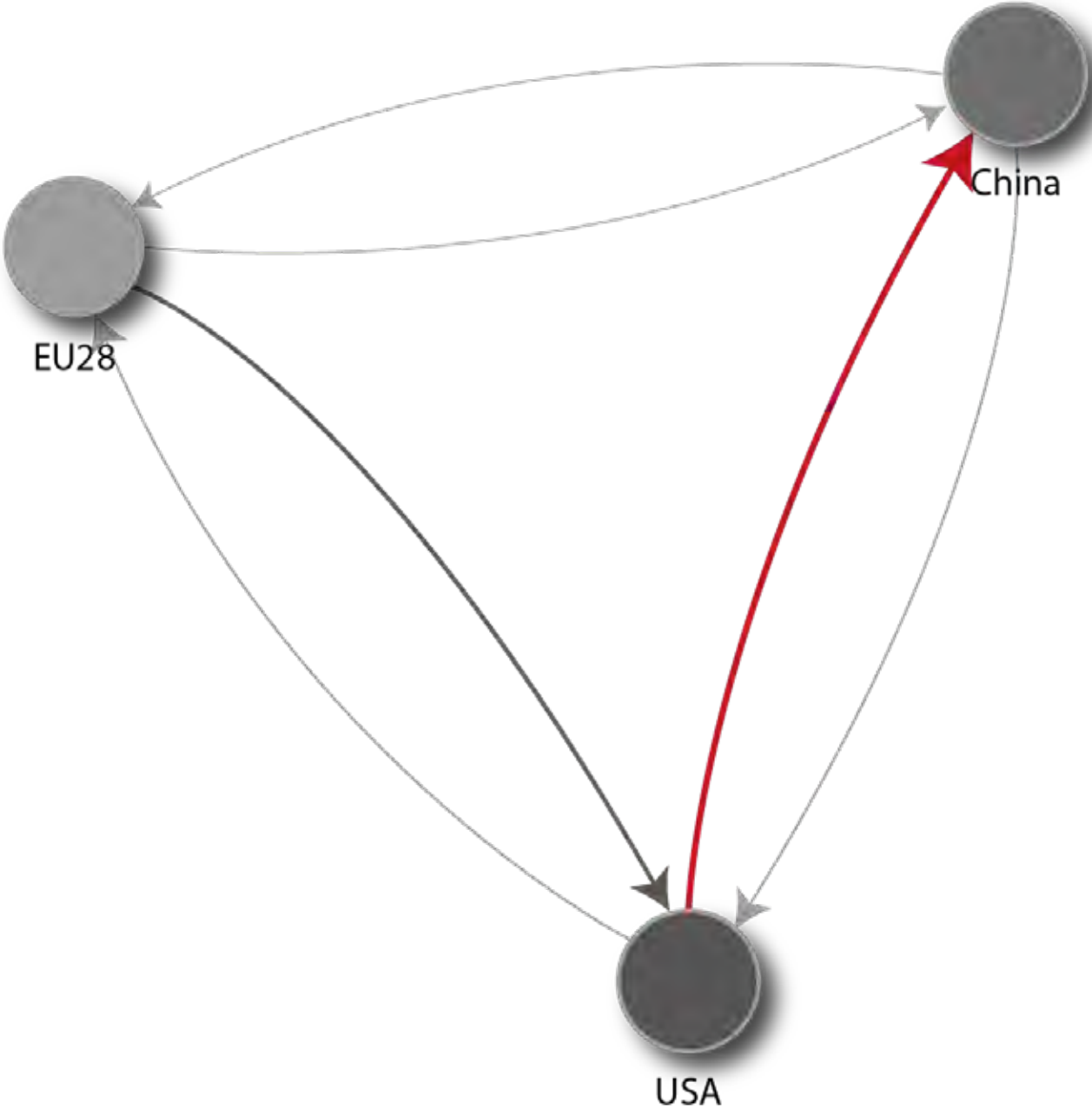


Figure 2. Network of bilateral trade flows – steel and aluminium

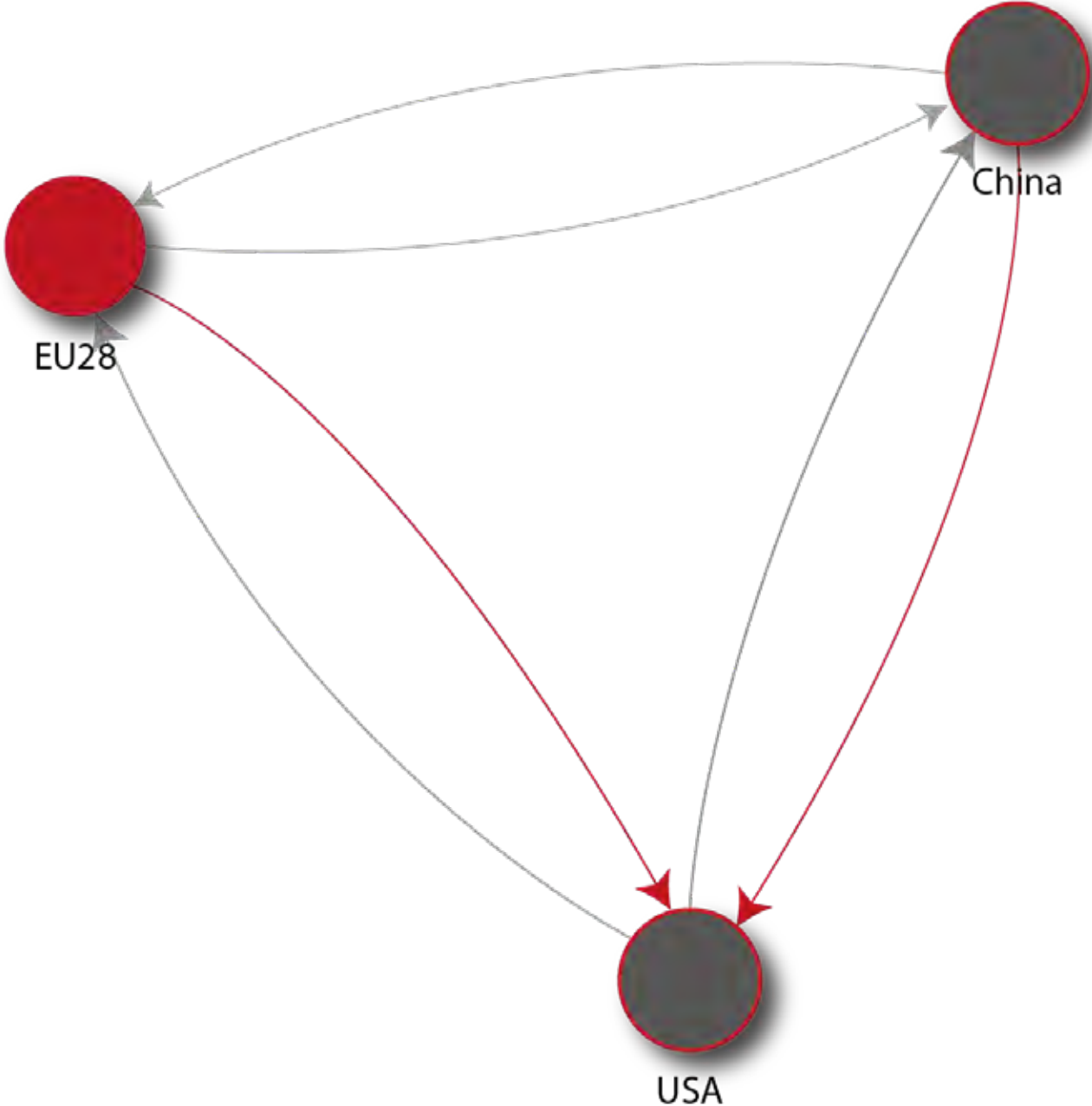


Figure 3. Network of bilateral trade flows – US' list

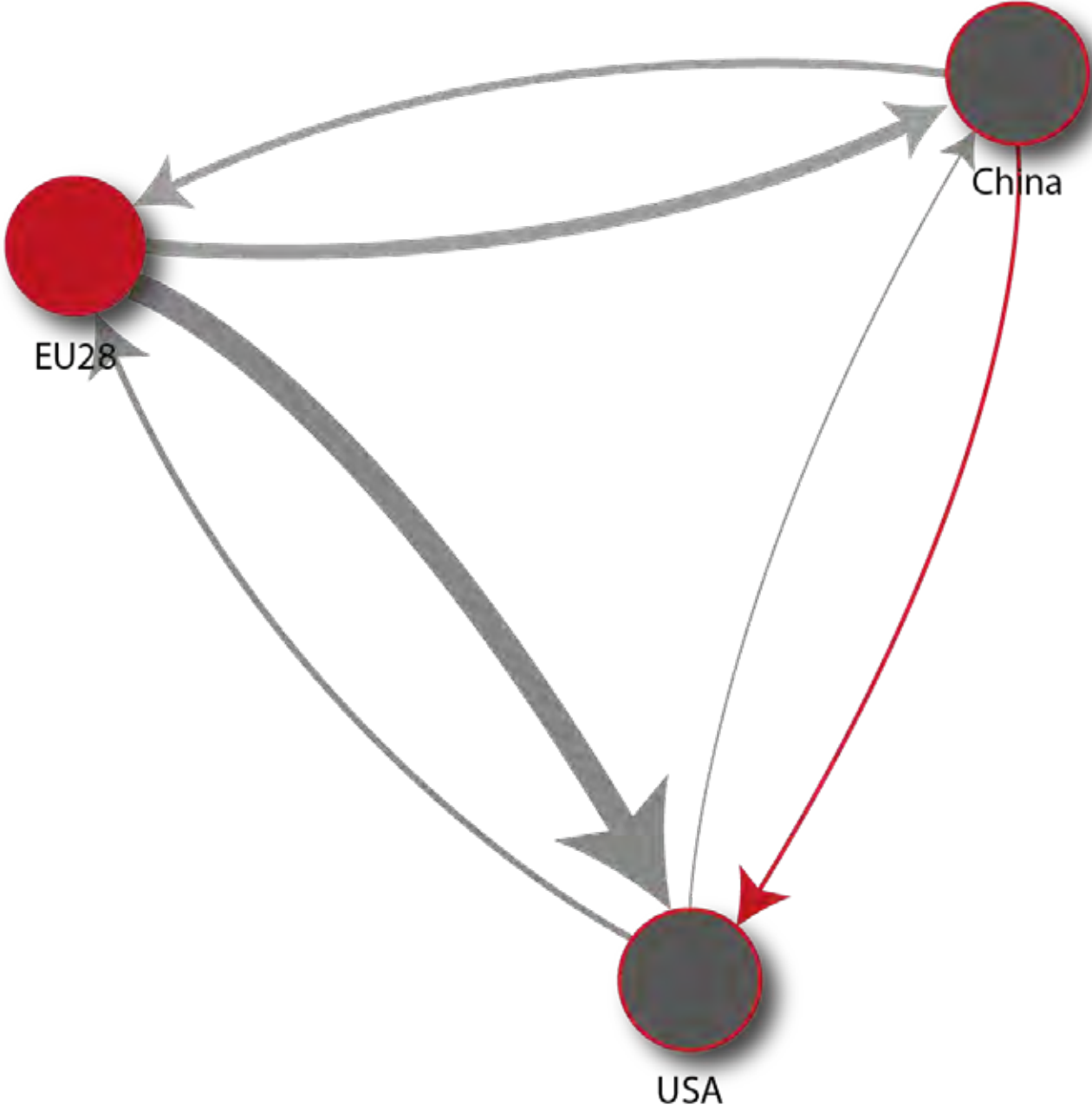
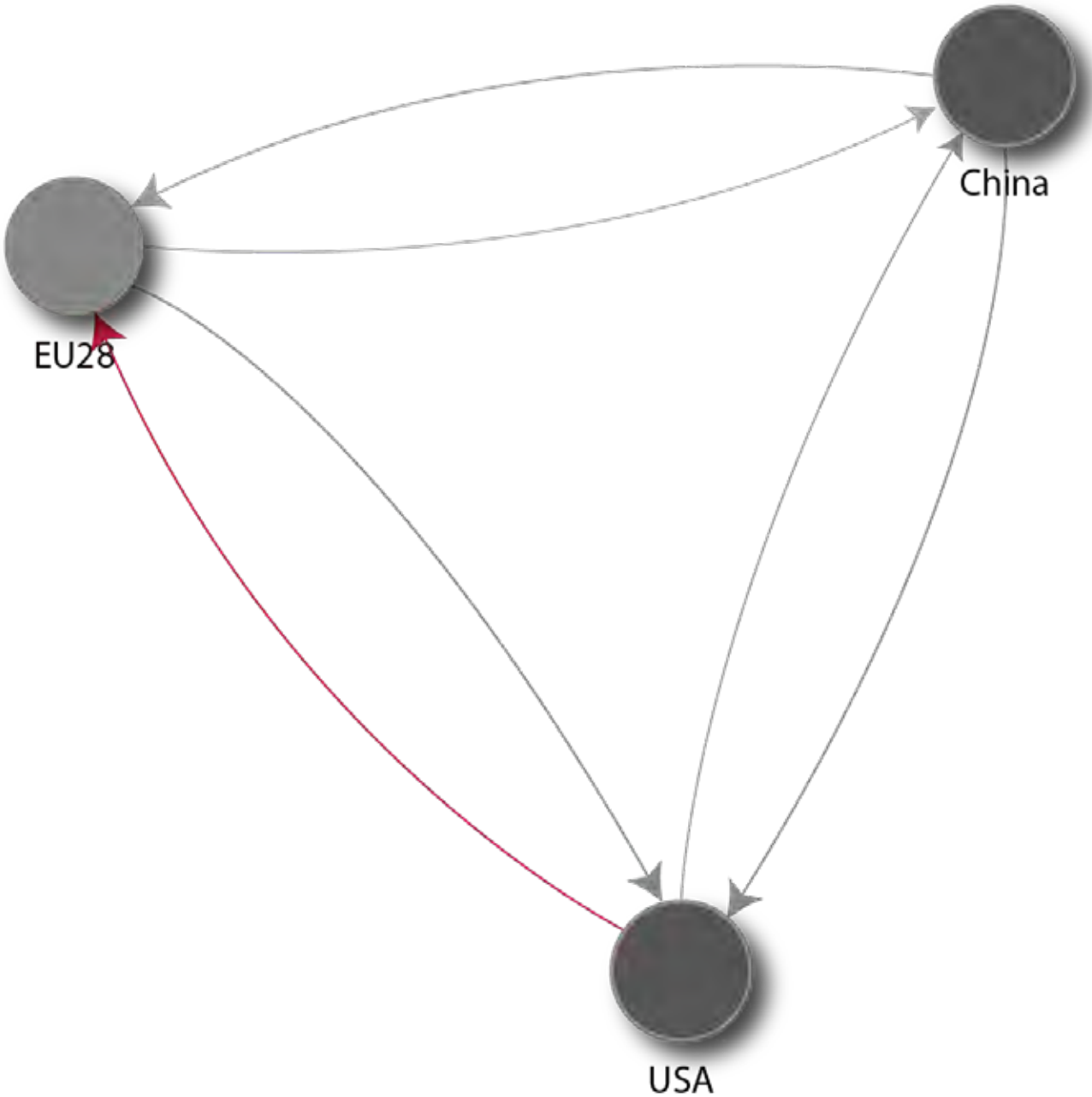


Figure 4. Network of bilateral trade flows – EU's list



protectionism may also induce higher production costs and a slowdown of Global Value Chain participation (through the channel of intermediate goods), possibly affecting technology diffusion and productivity growth.

However, such a crisis might also bring opportunities for EU industries if there is production and innovation capacity to cover the void left by tariff schemes. Thus, one of the key questions is to what extent the goods affected by bilateral tariffs are substitutable and can somehow be shifted around to other destinations.

In practice, the raising of bilateral tariffs will likely create substantial distortions for the global economy that would also affect the EU, bringing some opportunities but also creating costs for industries. However, a deal between the US and the EU could also have negative consequences for the EU as new trade could be created and the EU would potentially lose access, at least in relative terms. It is time for the EU to reflect on its options in global trade, and to reduce the vulnerability of its industries to the [global challenge](#) that Trump and China pose. ■

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This article was originally published on [Bruegel](#)



The consequences of protectionism

Protectionism is the wrong solution to address concerns about the distributional effects of globalisation, says Benoît Cœuré, and the EU is the vehicle to make trade more equitable

In the two decades before the financial crisis trade growth was a major contributor to higher living standards worldwide, with world imports growing at roughly twice the rate of output. The integration of many emerging economies into global trade, notably through participation in global value chains, boosted incomes and lifted millions of people out of poverty.

Since the crisis, however, trade has provided noticeably less support to economic growth. Trade growth has barely kept pace with output growth, and has even lagged behind it in a number of years. As a result, the current economic expansion in the euro area has been driven largely by domestic demand, supported by substantial monetary policy accommodation.

More recently, world trade has shown tentative signs of renewed vigour. Last year, world goods trade grew by more than 5%, the strongest rate for seven years, against less than 4% for world GDP. Yet, the nascent recovery in trade is at risk of being derailed by the introduction of impediments to global economic integration. There are signs that the anti-globalisation sentiment that has become more pervasive since the crisis has begun to be translated into actual policy measures.

Many commentators have expressed concerns that the tariffs recently announced by the US administration represent the first step towards a 'trade war', potentially leading to a broader reversal of globalisation. Retaliatory measures have already been announced by some economies.

These steps are taken despite the benefit of trade for aggregate welfare being one of the rare points of consensus for economists. In a recent poll in which economists were asked whether the announced tariffs would improve Americans' welfare, the respondents were split between disagree and strongly disagree¹.

At the same time, the benefits of globalisation have not been spread evenly, neither across nor within countries, something that economists have not given sufficient consideration for a long time. While textbook economics suggests that lump sum transfers from the winners of trade can ensure that all are better off, such transfers – or adequate training and educational measures – have not happened in sufficient scale to compensate everyone. According to a separate survey, only 40% of people in the United States think globalisation is a force for good for the world².

The European Union... represents the most progressive model we have for taking back control of globalisation by addressing people's concerns over open markets and fair competition – doubts that individual countries on their own cannot dispel

Protectionism is not the right answer to these challenges, however. It is unlikely to solve the distributional consequences of globalisation while it is certain to reduce aggregate global living standards. There are no winners in trade wars, just different degrees of losers.

But to defend openness by listing its aggregate benefits is no longer fully convincing. The question of the distribution of those benefits and the disruptive effects that come with them has to be answered. Economists and policymakers therefore have a responsibility to propose and design policies that help those not benefiting directly from globalisation. I have previously spoken about the need to make globalisation efficient, enduring and equitable³.

Today I would like to share a central banker's perspective on potential structural changes to the current global trade regime – one where restrictions to trade are managed through multilateral agreements.

I would like to flag two main implications should impediments to the free movement of goods and services increase significantly. The first is the effects higher tariffs would have on growth and inflation in the near to medium term. There are a number of important channels to consider, including the direct impact of tariffs on prices and growth, changes to financial conditions and effects on expectations and confidence. The second main implication is the possible impact on long-run potential output growth, and how that may influence the conduct of monetary policy.

Implications for the short to medium term

Let me first look at the channels through which increases in tariffs may affect output and inflation in the short to medium term. For illustration, I will use the results of simulations carried out by ECB staff using both the ECB's global model and the IMF's multi-country model. As with all models, the uncertainties involved mean precise

estimates from these scenarios should be treated with caution, but they are useful to explain the different channels at work.

To illustrate the potential effects of rising protectionism, I do not want to dwell on the specifics of the tariffs currently being discussed. This would miss the bigger picture. I rather want to consider a hypothetical scenario where the United States raises tariffs on all imports of goods by 10 percentage points, and its trading partners impose the equivalent on US exports.

According to our model simulations, such a scenario would have significant adverse effects on the global economy, including, and in particular, on the economy that raises tariffs in the first place. Specifically, real economic activity in the United States could be up to 2½% lower than in the baseline in the first year alone. The reasons are essentially threefold:

- First, if domestic and imported goods cannot be easily and readily substituted, higher import prices increase firms' production costs and reduce households' purchasing power. These effects weigh on consumption, investment and employment, resulting in a material overall negative impact on GDP.
- Second, in addition to the direct adverse price effects, the uncertainty about growth prospects is likely to cause consumers to delay expenditure and businesses to postpone investment⁴. Much will depend on how consumers and businesses react, but ECB simulations suggest that such uncertainty and confidence effects could account for around one-third of the overall effect in the first year. In addition, financial investors react to uncertainty by selling equities, reducing credit and demanding higher compensation for risk. This in turn reduces wealth, increases the cost of investing and further discourages demand.

- And third, economic activity declines as US exports are hit by the tariffs abroad, which is only partially offset by lower imports.

In short, even though one may argue about the relative contributions of each of these channels, and the overall effect on economic activity, qualitatively the results are unambiguous: an economy imposing a tariff which is retaliated by other countries would clearly be worse off. Its living standards would fall and jobs would be lost.

The effects on other economies would primarily depend on their size, trade openness and how much they trade with the tariff-imposing country. Naturally, the economies that have the closest trade relations with that country would be the most negatively affected.

But the effects could also be material for those economies that, despite having a less direct exposure, are particularly integrated into global value chains. For example, one estimate puts the share of global value chain-related trade at more than half of exports from many South East Asian economies⁵. The erection of trade barriers threatens this integration, with potentially serious negative consequences for those countries and probably for the global economy as a whole. Only a few open economies with little exposure to the tariff-imposing country may gain as a result of increased competitiveness in third markets.

In other words, the overall scenario is clearly a net negative for the world economy as a whole. According to ECB staff simulations, world trade in goods could fall by up to 3% already in the first year after the change in tariffs and world GDP by up to 1%. Euro area GDP would also decline, but by less than in the US.

These developments would ultimately also weigh on prices and wages. Although import prices would likely rise as a result of the increase in tariffs – with the sign and scope depending on the exchange rate reaction as well as the

choices made by foreign exporters about their profit margins – consumer price inflation and wage growth are likely to decelerate as the effects of lower aggregate demand and higher unemployment can be expected to prevail, both in the United States and globally.

Perceptions of a measurable deterioration in current trade relationships could therefore potentially dent the confidence and animal spirits that are currently driving the strong economic momentum – and that policymakers worldwide have succeeded in restoring after many years of actively counteracting the effects of the crisis.

The impact could be even worse if the deterioration in trade relationships would be compounded with a weakening of the international financial regulatory agreements that were reinforced in the wake of the global financial crisis and have made the global financial system safer⁶.

These are not just theoretical considerations. While the effects of any tariffs on output and inflation may take time to materialise, falls in equity prices in response to the US announcement to impose a tariff on steel and aluminium, and prevailing uncertainty on the scope of any retaliatory measures, have already contributed to tighter financial conditions.

The S&P 500 index fell by more than 1% on the day of the US announcement of its intention to impose steel and aluminium tariffs. Equity market prices fell more markedly in countries with large current account surpluses. In Germany and Japan, for example, the major stock market indices were down by more than 4% on the day after the announcement. The US decision on 22 March of further tariffs on Chinese imports exacerbated market concerns, with the S&P 500 down by nearly 5% on the day after the announcement. Industrial sectors directly affected by the tariffs were amongst the biggest losers.

Such movements appear more pronounced than would be consistent with the direct economic effects of the measures announced to date. They seem to anticipate the effects of retaliatory measures and price in some chance that the scenario I described earlier may occur. And by fuelling uncertainty among market participants, fears of a 'trade war' have added to the volatility already witnessed earlier this year in equity markets. None of this supports growth and employment.

Longer-term influences

Besides short-term cyclical factors arising from a potential transition to a more protectionist regime, there are likely to be longer-term effects on the economy too. Trade openness supports growth in productivity and hence the long-run potential output of our economies.

Competition from trade, and the benefits offered by larger markets, can encourage a more efficient allocation of labour and capital across sectors and across firms. This improved allocation supports innovation and hence productivity. This is why the EU Single Market is at the heart of the European integration process.

These effects are also borne out by the data. According to one estimate, EU GDP per capita would be as much as a fifth lower in the absence of the integration since 1950⁷.

This is supported at the microeconomic level as well. Data collected by the Competitiveness Research Network confirms that European firms that export are more productive and pay higher wages than non-exporting firms in the same sector. Moreover, this is not simply because exporting firms are more productive in the first place, but also because firms become more productive through exporting. Firms in their first year of exporting post greater productivity gains than similar businesses that do not export⁸.

Barriers to trade would undermine this virtuous process and thereby cause both productivity and potential output to decline. The potential growth rate of advanced economies has already slowed over recent decades, reflecting a number of factors, including the ageing population⁹, as well as declining productivity growth.

So to sum up, why does protectionism matter for central banks? First, because a 'trade war' scenario would add to global uncertainty at a time when some central banks have only just begun the process of unwinding the unconventional policy measures put in place following the global financial crisis. And second, because a further adverse structural shock to productivity may lead us to be more often constrained in the longer term by the effective lower bound on nominal interest rates and to increase the need to resort to unconventional policy measures.

Conclusions

Greater global economic integration has boosted living standards worldwide and lifted millions out of poverty. Yet, its distributional impacts both across and within countries have not been adequately addressed, a fact that ultimately provides the political motivation for the protectionist moves we observe.

Winding back globalisation is the wrong solution to address these concerns. A retreat from openness will only fuel more inequality as import prices rise, goods become dearer and real incomes fall. It would deprive people of the undisputed economic advantages that trade and integration bring and thereby exacerbate economic hardship for the poorest in society. And it would breed distrust among nations, making for a more unstable international order.

The distributional and social effects of greater economic integration should rather be addressed by targeted policies that achieve fairer outcomes. This requires a strong political and institutional landscape which can ensure that the geographical scope of policy action and political debates coincide with the scope of market integration.

This is a landscape which in Europe is best provided by the European Union.

By allowing member states to recover some of the state functions that have been eroded by globalisation, the European Union is a vehicle that brings the benefits of economic openness to the greatest number of its citizens while protecting them against untrammelled global forces. It represents the most progressive model we have for taking back control of globalisation by addressing people's concerns over open markets and fair competition – doubts that individual countries on their own cannot dispel. ■

Benoît Cœuré is a Member of the Executive Board of the ECB

Endnotes

1. See University of Chicago, *IGM Economic Experts Panel*.
2. See World Economic Forum: <https://www.weforum.org/agenda/2017/11/what-your-country-thinks-of-globalization>
3. See Cœuré, B (2017), "Sustainable Globalisation: Lessons from Europe", *Revue d'économie financière*, 125, April.
4. See eg. Bloom, N (2009), "The impact of uncertainty shocks", *Econometrica*, 77(3): 623-685.
5. See WTO (2017), *Global Value Chain Development Report 2017*.
6. See Cœuré, B (2017), "The perils of isolation", speech at the Council of Foreign Relations, New York, 19 April.
7. See Badinger, H (2005), "Growth effects of economic integration: evidence from the EU Member States", *Review of World Economics*, 141(1): 50-78.
8. See ECB (2017), "Firm heterogeneity and competitiveness in the European Union", *Economic Bulletin, Issue 2/2017*.
9. See Nerlich, C and J Schroth (2018), "The economic impact of population ageing and pension reforms", *Economic Bulletin, Issue 2/2018*.

This article is based on a [panel contribution](#) at the 29th edition of the workshop “The Outlook for the Economy and Finance”, “Villa d’Este”, Cernobbio, 6 April 2018

Global income inequality is declining



Income convergence of China and India accounts for the bulk of the decline in global income inequality, Zsolt Darvas finds

Income inequality is typically measured at the country level, which has a clear rationale: people might be interested in knowing their relative income position compared to their compatriots, while social policies that redistribute from the rich to the poor are the strongest at the country level.

But there are alternative reference groups to consider. For example, people might be interested in their relative income position in the context of their close neighbourhood, such as people living in the same village or city. Cross-country comparison is also interesting. For example, a Slovakian citizen might be interested in comparing their income relative to people in Austria. More broadly, another useful reference group would be all of the people living in the European Union, or even all the people living on our planet.

In this post I focus on the Gini coefficient of global income inequality, considering 146 countries that account for 95% of the global population. There are various ways of estimating the global distribution of income. In a 2016 [research paper](#) I compared certain methodologies and concluded that the method based on two-parameter distributions works really well. So I use this methodology to estimate the global distribution of income for the period 1988-2015 and update our publicly available [dataset](#). The indicator for the country-wide average income is GDP per capita at purchasing power parity, which is a good choice among the imperfect alternatives.

Figure 1 shows that there was a slight decline in global income inequality among the citizens of 146 countries from 1988-2000, since when the decline has accelerated. The 2007-2009 global financial and economic crisis has not changed this trend and the decline has continued, even though the fall of global Gini in 2015 was the lowest since 2000.

The fall of global income inequality is a noticeable development, which should be welcomed. It indicates that the income gap between people living in advanced and developing countries is narrowing. While individual efforts,

such as studying and working hard, innovating and venturing an enterprise should be rewarded, the bulk of global inequality is determined by the place of birth and the socio-economic status of parents, limiting the opportunities available to poorer people. For example, a brilliant and hard-working person in sub-Saharan Africa will most likely live a much poorer and shorter life than an average European who does not work so hard. A gradual decline in global income inequality indicates that cross-country gaps in opportunities are narrowing, though there is still a very long way to go.

The fall of global income inequality is a noticeable development, which should be welcomed. It indicates that the income gap between people living in advanced and developing countries is narrowing

Figure 1 puts global income inequality against the measure of inequality within selected countries. Inequality in South Africa is now higher than global inequality; the same is true for Botswana and Swaziland too. On the other hand, the lowest within-country income inequality in 2015 is observed in Belarus. Income inequality within other countries is between these extreme values, and has been generally increasing in recent decades in many countries, though for example it declined in Brazil from a high level.

What were the reasons for the fall in global income inequality? While the Gini coefficient cannot be deconstructed into purely within-country and between-country inequality components, I developed a numerical method to capture the roles of (1) within-country inequality, (2) between-country mean income converge, (3) relative population size, and (4) an 'interaction' factor, which arises from the non-linear interaction of the other three components.

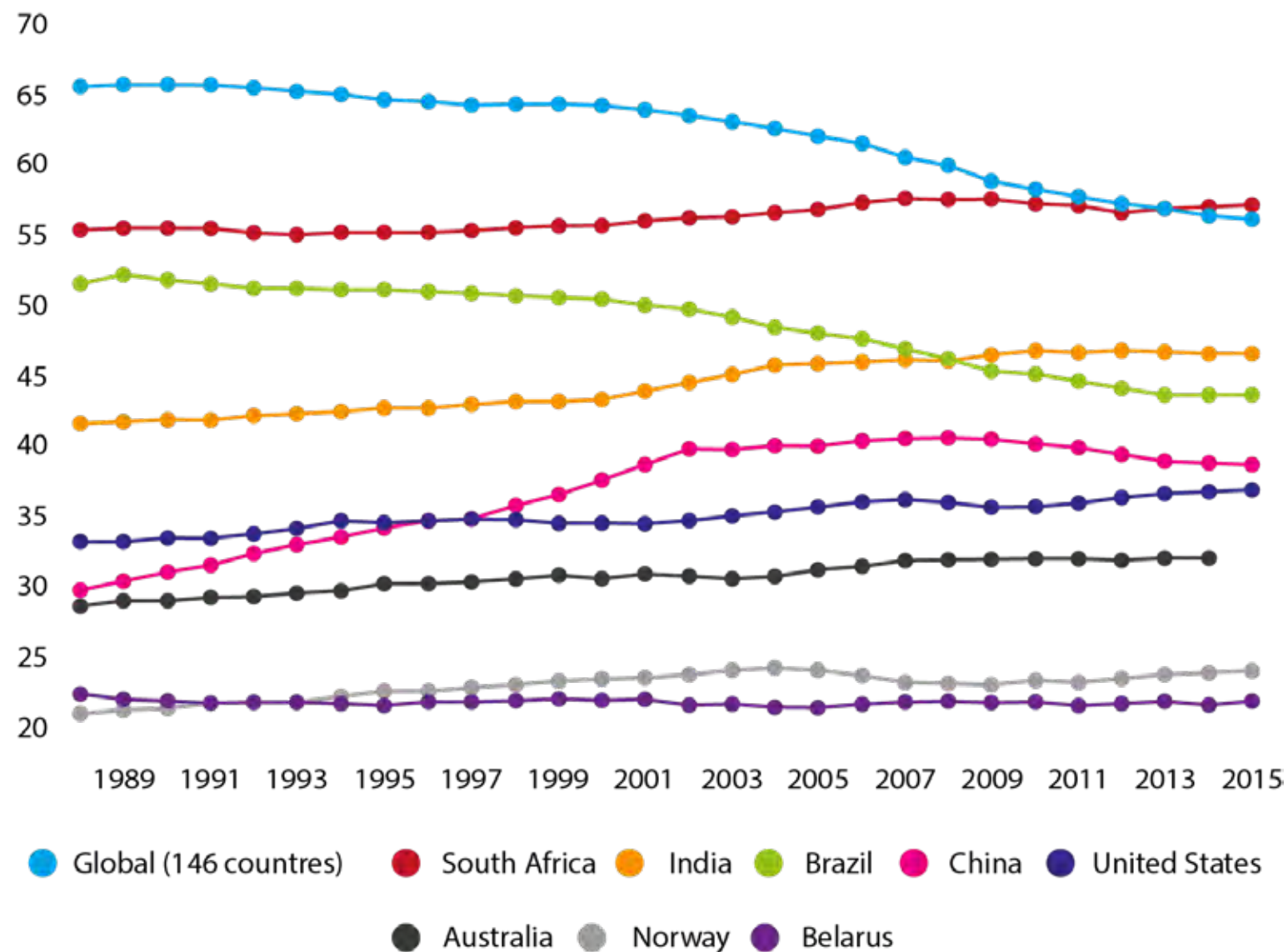
Figure 2 shows that convergence in mean incomes was the main driving force in the reduction in global income inequality and its impact accelerated in the early 2000s. While global inequality decreased by 9.6 Gini points (from about 66.9 in 1988 to 57.3 in 2017, see Figure 1), the convergence of mean incomes would have resulted in an 11.2-point decline in this period.

One offsetting factor was the increase in within-country inequality across the 146 countries, which pushed up the global Gini coefficient by 1.6 points, reflecting a general increase in within-country inequalities. Yet it is noticeable that this factor has been stable in 2009-15, implying that, on average, within-country income inequality did not increase further in recent years.

The other offsetting factor is the change in relative population size, which increased the global Gini by 1.7 points in 1988-2015. This increasing impact indicates that the population of poorer countries has increased relative to the population of richer countries. The interactions among the three variables caused a 1.7 points decline.

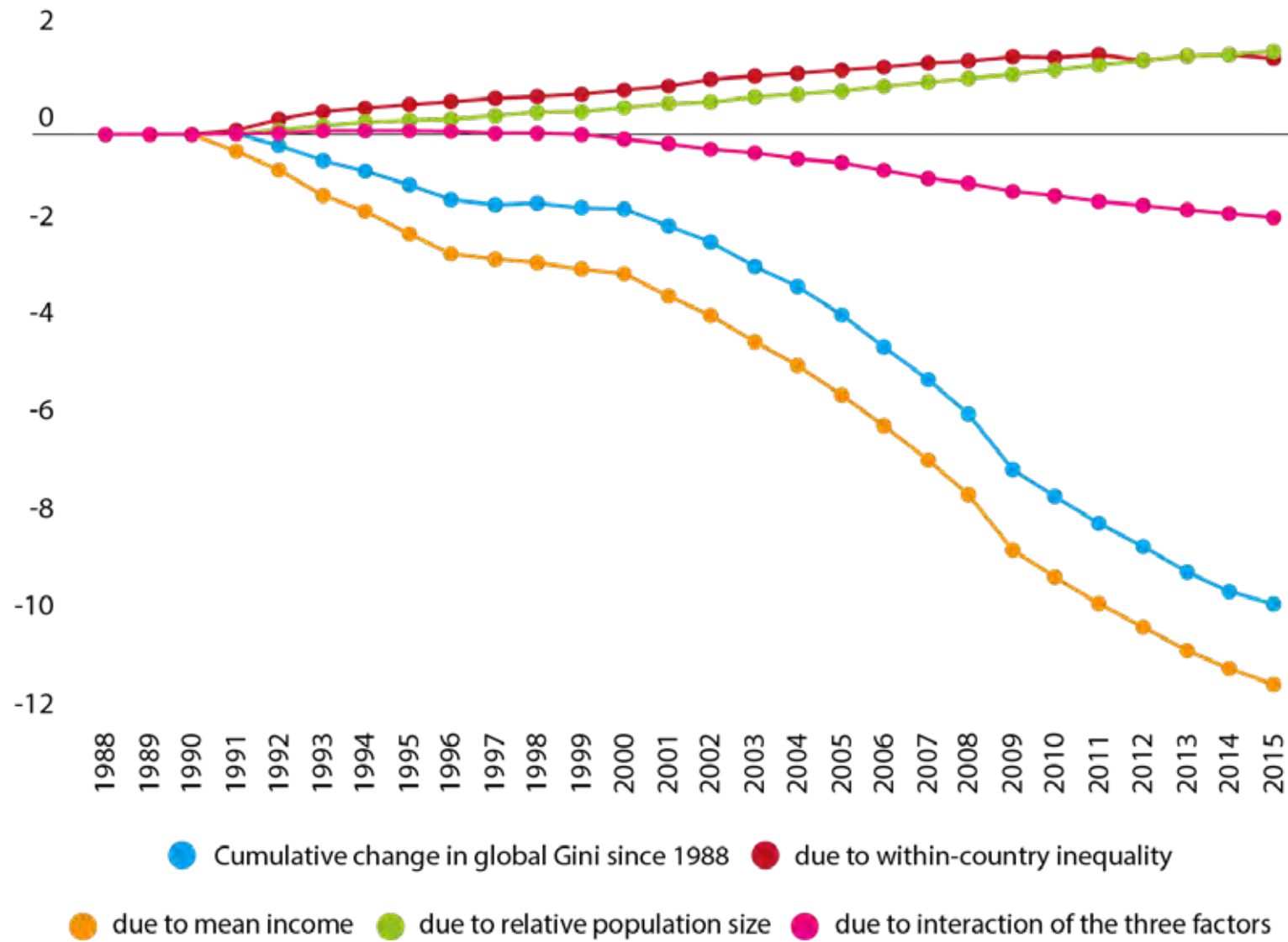
Figure 1. The Gini coefficient of income inequality - globally and in selected countries, 1988-2015

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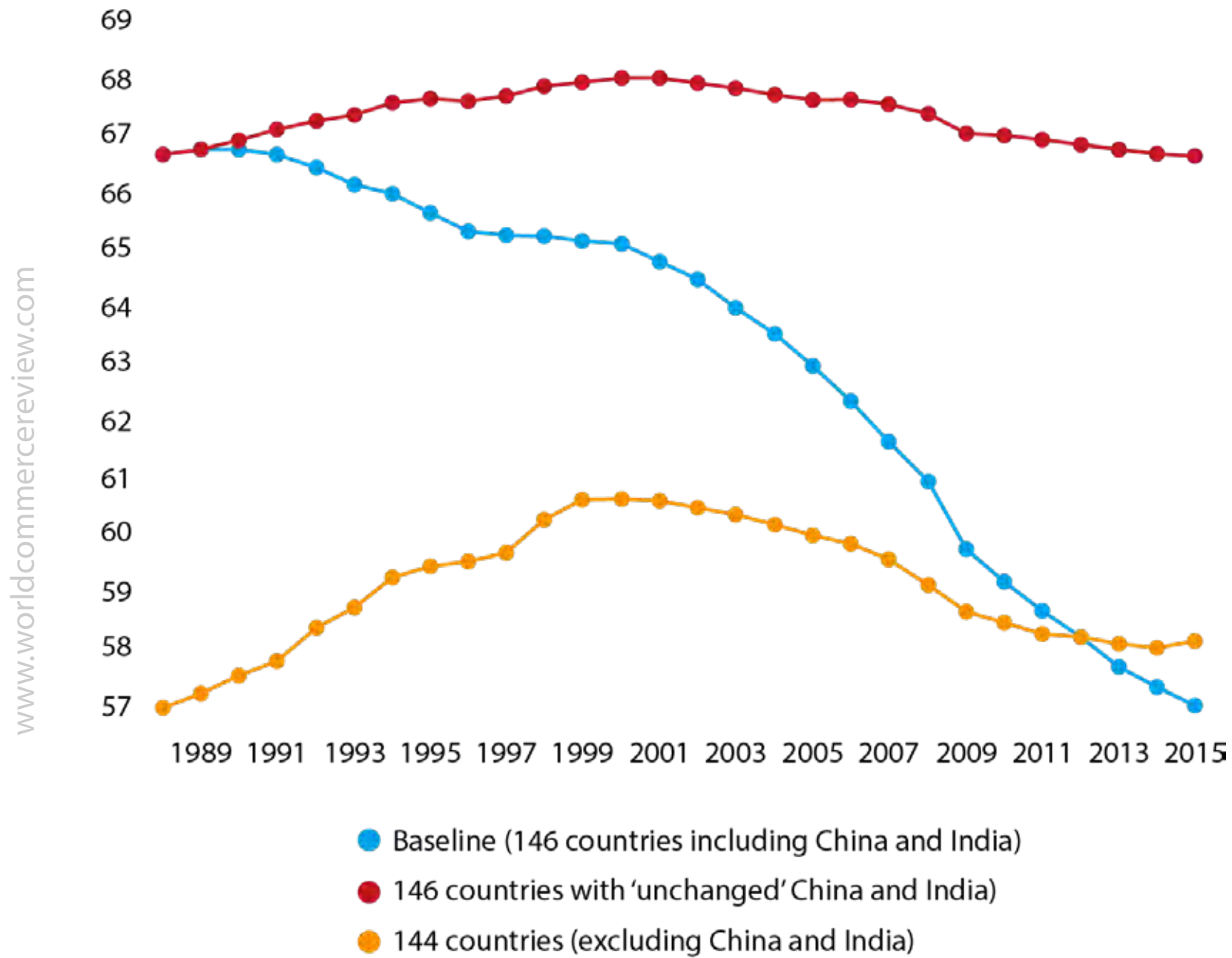
Source: global Gini: [Bruegel dataset](#) using the version based on the log-normal distribution; county Gini: 6.2 version of the [Standardized World Income Inequality Database](#).
 Note: disposable income (after taxes and transfers) is considered

Figure 2. Deconstruction of the change in the global Gini coefficient of income inequality, 1988-2015



Source: author's calculations based on [Bruegel dataset](#) using the version based on the log-normal distribution.
 Note: disposable income (after taxes and transfers) is considered.

Figure 3. The impact of China and India on global income inequality developments



Source: author's calculations based on Bruegel dataset, using the version based on the log-normal distribution.
Note: disposable income (after taxes and transfers) is considered

Since the two most populous countries, China and India, account for about 38% of global population and these countries experienced rapid economic convergence in recent decades, I have checked their impact on global income inequality.

One way to do this is to run a counterfactual simulation assuming that (1) Chinese and Indian GDP per capita relative to the United States is fixed at their 1988 levels, (2) Chinese and Indian within-country Gini coefficient of income inequality is fixed at their 1988 levels, and (3) Chinese and Indian population as a share of global population is fixed at their 1988 shares. The result of this simulation is indicated on Figure 3 as '146 countries with 'unchanged' China and India'. Under this scenario, the global Gini would have increased slightly from 66.9 in 1988 to 68.3 in 2000 and then declined to 66.9 in 2015, so overall the global Gini would have been the same in 2015 as in 1988.

An alternative way to look at the impact of China and India on the global Gini is to exclude the two countries completely from the calculation and to compute the global Gini for the remaining 144 countries (representing about 57% of global population). Figure 3 shows that in this case global Gini increased from 57.7 in 1998 to 60.9 in 2000 and then declined to 58.4 in 2015, a higher value than in 1998.

Therefore, the bulk of decline in income inequality among 146 countries is the consequence of income convergence of China and India, but if we exclude the impacts of these two populous countries, global income inequality increased up to 2000 and the decline since then is relatively slow. ■

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This article was originally published on [Bruegel](#)

Six signs China wants to avoid a trade war

Numerous hints suggest that China wants to keep its
economy open, argues Qing Shan Ding

The Trump administration's [announcement](#) that it will impose up to \$US60 billion in tariffs on Chinese imports has led to fears of a trade war brewing between the two countries. In response, China [said](#) it is preparing retaliatory tariffs on 128 US products, amounting to US\$3 billion of goods.

Yet there is reason to believe that this is not a battle that China wants to fight. Numerous signals at the recent 'two sessions' [gathering](#) of China's national legislature, the National People's Congress (NPC) and its top political advisory body, Chinese People's Political Consultative Conference (CPPCC), made evident China's desire to keep its economy open.

As an authoritarian state, the press conference at the end of this important annual gathering provides a rare glimpse into the inner thinking of its political leadership. Much of the focus this year was on the president, Xi Jinping, who [scrapped](#) presidential term limits. But there were also some important announcements when it came to China's economy, with strong commitments made to opening itself to trade with the rest of world.

Here are six of the key takeaways from premier Li Keqiang's wide-ranging [press conference](#) on March 19, which lasted two hours. In many respects it echoed [Xi's speech](#) at Davos last year that China is dedicated to furthering international integration and definitely doesn't want to start a trade war.

1. No appetite for trade wars

China's economic transformation is based on globalisation and free trade. The decision to open itself up in the late 1970s has benefited millions of its citizens. And, as [research](#) I've carried out shows, there is no grassroots support for protectionism and isolationism.

Both Xi and Li have clearly indicated they do not want a trade war with the US. A central pillar of Donald Trump's policy, meanwhile, is **isolationism**. This is manifest in the recent decision to impose tariffs on China and others. China's response, however, is expected to be a **measured retaliation**, as its leadership recognises the extent to which its economy is intertwined with the US and that there will be no winner in a trade war.

2. Greater openness

Premier Li also recognised that there is still room for China to open up its economy further. He announced that the government intends to ease market access to its service industries, particularly care for the elderly, healthcare and education. He also said China intends to further open access to its **finance sector** and completely open up the **manufacturing sector** to foreign investments. This includes abolishing some of the country's ownership restrictions.

Considering the imminent imposition of US tariffs on Chinese products, some level of trade dispute between two of the world's biggest economies seems unavoidable

3. Protecting intellectual property

The announced complete opening up of the manufacturing sector also came with a guarantee of the end of forced technology transfers. Foreign companies have complained for decades about having to share their **tech secrets** in joint ventures in exchange for access to the Chinese market.

On top of this, China said it would go to greater lengths to protect the intellectual property rights of foreign firms. Accusations of IP theft is one of the **main reasons** that Trump cites for imposing tariffs on China. So it shows China clear intent to remedy this issue.

4. Lowering tariffs on consumer goods

Li also promised to lower tariffs on consumer goods. This could be a boon for American and other global manufacturers. According to market intelligence firm **Euromonitor**, China became the second biggest consumer market in 2016, just behind the US. In 2017, the **'Singles Day' sales** holiday generated all-time record spending – on the Alibaba e-commerce platforms alone, **Chinese consumers spent** US\$25 billion on November 11 2017, which is **four times** of America's Black Friday and Cyber Monday figures.

So the pledge to lower import tariffs on popular consumer goods will present new market opportunities for foreign companies – the opposite of starting a trade war.

5. Reforming government institutions

Wide ranging government reforms were mentioned in Li's press conference. The plan is to merge regulations that relate to foreign investments so that there is one set of laws to give clarity and ensure foreign companies are competing on the same level playing field as domestic enterprises.

The central government says it will further cut [red tape](#), streamline processes and merge regulatory bodies to speed up project application approval and other business compliance procedures. Another measure geared toward making trade freer and easier.

6. Encouraging foreign travel

The creation of a new [Ministry of Culture and Tourism](#) speaks volumes about the government's growing support for travel outside the country. China's outbound tourism has experienced explosive growth in the [last ten years](#). Though only a small percentage of citizens have a passport to travel overseas, China accounted for 21.4% of total global tourism spending in 2016. Li suggested the government will further ease restrictions on foreign travel for its citizens, even promoting it, in a bid to increase China's overseas influence.

At this stage, there are few details about how these proposed changes will be rolled out. But the speech clearly shows the intent of future economic and business policies – all pointing to more open international trade.

Considering the imminent imposition of US tariffs on Chinese products, some level of trade dispute between two of the world's biggest economies seems unavoidable. This could potentially provide opportunities for a post-Brexit Britain, the EU and other emerging economies. ■

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This article was originally published on [The Conversation](#)

A large container ship is shown sailing on a dark blue ocean. The ship is viewed from an elevated perspective, showing its deck and the stacks of colorful shipping containers (red, blue, and white) on top. The ship's hull is white with blue accents. The text is overlaid on the image in white.

Don't go spare over excess capacity in manufactures

A new front on protectionism has opened up in policymaking circles, with Chinese manufacturing being used as a pretext to raise trade barriers. Simon Evenett and Johannes Fritz challenge the empirical and conceptual basis for doing so

During the past year some of the US's trading partners have sought to rein in Washington's unilateral protectionist instincts by framing the woes of the trading system in terms of global excess capacity – essentially diplomatic code for Chinese excess capacity in manufactures. The joint EU, Japanese, and US statement pledging cooperation on such matters at last December's WTO Ministerial Conference was an important milestone in this co-option strategy (*Financial Times* 2017).

In light of the threatened imposition of tariffs on steel and aluminium products on widely derided national security grounds, the latest [Global Trade Alert report](#) examines whether the US's trading partners should double down on this particular co-option strategy (Evenett and Fritz 2018). To do so, we evaluate whether excess capacity in manufactured goods is a systemic threat to the world trading system.

We conclude there is no compelling case for governments going spare over global excess capacity in manufacturing. From the perspective of the global trading system, a nation's excess production capacity is not the issue per se, but the harm such excess capacity does to trading partners is. We build our case first by critically evaluating the implementation of the only G20 initiative to tackle sectoral excess capacity, namely, in the steel sector. The dissatisfaction of key steel sector stakeholders with this initiative's execution is merited. That the steel sector is plagued by trade distortions is not in question, how the G20 has gone about tackling it is.

Then we muster empirical evidence that sheds light on how little global trade is in sectors where China has excess capacity. Moreover, exports from these sectors account for only a small share of China's total exports. Critically we show how systemically unimportant are the trade-related knock-on effects of excess capacity such as import surges and how infrequently G20 governments have bothered to respond to trade disruption in excess capacity sectors during the past 10 years.

The G20's record on steel excess capacity: One step forward, several steps back

In assessing the impact of the Global Forum on Steel Excess Capacity it is worth noting that world steel prices had risen 50% from their nadir before the Forum's terms of reference were agreed in December 2016. Still, compared to the G20's initiative on protectionism, this Global Forum represents one step forward and several steps back.

The advance came in recognising that a wide range of government policies distort steel trade, going well beyond the narrow range of policies mentioned in the original G20 pledge on protectionism. The problems arose, however, as G20 members balked at the implications of this for monitoring policy choice and for designing a steel excess capacity reduction plan with teeth.

Framing future trade cooperation in terms of global excess capacity isn't the way forward. The focus should be on the altering policies that distort commerce not targeting market outcomes, of which excess capacity is one

One failing of the G20 steel forum is that it relied on member governments to report on their own policy interventions. Consequently, G20 governments grossly under-reported their own resort to antidumping actions, anti-subsidy tariffs, subsidies and export incentives granted, and other import tariff increases in the steel sector. In addition to being woefully incomplete, the November 2017 Global Forum report failed to provide any national and global statistics on policy choice.

In contrast, our report includes member-by-member data on policies used in the steel sector (in Chapter 5) as well as data (in the annex) on the contribution of each member to global steel overcapacity as the share of their steel imports and exports that face trade distortions. We also show that resort to trade distortions in the steel sector surged in 2014-6, even after stripping out trade remedy cases.

By 2017 such was the build-up of trade distortions in the steel sector that only 30% of steel exports from Global Forum members competed on a level playing field (Figure 1). Many steel exporters face multiple trade distortions when competing in foreign markets – on that the critics are right. Nearly 60% of Global Forum steel exports compete in foreign markets against rivals benefiting from state-provided export incentives. Even if the latter are excluded, the cumulative effect of remaining trade distortions – including bailouts for steel firms and local sourcing rules for steel – still covers half of steel exports in 2017 (Figure 1).

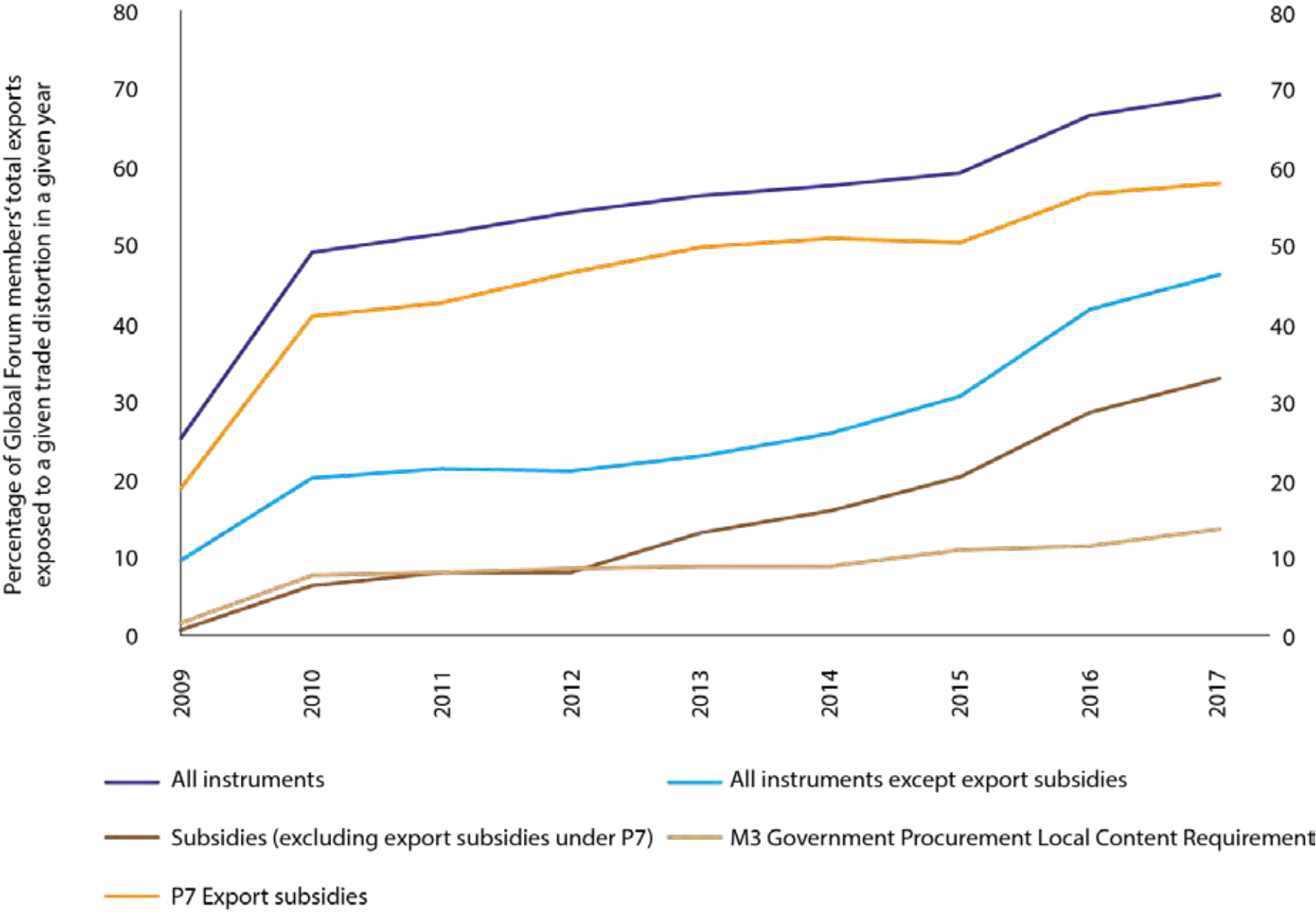
Given the Global Forum's failure to roll back this dog's breakfast of trade distortions perhaps it is unsurprising that some governments have taken a unilateral path. Given the operational deficiencies detailed here the question shouldn't be *"Did the Global Forum work?"* but *"How could it work?"*

New evidence on Chinese steel subsidies

We used corporate financial statements to shed light on differences in performance of publicly listed Chinese and non-Chinese steelmakers and their potential receipt of state largesse. Median profit margins differ little between

Figure 1. International trade in steel products is most exposed to market distortions created by domestic subsidies and export incentives

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steelmakers in China and abroad and there is no clear pattern of higher world steel prices favouring Chinese firms over rivals.

In 2017 that was the case, but the opposite was true during comparable steel prices in 2010 and 2011. Moreover, as far as profit margins are concerned, it is hard to see how publicly listed Chinese steelmakers were punished by the foreign government measures of recent years. Chinese steel capacity reduction is likely the driver of higher profit margins.

More telling is the sizeable narrowing of the gap between the gross and operating margins of Chinese firms and their foreign rivals and no narrowing in differences between their operating margins and pre-tax profit margins. The former finding implies that Chinese steelmakers benefited from a more generous depreciation and allowances regime than foreign rivals. The latter finding suggests that differential access to cheap credit was not a driver of profit margin performance, contrary to much conventional wisdom.

Analysis of the financial reports of publicly listed firms also showed that from 2008 on, government subsidies to Chinese steelmakers rose sharply, reaching nearly one billion US dollars in 2015. These subsidies never exceeded 1% of the firms' revenues but, given profit margins are so thin in this sector, this largesse likely prevented some Chinese steelmakers from making losses. Subsidies and tax breaks reported in recent years by listed non-Chinese steelmakers are skewed towards Tata Steel and the Steel Authority of India.

Targeting steel excess capacity is a fool's errand

Accurate measurement of steel capacity is a real challenge. Remarkably, the Global Forum's and the OECD's estimates of Chinese steel production capacity differ by over 91 million metric tonnes. Worse, headline numbers on global steel overcapacity reported by the Global Forum are misleading.

These headline numbers do not take account for the fact that in ordinary times steel firms run at less than full capacity. With a target utilisation rate of 80% (the arbitrary level chosen independently by the US and Chinese governments), the headline global steel overcapacity estimate falls from 737 million metric tonnes to 262.4 million metric tonnes, a 64% reduction. All in all, there are serious difficulties in operationalising excess capacity for policymaking purposes (Evenett and Fritz 2018: Chapter 8.)

If there is any merit in focusing on excess capacity it is because of the cross-border harm that it does to trading partners. With that in mind, we summarise our findings about the global significance of trade in sectors where there is Chinese excess capacity.

86% of Chinese exports to the G20 are not in excess capacity sectors

Using both a narrow and a broad definition of the sectors where China is thought to have excess capacity, we found that from 2005 on no more than 21% of world trade was in these sectors. That percentage has been falling since 2011 to 18% in 2016, just as G20 policymaker interest in this matter has been rising!

Moreover, the percentage of total Chinese exports shipped worldwide where China has excess capacity peaked at 18% in 2008 and has declined since to 15.8% in 2016, the last year for which a full set of international trade data is available (Figure 2). When Chinese exports to the rest of the G20 are considered the 2016 percentage falls from 15.8% to 14%, suggesting that six-sevenths of Chinese exports are in sectors where excess capacity is not a problem.

We also found that each year less than 2% of the total G20 manufacturing imports are affected by import surges in sectors where China has excess capacity – and this statistic includes import surges originating in those sectors outside of China (Figure 3). Meanwhile, the corresponding percentage for sectors where China does not have excess

Figure 2. Since 2005 no more than 21% of world trade was in sectors where China has excess capacity

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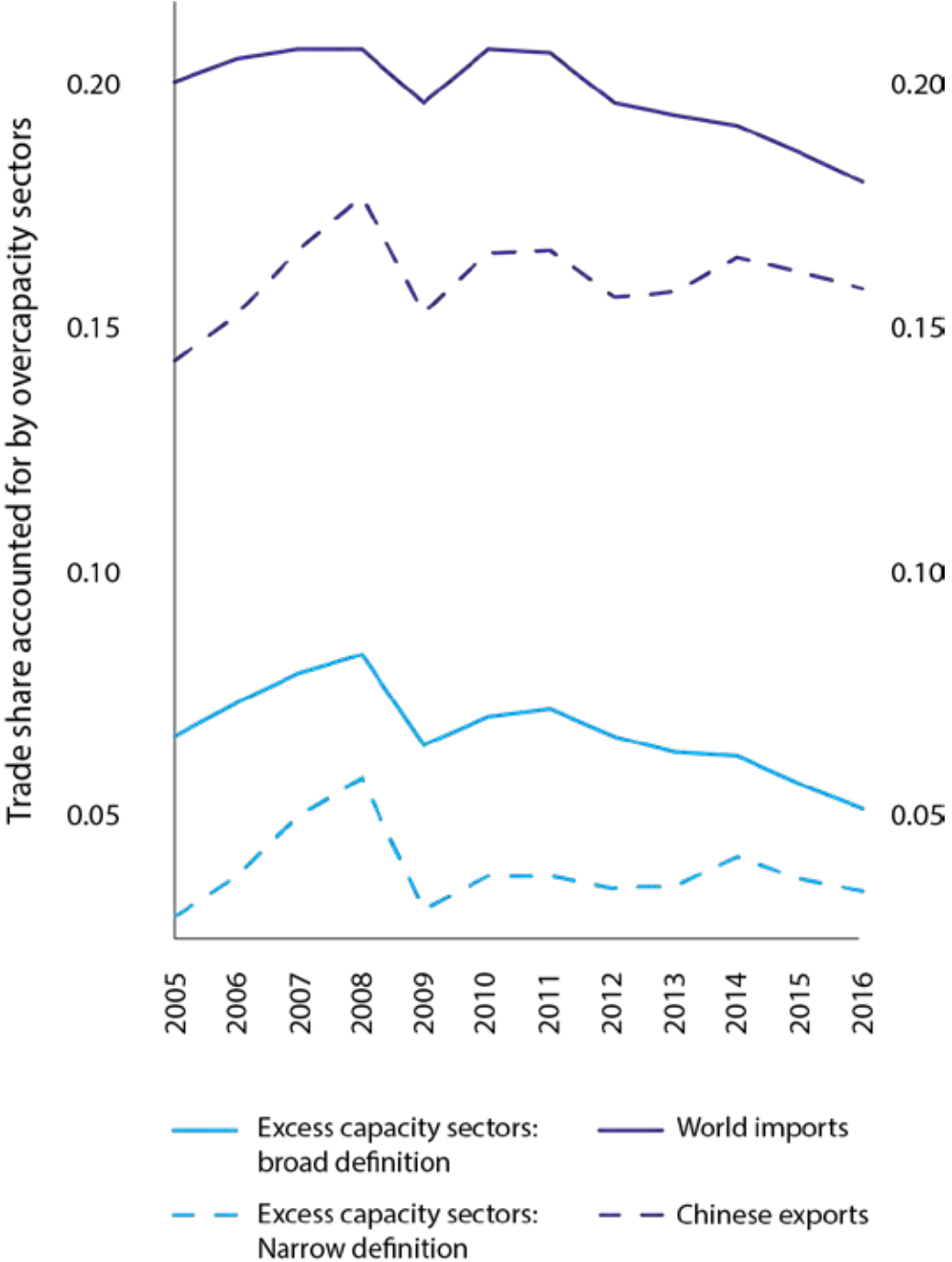
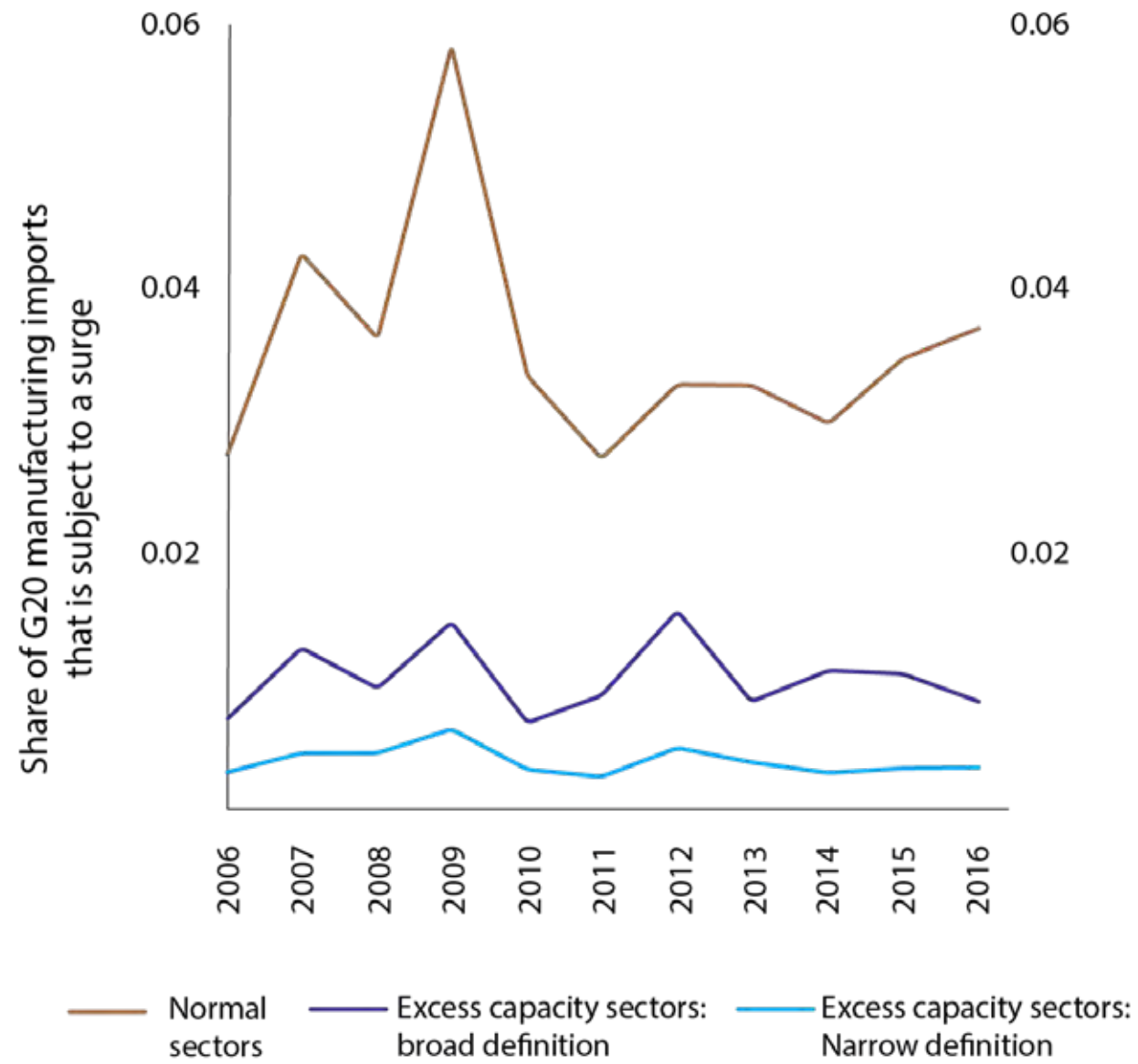


Figure 3. Import surges in sectors where China has excess capacity do not account for more than 2% of G20 imports



capacity has risen since 2011 to nearly 4%. As far as import surges are concerned, sectors with Chinese excess capacity actually generate less disruption to G20 manufacturing trade.

Furthermore, China's share of G20 imports affected by import surges is smaller in sectors where China does have excess capacity, a finding that stands even if the foreign markets where China is blocked by trade remedy actions are taken into account. Governments worried about the political pain of import surges should not focus exclusively on sectors where China has excess capacity sectors.

G20 governments rarely take action against import surges in excess capacity sectors

Our last, and perhaps most surprising, piece of evidence relates to the frequency with which G20 governments respond to import surges by raising import barriers or granting subsidies to domestic firms. For import surges lasting one year, G20 governments react by raising import barriers 3.6% of the time in sectors where there is no Chinese excess capacity.

In contrast, in sectors with Chinese excess capacity import barriers are raised 5.0% of the time. That means that only in one case in twenty have G20 governments reacted to year-long import surges in Chinese excess capacity sectors by raising trade barriers. Granting subsidies in response to import surges occurs even less often. For two year-long import surges only one in ten import surges in sectors with Chinese excess capacity induces an import-restricting policy response by G20 governments.

That over the past decade G20 governments reacted so rarely to import surges in excess capacity sectors undercuts their trade policymakers' contention that excess capacity is a systemic concern.

Concluding remarks

On examination, it turns out that the phrase excess capacity is slippery – rhetorically useful, but hard to pin down, even harder to operationalise, and at the same time woefully misleading. So excess capacity joins the list of superficially appealing trade policy jargon such as unfair trade and managed trade. A focus on excess capacity in some manufacturing sectors ignores the trade policy challenges building up in other sectors of the world economy. Framing future trade cooperation in terms of global excess capacity isn't the way forward. The focus should be on the altering policies that distort commerce not targeting market outcomes, of which excess capacity is one. ■

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This article was originally published on [VoxEU.org](https://voxeu.org)

Resolving the conflict between privacy and digital trade

Exports of data-based services by developing countries is threatened by the EU's privacy regulation. Aaditya Mattoo and Joshua Meltzer argue that the way forward is to reflect the EU-US Privacy Shield bargain

The EU's privacy regulation threatens developing country exports of data-based services by making data transfers more difficult. Traditional trade rules and regulatory cooperation cannot resolve this conflict. The column argues that the way forward would be to design trade rules that reflect the bargain struck in the EU-US Privacy Shield. Data destination countries would promise to protect the privacy of foreign citizens in return for source countries promising not to restrict data flows.

On 25 May 2018, the EU's new General Data Protection Regulation (GDPR) takes effect (European Union 2018). It has wider scope and stronger enforcement than the Data Protection Directive, which it replaces.

The current news focus on data leaks associated with Facebook, or on transatlantic data flows, have obscured the impact of GDPR on developing countries. Many developing countries export digitally delivered data-processing and business services, which require international flows of data. These services, ranging from financial accounts and tax returns to health transcriptions and diagnostics, contributed to more than \$50 billion worth of developing country exports to the EU in 2015 – of which one-fifth came from Africa. Strengthened regulation makes data transfers more difficult, and so threatens some of these exports (Bauer *et al.* 2013).

Strengthened regulation

To ensure that the personal data of EU citizens is not abused, data can be transferred out of the EU only under certain conditions. One is that the country meets the GDPR 'national adequacy' requirement by enacting a national privacy law essentially equivalent to that of the EU. When GDPR comes into effect only Andorra, Argentina, Canada (for commercial organisations), Faroe Islands, Guernsey, Israel, Isle of Man, Jersey, New Zealand, Switzerland, Uruguay, and the US (using Privacy Shield) will have been recognised as adequate (European Commission 2018).

A national law imposes the same standard on all firms in the country, whether they handle EU data or not. This could adversely affect poorer countries. Prematurely stringent privacy laws could hurt the development of markets by inhibiting the flow of information. For example, the reporting of personal credit histories is critical to consumer credit, and privacy laws could create significant asymmetries of information and affect the efficiency of markets (Kitchenman 1999).

Traditional trade rules and regulatory cooperation cannot resolve this conflict... the way forward would be to design trade rules that reflect the bargain struck in the EU-US Privacy Shield. Data destination countries would promise to protect the privacy of foreign citizens in return for source countries promising not to restrict data flows

Enacting national privacy legislation would also increase the economy-wide cost of doing business. A recent survey suggested that, on average, members of the Fortune 500 would need to spend \$16 million each on average to avoid falling foul of the new EU regulation (Financial Times 2017). The increased costs would hurt access to services at home and competitiveness in foreign markets where privacy is less of a concern. When the Philippines drafted national privacy legislation to ensure continued access to the EU data processing market, US firms based in that country suspended investment plans because operating costs would increase, leading the government of the Philippines to reassess its approach.

If a country's national law fails the EU adequacy test, as happened in the case of India, firms are required to use either Binding Corporate Rules (BCRs), designed for multinational companies to move data globally, or Standard Contractual Clauses (SCCs) for each business deal. Both instruments require levels of protection, oversight, and access for individuals that would be offered in the EU. Both also require a data controller or processor, who can be held liable for breach, to be established in an EU member state.

Both routes are costly and time-consuming. The requirement of a presence in the EU increases costs and limits the benefits of seamless cross-border digital trade, especially for smaller firms. A survey in India of the impact of the earlier, less-stringent EU Data Protection Directive revealed that the BCR process took more than six months, and 90% of the respondents used SCCs. These also involved a complex process and took on average more than three months (NASSCOM-DSCI 2013). Two-thirds of the surveyed services exporters claimed a significant loss of business opportunities because of the requirements.

Alternative routes to compliance

Is it possible to satisfy the EU's legitimate needs without obliging other countries to use EU standards in their privacy laws, or to incur the substantial compliance costs associated with SCCs and BCRs?

The tension between international data flows and divergent national privacy standards has provoked two types of international response: negotiation of trade rules, and cooperation between regulators.

- **Negotiation.** The WTO's General Agreement on Trade in Services (GATS) provides an exception for measures necessary to secure compliance with laws that are otherwise consistent with the GATS relating to *"the protection of the privacy of individuals in relation to the processing and dissemination of personal data"* (GATS, Article XIV(c)). The chapeau to Article XIV limits the exception to measures that do not lead to *"unnecessary and unjustifiable discrimination between countries where like conditions prevail, or a disguised restriction on trade in services"*. While the WTO panels and appellate body have made judgements in other cases on whether a measure was necessary to achieve a specific objective, it is probably unrealistic to expect an already strained WTO dispute settlement system to adjudicate the politically sensitive issue of privacy protection.
- **Regulatory cooperation.** Traditionally this implies harmonisation and mutual recognition. This is unlikely in this case and would not be sufficient to ensure international data flows. Harmonisation and mutual recognition of national regulations help firms create economies of scale, because they do not need to fragment operations to conform to differing regulations. But identical or mutually acceptable regulations do not, by themselves, address the central problem of international data flows. To protect the interests of their citizens, regulators in each country need to influence the behaviour of data-handling entities located outside their jurisdictions. The regulators in other jurisdictions who have control over these entities are not mandated to look out for the interests of citizens from other countries.

Instead of these traditional routes, it may be possible to build on a recent model of international cooperation.

- **Privacy shield.** When the EU first enacted privacy rules, it considered US laws inadequate, and transatlantic

data flows were threatened. In response, the EU and the US negotiated a Safe Harbor Agreement. This was updated after the Snowden revelations as the Privacy Shield Agreement (Privacy Shield Framework 2018). At the heart of this deal is a promise by US firms such as Microsoft and Google to protect the privacy of European citizens to European standards, in return for unrestricted data flows. This commitment is monitored and enforced by US institutions, notably the Federal Trade Commission and the Department of Commerce.

Since the EU has recognised US conformity assessment mechanisms under the Privacy Shield, WTO services law requires it to also grant other countries an opportunity to negotiate a similar arrangement. Developing countries can take advantage of the opportunity while strengthening their case for recognition by creating credible assessment institutions.

A recognition agreement with the EU would have big advantages over existing options. First, unlike in the case of BCRs and SSCs, firms would not be required to establish a costly presence in the EU because any assessment of conformity with EU standards would be done by domestic regulators. Second, unlike in the case of national adequacy, firms would not be obliged to adopt more stringent and more costly standards for data, involving transactions at home or with countries less demanding than the EU. Countries would be free to tailor domestic standards to domestic needs, and export standards to foreign needs.

First steps

We expect countries to proceed step-by-step in small groups, self-selecting into specific arrangements and gradually deepening them. As a first step, data source countries may still specify conditions and determine conformity unilaterally, but lend additional transparency and predictability to their requirements by listing them, for example as Additional Commitments under Article XVIII of the GATS.

A further step could be for data source countries to recognise conformity assessment in specific data destination countries when there is trust in enforcement, even though norms diverge. In parallel, groups of countries could also make collective additional commitments when they converge in regulatory requirements – say, in a WTO Reference Paper on Privacy – building on OECD and APEC principles (OECD 2013, APEC 2017).

These steps could pave the way ultimately for mutually binding obligations on source and destination countries, which is one of the most innovative elements of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). In this agreement, data source countries agreed not to restrict the flow of data, in return for legal obligations on data destination countries to protect the privacy of foreign citizens.

Apart from a bilateral or plurilateral approach, there may also be scope for multilateral discussions, for example as part of the recent initiative on electronic commerce. Such discussions could help forge a broader consensus on both data protection standards and mechanisms to ensure compliance. ■

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This article was originally published on [VoxEU.org](#)



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When technology serves people

Margrethe Vestager says technology can be shaped to fit society's values so that technology serves people and not the other way round

Next year is supposed to be a tough one for tech. 2019 is when – if you believe the film *Blade Runner* – renegade androids should be roaming the Earth. It's when – according to *The Island* - we should all have clones created just to provide us spare organs.

Technology and human values

Those dystopian fantasies make unforgettable films. They're a powerful reminder of how technology can go wrong. But there's one important thing which those filmmakers have forgotten.

They've forgotten that technology is our future, not our fate. They've forgotten that our societies are about much more than technology. They're built on a far deeper foundation of values – values like freedom, and fairness, and democracy.

And that's why those dystopias don't quite ring true. Because in fact, we don't just accept what technology gives us. We can shape it to fit our society's values. So technology serves people – not the other way round.

Meeting the challenge of digital technology

More than a century ago, when the first cars appeared, their supporters insisted they were much better than horses. They weren't simply faster - though they could reach terrifying speeds of 15 kilometres an hour. They were also much better for people's environment – they made city streets cleaner, safer, and quieter.

And it was only when cars became part of everyday life that some of the problems with them emerged. The accidents, the noise, the pollution. And as those problems became clear, rules started to develop.

And the same sort of change is happening today, in the way we look at digital technology. After the first thrill, when we discovered what these technologies could do, we've started to see that there's a dark side as well. A side that can challenge our most basic values – our privacy, our freedom to choose, even our democracy.

And we've started to see that it's time for people to take control. Of essential things, like what happens to their data.

Data and privacy

Until recently, there's been a sense that companies could treat our data as something just lying around for anyone to pick up, like prospectors in a gold rush collecting nuggets from the ground.

Supporting innovation doesn't mean accepting every new thing, just because it's new. The job of an innovator isn't just to come up with new ideas. They also need to convince us that their product is worth the price

But those days are over. People understand that handing over data has a cost. Because each time we share our data, we give up something very valuable. Something that could be used against us.

That might just be annoying, the way it is when we're spammed with advertising. Or it could be much worse. Fraudsters might break in and use our data to steal from us. It might even be used to swing an election.

GDPR and the confidence to share data

Of course, services that use our data could bring us huge benefits too. But people won't accept that, unless they know they're in control of their data.

Last year, a survey asked Europeans if they'd be willing to share medical data for research – anonymously. You might think medical research was clearly a good thing. But only one in five people said they'd share their data for medical research in the public sector – and only one in seven would share it with private companies.

It's not that people aren't willing to share data. But they won't do it, if they don't trust that they're being told the whole truth about what it's being used for.

And I don't think that feeling is unique to Europe. That's why it seems to me that Europe's new rules on data protection, which started to apply last month, are only the first step in a change that will spread. Already, big businesses like Microsoft have said they'll apply those principles beyond Europe.

That new law - it's known as the GDPR, which you have to admit isn't the sort of punchy name you'd find in a science fiction script – is all about putting the control of data where it belongs – with the people whose data it is.

So they know who has access to their data, and what they're going to use it for. So they can be confident that the companies they deal with won't siphon off their data overseas, to 'data havens' where the rules don't apply.

Google

Without trust, we won't get the most from technology. And our antitrust case about Google Shopping has shown how hard it can be for consumers to know what's really going on.

People tend to believe that Google's search algorithm will show them the most relevant results at the top. So when users found that, though the algorithm demoted Google's rivals to – on average – page four, its own service was shown prominently right at the top of the first page – well, it was natural to assume Google Shopping must be the best.

But it wasn't the algorithm that put Google at the top. Google Shopping appeared first because of a conscious decision by Google, not to apply the algorithm to that service. And yet consumers just saw Google Shopping, which seemed the most relevant, and not rivals.

Algorithms and democracy

Algorithms can help us find our way through the huge amount of information on the Internet. But the risk is that we only see what these algorithms – and the companies that use them – choose to show us. And the things that they hide might as well not exist.

That can be a serious threat to our democracy. Because democracy's not just about voting. It's about discussing ideas in public. So everyone has a chance to be heard.

Not long ago, a sound file was going round the internet – a short clip of a voice saying a name. Some people heard it as “Yanny” – others as “Laurel”. That clip was a sensation. And I think the reason is simple. It challenged the most basic belief we need to live together in society. That we all hear and see the same things.

And when politics moves to our social media timelines, we can’t be sure of that. I can’t tell if you hear “Yanny” where I’m hearing “Laurel”. I can’t debate the ideas that you’re hearing. Because no one but you – and possibly the social media company – knows which ads and which news you can see.

Making technology work for us

In the past, there’s been a temptation to expect the tech industry to solve its own problems. Perhaps that’s because we fear innovation will suffer, if we regulate the digital world more.

But that makes no sense. Supporting innovation doesn’t mean accepting every new thing, just because it’s new. The job of an innovator isn’t just to come up with new ideas. They also need to convince us that their product is worth the price.

And when we insist that technology doesn’t harm our values, that doesn’t mean we’re rejecting innovation. It just means we need to be sure the price is not too high.

Conclusion

It means putting people, not technology, back in control. We’re dealing with businesses that are big and powerful. But we, as a society, are powerful too. In Europe, for instance, we have a single market of more than 500 million people. And that’s definitely big enough to make companies pay attention.

The same companies that, not long ago, transformed our world with new ideas, have become the establishment. They have the power to protect their position, by holding back the next generation of innovators. But our competition rules allow us to protect innovation – as we’ve recently done with Amazon, and as we keep doing when we check that mergers don’t give companies so much data that no one else can compete.

And Europe also has the size to put strong rules in place, like the new rules on data protection. Like the law we proposed last month, to help make sure online platforms and search engines treat their business customers fairly. Or the ethical guidelines for artificial intelligence, which we plan to present by the end of this year.

Because our fundamental values are at stake here – our freedom, our democracy, our equality. And it’s up to us all to stand up and protect them. So they won’t be lost – as they say in *Blade Runner* - like tears in rain. ■

Margrethe Vestager is the European Commissioner for Competition

This article is based on a [speech](#) delivered at Brain Bar Budapest, 1 June 2018

Ensuring safety online

Bermuda is ensuring the safety of young people through several important initiatives. The recent Digital Leadership Conference outlined the progress

In Bermuda, Cybertips is an initiative run by the government Department of ICT Policy and Innovation (IPI), within the Ministry of National Security. Cybertips routinely visits schools, youth organizations and community events to help provide Bermudian students with the necessary knowledge and skills to use the internet safely.

For a while, IPI noted the increasing need for an Island-wide campaign to inform but also train students on how to actively face issues relating to financial fraud, identity theft, cyberbullying and other issues one faces when online. Cybertips, as an initiative, committed to training Bermuda's students on how to be up-standers and, with the help of its Student Committee, led the development and conception of the Digital Leadership Conference which took place on May 7th earlier this year and hosted over 600 Bermudian students.

Students participated in panels and workshops that were developed by the Student Committee in collaboration with IPI. Said Committee was comprised of student representatives of different ages and from multiple schools. The Committee identified key areas that were affecting Bermuda's young people and designed panels and workshops that were best-suited to tackle these ongoing issues.

Each panel was composed of various professional subject-matter experts from across the Island, who volunteered to help educate the students about the legal, emotional and physical implications of the identified digital issues, such as cyberbullying. The Conference therefore hosted experts from various sectors including law enforcement, education, social services, health care, and child protective services.

A Digital Leadership magazine was developed for the conference where members of the Student Committee and various panellists wrote about the various ways that social media, cyberbullying, and video games may affect a student's life. The magazine did not neglect some of the benefits of technology and discussed them at length,

serving as a resource for more in-depth information on specific topics, experiences and issues that may not have been broached during the conference itself.

The Hon. Wayne Caines, JP, MP, the Minister of National Security, not only gave a gripping presentation about the negative effects of social media, but also provided insight into how students can leverage their knowledge to

*Thanks to the 2018 Digital Citizenship Conference,
the participating students - true digital natives - will
be empowered to make positive online choices*

Cybertips

Digital Leadership Magazine

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Ministry of National Security
Department of ICT Policy and Innovation

enhance their online experience. A positive perspective about social media let the students see that by adopting healthy internet-use practices, they could expand their opportunities for scholarships, schools, and careers.

Importantly, Deana Puccio co-founder of the RAP Project, was one of the contributors for the magazine as well as keynote speaker for the Conference, providing valuable insight into the global impact that social media misuse and digital issues have on society, especially on young people. A former Senior Assistant District Attorney from Brooklyn, New York, Deana developed The RAP Project, Raising Awareness & Prevention Project. The programme is designed to empower students with personal online safety skills.

After giving her keynote presentation, Deana helped lead several workshops such as Piggy in the Middle where the students were offered various scenarios depicting being stuck between two friends fighting, and were asked how they would respond. The final student workshop of the Conference focused on student feedback and asked students what they would like to see at the following year's conference, what advice should be given to their parents and guardians, and what parents and educators can do to establish themselves as trusted adults.

After the end of the school day, students were dismissed and the Conference switched gears: it was time to talk to the adults.

The first evening panel allowed educators and mentors to ask the panellists about what warning signs to look out for, how to help someone being bullied and the protocol to follow if their child or a young person they cared about was found to be cyberbullied. Afterwards, the Parent and Community panel discussed the various ways they could protect their children, what parental controls they can implement, and other similar topics. Using the student feedback garnered earlier allowed the moderators to guide the discussion to, for instance, reasons why children might not feel comfortable talking to their parents if they encounter anything online that made them uncomfortable.

While cyberbullying and other digital issues that affect young people are not going to disappear overnight, the Digital Leadership Conference helped to inform residents in Bermuda about the dangers lurking online and the different ways they can help ensure young people stay safe online.

Thanks to the 2018 Digital Citizenship Conference, the participating students -true digital natives- will be empowered to make positive online choices, seek help when necessary and understand that the decisions they

make today can impact their lives and the lives of others for years to come. As change agents and leaders in their own circles, they will be mentored by local professionals in various areas of technology, law, mental health and community awareness. ■

Department of ICT Policy and Innovation, Ministry of National Security, Government of Bermuda





Counterfeiting becomes the fake news for global brands

Brand protection remains critical for all businesses. Chrissie Jamieson writes that companies must embrace advanced technology to maintain customer trust and protect consumers

The digital transformation that has occurred over the past decade has changed the brand landscape beyond all recognition. In fact, many of today's biggest brands have come from a pre-digital time. Most of this digital transformation has been for the better, however it has also had the negative consequence of increasing the propensity for counterfeited goods.

New research commissioned by MarkMonitor and conducted by independent market-research firm Vitreous World showed that the scourge of counterfeiting is now hitting almost half (47 percent) of brands through **lost revenue**. It's not just pennies either, with one-in-three brands reporting this loss in sales to be worth more than 10 percent.

Four-in-ten organisations (41%) have experienced an increase in the occurrence of counterfeiting and brand infringement. This has, more often than not, originated from a variety of components related to digital transformation on a global scale, including but not being limited to: advances in social media for six-in-ten (61%) companies; big data (52%); chat/messaging (52%); artificial intelligence (51%); the dark web (48%), and augmented reality (47%).

No light at the end of the tunnel

Everything from luxury watches to medicines are now counterfeited. According to the Organisation for Economic Co-operation and Development (OECD), the global trade in counterfeits **continues to expand** rapidly and now accounts for 2.5 percent of world trade, or £383 billion (\$461 billion). In the UK alone, research by the Centre for Economic and Business Research showed that **counterfeit goods** cost the economy £17.3 billion (\$20.8 billion) and resulted in 72,000 jobs being lost as a result.

There appears to be no light at the end of the tunnel for brands. In fact, our research found that 58% of brands feel that keeping themselves safe from counterfeiting will become increasingly difficult over the next five years.

Skewed reviews

Counterfeiting is a serious problem. Over the past year there has been plenty of talk about the danger of fake news on consumer perceptions (not to mention election results). The same shift in consumer perceptions can also, of course, be caused by counterfeiting.

The good news is that those brands that have had the foresight to implement online brand protection will gain valuable awareness of the landscape in which they operate

There is an increasingly high number of fake goods entering the supply chain — in December 2017, for example, millions of pounds worth of fake clothes, toys and gadgets were seized by the UK Border Force — which has led to a massive reduction in consumer confidence levels. This in turn can have catastrophic consequences on a genuine brand's bottom line.

Today, reputation is everything. Whether it's a restaurant, a movie or a car, nowadays they all live or die by the ratings they receive online. The internet has become a word of mouth referral system for a whole generation of consumers. Because of this, negativity around a brand – partially stoked by counterfeit goods skewing reviews – can spread like wild fire.

Adapting approaches

Online brand protection has never been more important than it is today. It will continue to grow in complexity and, as a result, it's vital that organisations adapt their approach accordingly today to reap the rewards tomorrow.

The issue of brand protection has always been a challenge for businesses. However, the scope and complexity of the problem has grown significantly over the last few years due to the global nature of business, an increased consumer appetite for shopping online and an expanding marketplace, driven by the proliferation of social media channels.

This has provided additional points of infiltration for criminals and those with malicious intent. Today, brand protection is not confined to just the business. Rather, an overriding objective is for the organisation to protect its customers, safeguarding their trust and loyalty.

Successful company brand protection requires a multi-disciplinary approach that starts from within. It is therefore imperative that it has buy-in from the very top of the organisation. However, our research reveals that only 19 percent of respondents currently use a unified approach when implementing and monitoring a brand protection initiative. Looking at those respondents with no plan in place, the number one barrier is cost (65%), followed by a lack of time and resources (64%).

Remaining complacent

As we have seen, nearly half of brands report having lost sales due to fakes flooding the market. However, much of the damage is difficult to quantify. For example, other types of infringement that brands typically suffer from include: lost traffic due to cyber-squatted sites (46%); an increased cost of paid search adverts (49%); damage to a brand's reputation (50%), and counterfeit-sponsored adverts on social media (45%).

Despite counterfeiting rising in frequency, brands are far too often remaining complacent regarding standing their ground against infringement. Only just over half (56%) of respondents have taken legal action, with 23 percent saying the action resulted in a takedown of infringing content or products, and a quarter (24%) saying it resulted in financial compensation.

Catch-22

Online brand protection remains a critical feature for all businesses. As the digital channels expand with new ways to advertise and market goods and services, the threat of infringement and abuse rises too. It's a catch-22. The online space has presented brands with tremendous opportunities, but these same opportunities are also being exploited by cybercriminals and fraudsters. The result is damaged customer trust, lost revenue and a tarnished reputation.

The good news is that those brands that have had the foresight to implement online brand protection will gain valuable awareness of the landscape in which they operate, the channels that need to be monitored and the importance of such a plan.

However, they will still face challenges in the monitoring and management of these programmes – challenges that need to be overcome to face future threats. These include the ability to quantify the value lost to infringements and the ability to prioritise them, a lack of knowledgeable staff and a lack of resources.

Protecting revenues and reputations

While it is easy to understand the temptation to solve the issue of counterfeiting internally, the difficulty of working with scant in-house resources can potentially do more harm than good, as it can quickly become a compromised programme. Working with third-party experts is often a more effective way forward.

Reassuringly, the customer can remain at the heart of these programmes too. Either way, cost remains as a prohibitive factor for those brands that don't currently have an online brand protection programme in place. But with the increase in counterfeiting and the associated loss of revenue it is a case of speculating to accumulate, and the exercise generally has swift return on investment.

In the globally-connected times that we live in, all brands from world-leading multinationals to enthusiastic start-ups must embrace advanced technology to protect revenues and reputations alike. They also need to turn to trusted third-party organisations to help police their brand online.

In the digital world, brands face new risks due to the web's anonymity, the global nature of a brand's reach and shifting consumption patterns for digital content, goods and services. Brand protection in 2018 involves a lot more

than taking care of the brand itself. Critically, it's about maintaining customer trust and protecting consumers from the dangers posed by counterfeiters and online criminals. ■

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The shared response to climate change: turning momentum into action

Sarah Breeden says climate change is a core financial risk for companies. It is a shared challenge for the private sector and financial authorities. And they need to take action together to respond to it

Introduction

I am going to explain what might otherwise not be obvious – why the Bank of England has an interest in climate change. In addition to outlining our interests, I shall stress how this is a shared challenge – where the private sector and the financial authorities need to work together, respecting our different mandates, if we are to rise to the challenge ahead. Turning momentum into action is imperative.

Climate change, financial risk and the Bank of England's objectives

Climate change, and society's response to it, presents financial risks which impact the Bank's objectives. Those risks arise principally on two dimensions: the physical effects of climate change (for example from more frequent or intense storms); and the impact of changes as we transition to the lower-carbon economy that is consistent with the commitments made by governments in Paris two years ago.

Those risks have the potential to affect the Bank's core responsibilities both for the safety and soundness of the firms we regulate and for the stability of the financial system if there is a late, abrupt and disorderly transition. In particular, risks to financial stability will be minimised if the transition begins early and follows a predictable path. Once climate change becomes a clear and present danger, it may already be too late.

As outlined in the PRA's 2015 insurance report, and in our 2017 *Quarterly Bulletin* article on the Bank's response to climate change¹, there is evidence to suggest climate change is already having an impact.

In looking at physical risks for example, on a global basis, weather related insured losses have increased from an average of around US\$10 billion per annum in the 1980s to an average of around US\$45 billion per annum so far this decade. And for specific weather events, there are indications that climate change is becoming a significant

contributing factor. For example, Lloyd's of London has estimated that the 20cm of sea-level rise that has been seen since the 1950s at the Battery in New York increased Superstorm Sandy's (2012) losses by 30%.

In terms of transition risk, there are already examples of how disruptive changes, linked to policy, technology and other economic factors, cause sharp changes in valuations. As of June last year, the combined market capitalisation of the top four US coal producers had fallen by 95% since the end of 2010, and three of the top five US firms had filed for bankruptcy. There has also been a similar, albeit less severe, valuation shift for German utilities which have been seen as slow in responding to changes in domestic energy policy designed to shift towards renewables.

We are part way through a transition in thinking where climate change is moving from being a social responsibility issue to being a core financial risk at the heart of how companies manage their business

The financial risks from climate change are clearly therefore already with us. But more significantly, these risks, both from physical and transition channels, will increase if global temperatures continue to rise or the re-allocation of capital implied by the transition to a 'well below 2C' world becomes more significant. I will refrain from spending too much of my time outlining the scale of the challenge given the number of reports published that have highlighted the issue.

But the main messages in all of these reports is that if we are to make our climate goals a reality, significant amounts of equity, bank loan, and bond financing will need to become 'green'. These forecasts also highlight that much of the financing needed to support investment in infrastructure that supports environmentally sustainable growth is likely to be generated not in advanced economies but in emerging economies such as China.

The Bank's response

So, how, as a central bank, are we responding to the financial risks which climate change presents? Viewed through the prism of our objectives, the Bank's response has two core elements.

The first relates to our micro-prudential objectives to promote the safety and soundness of the financial institutions for which we are responsible – banks and insurance firms - and involves our engaging with these firms on climate-related risks through prudential supervision.

Our work initially started by examining the impact of climate change on the UK insurance industry. General insurers in particular are at the front line of managing the physical risks from climate change, such as those from storms and floods. The impact of these physical risks was the focus of the report the PRA published in 2015, alongside the Governor's speech at Lloyd's of London². We continue to deepen our activities in insurance - including in ensuring that the thinking that underpins the understanding of climate risk on the liability side of insurers' balance sheets

is reflected also in thinking about the transition risks that might arise on the asset side of those balance sheets, something which we expect to share more of over the course of this year.

Our prudential work has also broadened to consider the impact of climate-related risks to the UK banking sector. We have now completed our initial engagement with the industry and are synthesising our findings. We expect to publish these later this year.

From our prudential work, it is clear that consideration of the financial risks from climate change has significantly evolved over the last few years. There is a transition in thinking underway as climate is increasingly seen as a core strategic risk issue, rather than a matter solely for those managing firms' 'corporate responsibility' strategies. As I will come to later, while this transition in thinking is encouraging, and the direction is correct, we need to make sure the speed of progress is sufficient.

The second element relates to the Bank's financial stability objective. As discussed elsewhere³, financial stability risks could arise from a late and sudden transition to a lower carbon economy. An abrupt transition could particularly impact carbon-intensive sectors. And as I said earlier, by the time climate change becomes a clear risk to financial stability, it may already be too late. The Bank's approach has therefore been to seek to reduce these risks to financial stability by engaging with initiatives which support an orderly market transition and facilitate a shift in financing to support climate goals.

I want to talk about three specific areas: disclosure, green finance initiatives and the need for coordination.

Disclosure

The Bank has been supportive of the FSB's Task-force for Climate Related Financial Disclosures (TCFD). The TCFD

recommendations provide an excellent basis for firms to disclose their exposure to climate-related risks and opportunities and their related strategies, governance and risk management practices. Disclosure helps investors identify which businesses are best equipped to deal with the risks and opportunities that climate change presents. And that in turn creates the pressure for change that ensures the risks are managed better than they would otherwise be.

For me what was ground breaking about the TCFD recommendations was the introduction of scenario analysis - where firms set out the resilience of their strategy in different climate related scenarios, including a two degree or lower scenario. To be clear these scenarios are not forecasts or predictions. Rather they are data driven stories that are designed to enable the market to drive better decisions today. They are thus hugely more informative than spot observations of current exposures. And they are absolutely what is required to help investors price medium and long-term risks like these.

The TCFD recommendations are voluntary. In my view that is important. I think we can all recognise that climate related financial risk disclosure - and in particular the scenario analysis I mentioned earlier - is an evolving discipline. Learning by doing and iterating with experience is the key to success and so keeping the recommendations voluntary allows them to be nimble and adaptable as experience grows.

Long term risks like these are hard to measure. To be meaningful we need to bring together climate scientists, macroeconomists, financial risk modellers, and business heads. And we need time to develop our analytical capabilities, to experiment across these different disciplines and to innovate. This reinforces the aim of the TCFD to create a virtuous circle where firms voluntarily adopt the recommendations, investors respond by making clear which disclosures are of particular value, and firms learn by doing as good practice emerges. This virtuous circle is already well established in financial markets.

And the TCFD is here to stay through the power of market uptake - with 250 major companies representing \$6.5 trillion of market capitalisation and financial institutions (banks, insurers and asset managers) responsible for \$80 trillion of assets already having committed to make these disclosures and to talk to the users of information about how to sharpen and refine what disclosures are provided.

Green finance

It's perhaps less obvious that I, as a regulator and central banker, but wholly understandable that many of you might be focused on the opportunities as well as the risks from climate change – and specifically the opportunity to 'mainstream' Green Finance.

Unfortunately, measuring and tracking green financing comprehensively is difficult, partly due to the lack of criteria, indicators and a clear taxonomy, and so an absence of proper green labelling.

But we can accurately measure the labelled green bond market. This has continued to develop rapidly: issuance reached over \$150 billion in 2017, and is forecast by some to pass \$200 billion this year overall. There have also been significant innovations in recent years. For example, the Agricultural Bank of China issued a green RMB bond and Bank of China issued the first ever green covered bond in 2016. We have also seen an increase in sovereign green bond issuance including from Poland, France and Nigeria.

But whilst welcome, this is not enough⁴. Around a fifth of the required investment in the renewable energy, energy efficiency and low emission vehicle sectors will need to come from green bonds⁵. If this is indicative of the need for green finance generally, we'll need to scale that \$150 billion up by a factor of ten.

More broadly, annual infrastructure financing has totalled around \$5 trillion each year. That still leaves an annual gap of more than \$1 trillion compared to a \$6 trillion annual infrastructure need. Even more importantly, only around 10% of these infrastructure projects are estimated to have been low-carbon⁶. So whilst progress is encouraging – and provides valuable momentum – at current rates of issuance we are in danger of falling behind the investment path required to meet 2 degree targets.

So what more can be done? In one sense, the TCFD benefits of increased disclosure, data and analytical capacity will ultimately bring to bear the discipline of market pricing across both green and 'brown' assets and issuance and help deliver the shift in financing required. However, as discussed earlier, the climate scenario analysis that would support such a shift is in its infancy and is an area where further research and collaboration is needed to support progress. Experts and financiers in the City and China have a role to play here. The work being done by the Taskforce in its pilot is to be commended.

Mobilising private capital today is essential. Almost two thirds of required financing will need to be directed at sustainable projects in developing countries. Governments alone will not be able to meet this challenge. Yet it is not obvious that private investors will naturally fill that gap. For instance, debt instruments issued by emerging market firms often do not fall within the mandate of advanced market investors due to a missing, or too low, credit rating.

It is in this context that bilateral partnerships such as the UK-China Taskforce are so important in accelerating progress. I commend the work of the Taskforce in tackling some of the most pressing and critical issues in this area - for example:

- consideration of the challenges involved in moving towards green definitions that are recognised

internationally - since a market-wide taxonomy is clearly an important foundational step necessary for other initiatives to take hold;

- the work to develop green loan definitions and standardising key documentation which will be helpful in reducing barriers to issuance; and
- the push to improve the risk analysis tools that are available to investors, banks and regulators.

More broadly, in infrastructure financing, where the risks are often highest in the early stages of projects, there may also be lessons to be learnt from existing public-private partnerships and the use of risk sharing agreements. And there may be opportunities to encourage the 'crowding in' of private investment for green projects through the use of public sector money.

These ideas and structures are not new but could help support the allocation of green finance to economies where the need is greatest. The City and the UK China Green Taskforce are well-placed to support such work.

Coordination

Climate change is a global problem that is most effectively met with global solutions.

Given this need for a co-ordinated response, a significant element of the Bank's work has involved engaging with other financial regulators and central banks - both with our fellow regulators here in UK, and also internationally, to help raise awareness of climate-related issues.

The PRA is a founding member of the Sustainable Insurance Forum, a network of around twenty insurance regulators from around the world who are sharing knowledge and best practice on how to consider climate risk

in insurance supervision. The Bank, as many of you know, has also co-chaired since 2016 the G20 Green Finance Study Group on behalf of the United Kingdom, with our colleagues at People's Bank of China. We continue to do so under Argentina's Presidency, the group now being the G20's Sustainable Finance Study Group. And most recently, the Bank has become a founding member of the Central Bank and Supervisors [Network for Greening the Financial System](#)⁷.

Conclusion

We are part way through a transition in thinking where climate change is moving from being a social responsibility issue to being a core financial risk at the heart of how companies manage their business.

It is these financial risks that create the link from climate change to the Bank of England's mandate - given our core responsibilities to ensure the safety and soundness of banks and insurers and our responsibility to support a stable financial system.

It's clear to me that many different actors - companies, investors, financiers, climate scientists, governments, financial policy makers - have a part to play, given their mandates and specialisms, to support this transition in thinking. And it is also clear that that transition in thinking needs to lead soon to transition in action, if we are to reduce these financial risks in a timely manner and so avoid a late and abrupt transition to the low carbon economy to which governments have committed.

To make this happen, we need to learn by doing, to identify decision-useful information that will support the necessary transition; and we need to identify the barriers to the mainstreaming of green finance so that the transition can be financed in practice.

It's a tough ask that gets more pressing by the day. The prize could not be more important. We must keep up the good work. ■

Sarah Breeden is Executive Director, International Banks Supervision, at the Bank of England

Endnotes

1. PRA (2015), *The Impact of Climate Change on the UK Insurance Sector*, and Scott, M, Van Huizen, J & Jung, C *The Bank of England's response to climate change*. 98–109 (Bank of England, 2017).
2. Carney (2015), "Breaking the Tragedy of the Horizon – climate change and financial stability", speech given at Lloyd's of London, September 2015.
3. See, for example, Carney (2015), "Breaking the Tragedy of the Horizon – climate change and financial stability", speech given at Lloyd's of London, September 2015 and Carney (2016), "Resolving the climate paradox", Arthur Burns Memorial Lecture, Berlin September 2016.
4. Total green bond issuance only represents around 1% of the global bond market.
5. tbc.
6. tbc.
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This article based on [remarks](#) made on 19 March 2018 following the second formal meeting of the Green Finance Initiative and Green Finance Committee, London.



A transition in thinking and action

Mark Carney takes stock of the progress made in
addressing climate-related financial risks since the Paris
Agreement of late 2015

In my remarks I will take stock of the progress made in addressing climate-related financial risks since the Paris Agreement of late 2015. In particular, I will consider how far there has been *a transition in thinking and action*. As we've heard, the thinking has coalesced around three channels through which climate risk affects financial stability:

- the physical risks that arise from the increased frequency and severity of climate- and weather- related events that damage property and disrupt trade;
- the liability risks stemming from parties who have suffered loss from the effects of climate change seeking compensation from those they hold responsible; and
- the transition risks that can arise through a sudden and disorderly adjustment to a low carbon economy.

The last risk is the most challenging. When I first spoke about the financial stability risks from climate change, at Lloyd's of London in 2015, I highlighted two paradoxes relating to transition risk in particular¹.

First, the future will be past. That is, climate change is a tragedy of the horizon which imposes a cost on future generations that the current one has no direct incentive to fix. The catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors. Once climate change becomes a clear and present danger to financial stability it may already be too late to stabilise the atmosphere at two degrees.

The second paradox is that success is failure. That is, too rapid a movement towards a low-carbon economy could materially damage financial stability. A wholesale reassessment of prospects, as climate-related risks are re-evaluated, could destabilise markets, spark a pro-cyclical crystallisation of losses and lead to a persistent tightening of financial conditions: a climate Minsky moment.

The tragedy of the horizon can be resolved in an orderly, effective and productive manner, however, with early transitions in thinking and action.

A transition in thinking

Since 2015, a transition in *thinking* has taken place. At the One Planet Summit in Paris in 2017, financial institutions responsible for managing US\$80 trillion of assets – equivalent to annual global GDP – publicly supported the Task Force for Climate-related Disclosures (TCFD)².

... it is encouraging that central banks and supervisors have come together to found the Network for Greening the Financial System (NGFS) to take forward coordination

The supporters included 20 globally-systemic banks, 8 of the top 10 global asset managers, the world's leading pension funds and insurers, the largest sovereign wealth fund and the two dominant shareholder advisory service companies.

Established by the Financial Stability Board (FSB) in response to a call from G20 Leaders, the TCFD delivered recommendations for voluntary disclosures of material, decision-useful climate-related financial risks for the G20 Summit in Hamburg. Suitable for use by all companies that raise capital, the recommendations:

- include disclosure of governance and risk management arrangements;
- establish consistent and comparable metrics applicable across all sectors, as well as specific metrics for the most carbon-intense sectors; and
- encourage use of scenario analysis so as to consider dynamically the potential impact of the risks and opportunities of the transition to a low carbon economy on strategy and financial planning.

That financial institutions have come out so strongly in support of enhanced disclosure reflects their recognition that there is a correlation between managing climate risk and long-term value creation as well as their belief in the power of markets. They know that for markets to do what they do best – allocate capital effectively and dynamically – they need the right information. When risks are unknown or ill-defined, the market cannot allocate resources in an efficient and profitable manner.

Until recently, reliable information on how companies were anticipating, responding or failing to respond to climate-related risks and opportunities has been hard to find, inconsistent and fragmented. The information needed goes beyond the static to the strategic. Markets need information to assess which companies are well positioned to seize the opportunities the transition to a low carbon economy brings.

Which car manufacturers are leading the way on fuel efficiency and electrification? How are energy companies adapting their mix of energy sources? This needs to be considered against investors' views of possible transition paths – the International Energy Agency's Sustainable Development Scenario, for example, sees the consumption of natural gas rise by nearly 20% by 2030 to become the largest single fuel in the global mix³.

Given the uncertainties around climate, not everyone will agree on the timing or scale of the adjustments required. And different people will have different views about the effectiveness of timelines of government climate policies. The right information allows sceptics and evangelists alike to back their convictions with their capital.

At the same time as this increased investor focus, there have been signs that global companies are becoming increasingly aware of the risks climate change can pose. Whereas in previous years it barely registered as a risk, now close to a third of global CEOs are 'extremely concerned' about the threat climate change poses to their organisation's growth prospects⁴.

A transition in action

So how far is this transition in thinking translating into action? First, governments. In reaching agreement in Paris, global leaders took *political action* to mitigate the catastrophic impact of climate change.

They committed to curbing carbon emissions to limit the rise in global average temperatures relative to those in the pre-industrial world to 2°C, and to pursue additional efforts to limit the temperature increase to 1.5°C.

Governments are taking some of the necessary policy actions. For example, in the UK, the Government published its Clean Growth Strategy last year, including policies to make homes, businesses and transport more energy efficient, and to lower the carbon intensity of the UK's energy supply. EU Emissions Trading Scheme (ETS) reforms

agreed last year, and due to come into effect from 2021, have driven carbon prices above €10 per tonne for the first time in six years.

Even so, the national determined contributions towards meeting the Paris goals, summed to no more than 2.7°C, making it clear climate policy will need to tighten further if the Paris commitments are to be achieved.

Second, climate disclosures. There has been a series of actions to transform climate disclosures. 2017 was a record year for climate-related shareholder resolutions, with a threefold increase in motions (184 vs 63) and with investment managers controlling over 45% of global assets under management backing shareholder actions on carbon disclosure.

Several of the world's largest asset managers – including the two largest, Blackrock and Vanguard – have written to a number of public companies calling for such disclosures. Other long-term investors have joined forces to press for disclosure through groups such as Climate Action 100+ and the International Investors Group for Climate Change (IIGCC). Meanwhile ISS and Glass Lewis, who account for over 90% of the shareholder advisory services market, have updated their 2018 proxy voting policies to make clear that they will assess the adequacy of climate disclosure⁵.

With the providers of capital demanding enhanced disclosure, and the TCFD recommendations providing a framework for doing so, a number of public companies have begun disclosing their climate-related financial risks for the 2017/18 year end. Reporters drawing on the TCFD include energy giants and extractors through to financials and consumer goods companies.

The Task Force is delivering two initiatives to support this process. First, in time for the Argentine G20 Summit, drawing on the work of the Big Four accounting firms, the Task Force will report on implementation experience,

focusing on examples of good practice to foster wider adoption. Second, the Task Force is launching a Resource Hub to provide technical support, data, and collaborative partnerships – all aimed at helping companies implement the recommendations in as effective and efficient a manner as possible.

As preparers, financials and investors ‘learn by doing’, a virtuous cycle will be created where more and better information creates the imperatives for others to adopt the TCFD and for everyone to up their game on the quality of information they provide.

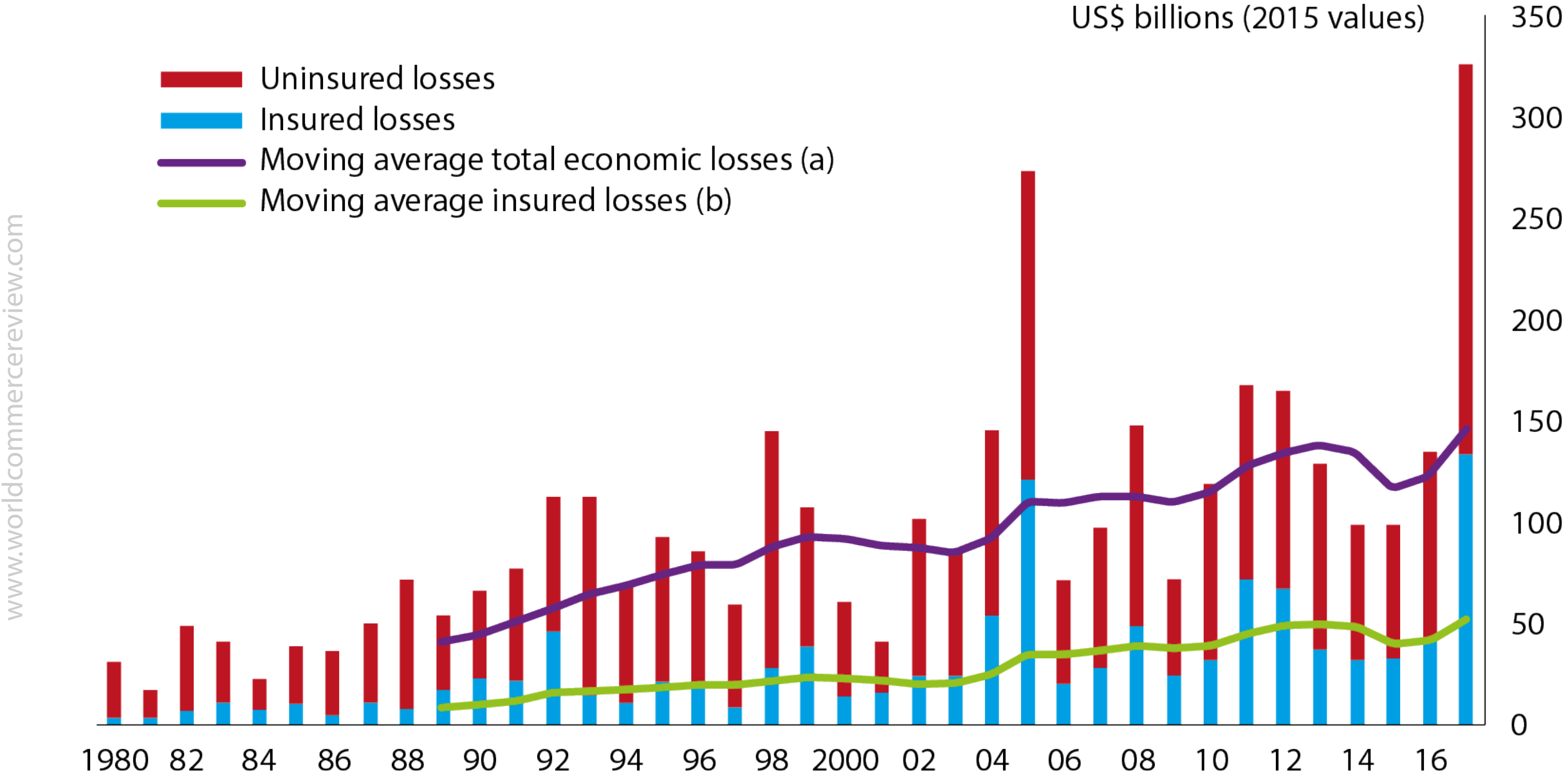
This iterative process is a reason why there is likely cause for the Task Force to continue beyond the Argentine Summit in late 2018 and into the Japanese presidency. In particular, it will be important to get feedback from investors on which disclosures are truly decision useful so that this process is as efficient and effective as possible.

Third, insurers and banks. Insurers have long been on the front line of the physical risks posed by climate change such as extreme weather events.

Since the 1980s, the number of registered weather-related loss events has tripled. Inflation- adjusted insurance losses have increased from an annual average of around US\$10 billion in the 1980s, to around US\$55 billion over the past decade (Chart 1).

General and reinsurers insurers have long deployed sophisticated modelling of climate and weather-related physical risks, and have adjusted their cover and business models accordingly. Lloyd’s of London underwriters, for example, are required to consider climate change explicitly in their business plans and underwriting models. Their genius has been to recognise that the past is not prologue and that the catastrophic norms of the future are in the tail risks of today.

Chart 1. Weather-related losses worldwide (1980-2017)



(a) Total Economic Losses = Insured + Uninsured losses. (b) 10-year moving average Source: Munich Reinsurance Company, Geo Risks Research, NatCatSERVICE

For example, by holding capital at a one-in-200 year risk appetite, under a forward-looking capital regime, UK insurers were able to withstand the events of 2017, the worst year on record for weather-related insurance losses at around US\$130 billion.

Given evidence that suggests increasing levels of physical risk, insurers will need to consider the potential impact of more intense and clustered weather-related events. Work by Bank colleagues finds that intense hurricanes, of the type most likely to cause large insurance losses, seem to be getting more frequent and the chance of two or more intense hurricanes occurring close together may be higher than previously thought⁶. So improvements in insurers' risk modelling must be unrelenting.

While the ability to re-price annually or to withdraw cover can mitigate risks to general insurers in the short-term, as climate change progresses, they will need to consider the longer-term impacts on their business models.

And as the PRA found a few years ago in its review of the sector, insurers need to be wary of cognitive dissonance within their organisations whereby risks that are managed prudently by their underwriters are ignored by the firm's asset managers, such as in their real estate exposures⁷.

Consistent with the tragedy of the horizon, the risks posed to banks from climate change have tended to be beyond their planning horizons. A recent survey by the PRA of banks accounting for around 90% of the UK banking system, found that these horizons averaged four years – before physical and litigation risks would be expected to manifest, and prior to stringent climate policies likely taking effect.

There are signs, however, that banks are beginning to treat climate-related risks like other financial risks. The PRA survey finds that a majority of banks now see them as financial risks – rather than just a reputational or corporate

social responsibility issues. As such, oversight of climate-related risks and overall responsibility for setting the climate risk strategy, targets and risk appetite has been elevated to Board level.

Banks have begun considering the most immediate physical risks relevant to their business models – from the exposure of mortgage books to flood risk or, for globally active banks, the impact of extreme weather events on country risk. And they have begun to assess exposures to transition risks where government policy is already pulling forward the adjustment. This includes exposures to carbon-intensive sectors, consumer loans secured on diesel vehicles and buy-to-let lending given new efficiency requirements.

But many banks have indicated that there is some way to go to identify and measure climate-related risks more comprehensively, including given the need to improve data and expertise. This includes developing their approaches to stress testing for climate-risks as well as, over longer horizons, more dynamic scenario analysis. It is clear, however, that the TCFD framework is helping, including to identify metrics and promote use of climate-related scenario analysis.

Fourth, financial policymakers. At the Bank of England, the risks posed by climate change are currently most directly relevant to our micro prudential responsibilities for the safety and soundness of the banking and insurance sectors.

Assessing how well general insurers and reinsurers are identifying, measuring and mitigating weather-related risks, has long been part of supervising insurers. We published a stocktake of insurers' progress in adapting to climate change in late 2015, and are working to update and deepen our assessment with a second stocktake in 2018. More recently, we have extended our focus to the financial risks faced by the UK banking system, and will publish the full results of the survey I referred to in the coming months.

The aim for both pieces of work is to consider whether insurers and banks have adequate governance arrangements to develop strategies for identifying and mitigating climate risk across their entire businesses, both their liabilities and assets, and over sufficiently long-time horizons. We aim to highlight examples of good practice and to articulate our supervisory expectations later this year.

We are also considering our approach to assessing risks across the system as a whole.

The Bank has routinely included weather-related shocks in the scenarios for its biennial general insurance stress test, including three North American hurricanes in 2017. This meant we had a good sense of the likely resilience of the market and individual firms when Harvey, Irma and Maria hit – both in terms of exposures and mitigating actions⁸. On climate, remember, past is not prologue. In the depressing spirit of Bayesian updating that the current climate change trajectory demands, when considering scenarios for 2019, that we include weather-related events that are more severe and clustered.

To help firms improve their own testing, the Bank has been encouraging knowledge sharing on the types of scenario analysis envisaged under the TCFD⁹. This will allow firms to explore how 2°C and other transition scenarios might impact their strategy and financials.

More broadly, and like the other financial authorities represented here today, we recognise the value in sharing expertise and best practice to increase the rate at which firms, and indeed ourselves as regulators, move to embed more thoroughly climate-related financial risks into our risk assessment and mitigation.

Conclusion

Given this heavy agenda, it is encouraging that central banks and supervisors – from eight countries that together

account for over a third of both global financial assets and carbon emissions – have come together to found the Network for Greening the Financial System (NGFS) to take forward coordination.

There are, however, limits to our roles. Financial policymakers will not drive the transition to a low- carbon economy. Our efforts cannot substitute for those of governments who have direct responsibilities to deliver the policies to achieve their Paris commitments.

The good news is that governments are now establishing the policy frameworks, and the private sector is beginning to allocate capital accordingly.

Our efforts will help smooth the transition prompted by these actions. With better information and risk management as the foundations, a virtuous circle is being built with better understanding of tomorrow's risks, better pricing for investors, better decisions by policymakers and a smooth transition to a low carbon economy.

Financing the transition to a low carbon economy is a major opportunity for investors and creditors. It implies a sweeping technological revolution, including investments in long-term infrastructure at roughly quadruple the current rate.

As the International Climate Risk Conference testifies, climate finance and risk management is moving into the mainstream. There has been a transition in thinking. And this is now beginning to be translated into action, and the NGFS will play an important role in this. ■

Mark Carney is Governor of the Bank of England

Endnotes

1. See Carney (2015), "Breaking the Tragedy of the Horizon – climate change and financial stability", speech given at Lloyd's of London, September 2015.
2. For a full list of current supporters see: <https://www.fsb-tcf.org/tcf-supporters-april-2018/> and supporters at the Paris Summit see: https://www.fsb-tcf.org/wp-content/uploads/2017/12/TCFD-Press-Release-One-Planet-Summit-12-Dec-2017_FINAL.pdf
3. It also sees US\$69 trillion of investment in clean energy technologies and energy efficiency – and the share of oil and coal in power generation falls to 6%, which is burned with accompanying carbon capture and storage technology.
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5. See ISS, (2018), United States Proxy Voting Guidelines, Benchmark Policy Recommendations, and Glass Lewis, (2018), Guidelines: An Overview of the Glass Lewis Approach to Proxy Advice.
6. Bank Underground post, forthcoming.
7. See PRA (2015), The Impact of Climate Change on the UK Insurance Sector, <https://www.bankofengland.co.uk/prudential-regulation/publication/2015/the-impact-of-climate-change-on-the-uk-insurance-sector>
8. <https://www.bankofengland.co.uk/prudential-regulation/letter/2017/general-insurance-stress-test-2017-feedback>
9. This included co-hosting a conference with TCFD in late 2017. For further details see: <https://www.fsb-tcf.org/event/tcf-boe-conference-climate-scenarios-financial-risk-strategic-planning/>

I am grateful to Alice Carr, Edd Denbee, Tanveer Hussain, Carsten Jung, Krish Kistnassamy, Alex Michie, Alex Ntelekos, Dimitris Papachristou and Matt Scott for their assistance in preparing these remarks.

Based on a [speech](#) given at International Climate Risk Conference for Supervisors, De Nederlandsche Bank, Amsterdam, 06 April 2018

Do calls for 'enhancement' of Paris Agreement commitments make sense? It depends

G7 leaders should ignore calls to strengthen emission reduction pledges, argues Tom Harris, and instead focus on adapting to climate change

Last week, the United Nations [announced](#) yet another massive international climate change conference, [Asia Pacific Climate Week](#) (APCW2018), to be held in Singapore from July 11–13. The UN press release asserts that *“the high-level segment” will “focus on areas, such as: visions for NDC enhancement...”*

We will undoubtedly hear much more about ‘NDC enhancement’ in the months to come, particularly at this year’s G7 from June 8-9, so let’s examine it more closely.

NDCs are ‘Nationally Determined Contributions’ of countries under the Paris Agreement on climate change. According to the [UN Framework Convention on Climate Change \(UNFCCC\)](#), *“NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change.”*

The UN considers current NDCs as only a starting point. World Resources Institute, a global research non-profit organization headquartered in Washington DC, reported in April that current NDCs are inadequate to limit warming to the Paris Agreement targets of *“well below 2°C above pre-industrial levels,”* let alone the aspirational target of *“1.5°C above pre-industrial levels.”* Consequently, the pressure is on to enhance national NDCs.

The UN’s [Talanoa Dialogue](#) was launched at the start of 2018 to identify how countries can strengthen their NDCs. In particular, the Dialogue is encouraging governments to boost their NDCs by 2020. We will hear more about this at the next UN Climate Change Conference, to be held in Katowice, Poland in December, where significant national NDC enhancements will likely be announced.

At least that is the hope of climate activist groups. The Ottawa, Canada-based Climate Action Network asserted in its [March 21 press release](#) that, *“Canada as the President of the G7 [this year’s G7 summit will be hosted by Canada from June 8–9] should encourage G7 members to enhance their NDCs and raise the ambition of their climate action in 2018.”*

Putting even more pressure on G7 leaders to enhance NDCs is a [statement](#) presented on Monday to UNFCCC Executive Secretary Patricia Espinosa from 319 institutional investors with US\$28 trillion in assets under management. It [calls on governments](#) to, among other things, *“update and strengthen nationally-determined contributions to meet the emissions reduction goal of the Paris Agreement, starting the process now in 2018 and completing it no later than 2020, and focusing swiftly on implementation.”*

... the adaptation side of national NDCs is important and, where it is currently inadequate, it should be enhanced. It will take inspired leadership and hard, grinding work to make happen

Enhancing NDCs makes sense, or not, depending on which aspect of a country's NDC is being addressed—emissions reduction or adaptation planning.

Efforts to enhance adaptation to the impacts of climate change is smart, no matter what point of view one takes on the causes of climate change. After all, climate change (particularly drought) has played a significant role in the collapse of many civilizations.

Most people have heard of how the once prosperous Greenland Viking colonies perished when they were unable to adapt to the severe cold that returned when the Medieval Warm Period ended in the mid-14th century. In [Climate change and the rise and fall of civilizations](#), NASA gives several other examples of climate change-driven catastrophes:

- The legendary settlement of Ubar, in what is now southern Oman, vanished when water levels dropped, causing a sinkhole to form which enveloped the outpost.
- 4,200 years ago, an Egyptian Kingdom collapsed due to an extended drought.
- The fall of the Maya civilization around 900 AD has also been linked to prolonged drought.
- The abandonment of Angkor, the capital city of the Khmer Empire and home to over 700,000 people in what is now Cambodia, has been linked to extended drought, as well. Discoveries announced in 2007 by Australian archaeologists support the theory that Angkor became unsustainable due to new monsoon patterns brought about by climate change.

Harvard archaeologist Jason Ur comments, *"When we excavate the remains of past civilizations, we very rarely find any evidence that they as a whole society made any attempts to change in the face of a drying climate, a warming atmosphere or other changes. I view this inflexibility as the real reason for collapse."*

So, learning from the mistakes of our ancestors is important if we are to avoid climate change-related disasters. This applies in rich nations as well as poor. For example, *The New York Times* published a letter from a Manhattan-based lawyer who wrote that, during Hurricane Sandy, he had uninterrupted internet, telephone, and electric power because all his cables were buried underground. This is just one example of how to harden infrastructure to withstand extreme events. Other examples would include reinforcing buildings, building levees to protect against hurricane-driven storm surges, and upgrading our irrigation systems where needed. We also need to relocate populations living on flood plains or at risk from tornadoes and hurricanes.

Concerning hurricane preparation, Florida, Texas and other states that are threatened by these tropical cyclones need to build multistory storm shelters that allow people to take refuge above the storm surge, instead of forcing resident to flee the waves on clogged highways. India's storm shelter network is a good example—no one needs to walk more than one kilometer anywhere in India on coast of the Bay of Bengal to get to a shelter.

The cost for such projects will be huge, but we have no other responsible choice. Our expanding population will continue to put increasing numbers of people in harm's way if we do not undertake major adaptation projects. So, enhancement of the adaptation planning side of countries' NDCs, makes good sense in cases where it has not yet been given enough attention.

However, NDC enhancement through increasing countries' greenhouse gas emission (GHG) reduction pledges (the focus is mostly on reducing carbon dioxide (CO₂) emissions) is another matter entirely. The reports of the [Nongovernmental International Panel on Climate Change \(NIPCC\)](#) summarize thousands of studies from peer-reviewed scientific journals that either debunk or cast serious doubt on the hypothesis that emissions of CO₂ from human activities will cause catastrophic climate change. According to the late Dr Bob Carter, an NIPCC lead author

and former Head of the Department of Earth Sciences at James Cook University in Australia, *“Science has yet to provide unambiguous evidence that problematic, or even measurable, human-caused global warming is occurring.”*

This means that there was no need to make NDC emission reduction pledges in the first place, let alone to commit to enhancements.

But even if one accepts that CO₂-driven climate problems lay ahead, enhancing NDC emission reduction pledges still makes no sense, since much of the developing world, the source of most of the world’s emissions, will clearly not be making real emission cuts any time soon. They understand that they must continue to build inexpensive coal-fired power plants, a significant source of CO₂ emissions, to meet their growing electricity needs.

For example, *The New York Times* reported ([As Beijing Joins Climate Fight, Chinese Companies Build Coal Plants](#), July 1, 2017): *“Chinese corporations are building or planning to build more than 700 new coal plants at home and around the world, some in countries that today burn little or no coal, according to tallies compiled by Urgewald, an environmental group based in Berlin... Over all, 1,600 coal plants are planned or under construction in 62 countries, according to Urgewald’s tally, which uses data from the [Global Coal Plant Tracker](#) portal. The new plants would expand the world’s coal-fired power capacity by 43 percent.”*

India also is not backing away from coal. Their [heavy reliance on the fuel](#) will continue even in 2047, according to the June 16, 2017 report, *Energizing India*, by National Institute for Transforming India (NTTI) and the Institute of Energy Economic Japan (IEEJ). Coal is predicted to rise from its 2012 level of 46% of India’s total energy mix to 50% in 2047 in Business as Usual scenario. Even in an ‘ambitious’ scenario in which renewables provide 12% of India’s primary energy (it was only 3% in 2012), coal is forecast to account for 42% of India’s energy mix. NTTI/IEEJ report

authors state, *“India would like to use its abundant coal reserves as it provides a cheap source of energy and ensures energy security as well.”*

All this is apparently fine with the UN, since developing countries have an opt-out clause in the original 1992 UNFCCC document that forms the foundation of all UN climate change treaties, including the Paris Agreement.

UNFCCC Article 4 states:

“Economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.”

Actions to significantly reduce developing countries' CO₂ emissions would usually involve reducing their coal usage. But coal is typically their least expensive power source, so reducing emissions by restricting coal use would obviously interfere with their development priorities. So, developing countries are unlikely to do it, legitimately citing UNFCCC Article 4 as their excuse.

Developed nations do not have this option—we are presumably supposed to meet our emission targets no matter how it impacts our economies.

The UN has not hidden this imbalance. A Google search for the Article 4 phrase cited above yields over 1,500 results. UN bureaucrats have made it crystal clear: *“development and poverty eradication,”* not emission reduction, takes top billing for developing countries.

It has been suggested that tougher requirements may be imposed on developing nations as they advance. That is naïve. The UNFCCC treaty, especially Article 4, has been the foundation of all UN climate negotiations and developing nations are unlikely to allow this to change. At the 2014 UN Climate Change Conference in Peru, Chinese negotiator Su Wei made it very clear—the purpose of the Paris Agreement is to “reinforce and enhance” the UNFCCC, not rewrite it.

So, the emissions side of NDCs are not in need of enhancement. Indeed, many scientists would say that they should be cancelled outright since they will have essentially no impact on climate, especially since the large emitters in the developing world have been given an escape clause.

But the adaptation side of national NDCs is important and, where it is currently inadequate, it *should* be enhanced. It will take inspired leadership and hard, grinding work to make happen. Unlike the high-profile emissions reduction planning that gets all the press coverage, adaptation may not be glamorous, but it is something successful societies have always had to do. ■

Tom Harris is executive director of the Ottawa, Canada-based International Climate Science Coalition

“Aviation Malta - Open for Business”

The Malta Business Aviation Association (MBAA) aims to promote excellence and professionalism amongst our Members to enable them to deliver best-in-class safety and operational efficiency, whilst representing their interests at all levels in Malta and consequently Europe. The MBAA will strive to ensure recognition of business aviation as a vital part of the aviation infrastructure and the Maltese economy.



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Innovation, investment in focus at EBACE2018



NBAA remains committed to protecting and promoting the global development of business aviation. Readers are invited to attend events to experience the strength and scope of industry innovation

Jointly hosted by the National Business Aviation Association (NBAA) and the European Business Aviation Association (EBAA), the annual European Business Aviation Convention & Exhibition (EBACE) continues to stand as one of the world's premier aviation events, hosting Europe's top business leaders, entrepreneurs, and other industry stakeholders, as well as regulatory officials and other policymakers, to discuss the most pressing matters affecting the industry.

EBACE2018, which took place 29-31 May in Geneva, continued this proud tradition with discussions regarding such important topics as the probable effects from the upcoming implementation of Brexit which will carry ramifications not only for European operators, but business aviation stakeholders worldwide. Additional sessions at EBACE2018 addressed matters including operational safety and security, access to European airports and airspace and use of helicopters as a business tool.

The ongoing personnel shortage across the global business aviation industry, and with it the need to attract new personnel to fulfill a multitude of roles, are also key concerns. Following a successful introduction last year,

Careers in Business Aviation Day returned to EBACE2018 to introduce students to business aviation and help ensure this next generation of aviation leaders has the opportunity to explore and learn about the industry, and its many rewarding career opportunities.

Perhaps the most significant announcement to come from this year's event concerned the industry's new initiative focused on raising awareness and adoption of available and emerging alternative jet fuel options, and the introduction of the *Business Aviation Guide to the Use of Sustainable Alternative Jet Fuels (SAJF)*.

Promoting alternative fuels

Business aviation has long been on the forefront of technological innovation. Advancements in winglets, composites and propulsion systems, as well as technologies such as GPS and ADS-B, have not only made business aircraft more efficient, but have also delivered gains in safety and environmental sustainability.

The business aviation community has also long been dedicated to reducing greenhouse gas (GHG) emissions from aircraft, with a proven record of advances in carbon reduction. Previously, the industry's commitment to emissions reduction was codified through the Business Aviation Commitment on Climate Change, unveiled in November

*From a global standpoint, our aim is equally certain:
business aviation is an industry with a past, present
and future commitment to emissions reduction*

2009, which outlined steps to realize a 2 percent improvement in efficiency per year from 2010 until 2020, carbon-neutral growth from 2020 onwards, and a 50 percent reduction in carbon emissions by 2050, relative to 2005.

It's quite fitting that EBACE marked the introduction of this new, concrete step towards widespread adoption of emissions-reducing alternative fuels. As has been shown through numerous announcements and demonstration flights over the past several years, alternative fuels are already a reality; the technology is here, but the limiting factor against widespread adoption has primarily been the lack of production facilities, and widespread distribution sources.

Through this new initiative, we hope that business aviation may advance the proliferation of SAJF at all the logical touchpoints: the manufacturers, the ground handlers and the operators, at the national, regional and international levels.

As an industry, we want to answer questions that aircraft operators, FBOs, owners, pilots, fuel providers, airports and others may have about these new fuels, and we want to allay any concerns they may have about the performance, safety and appropriateness of using them wherever they are available.

From a global standpoint, our aim is equally certain: business aviation is an industry with a past, present and future commitment to emissions reduction. That commitment is shared by the industry globally, here in Europe, back in the United States - and locally at every airfield and manufacturing facility.

The primary stakeholders in this initiative include the European Business Aviation Association (EBAA), General Aviation Manufacturers Association (GAMA), the International Business Aviation Council and National Air Transportation Association (NATA) and NBAA.

Learn more about business aviation at NBAA-supported events

As recognition has increased for the many contributions of business aviation to citizens and communities throughout the European continent, so too has EBACE grown to become one of the world's premier aviation events, in line with other global events hosted or co-hosted by NBAA.

By every measure, EBACE2018 was a great success, and we look forward to welcoming everyone back to Geneva for the 2019 edition of EBACE scheduled for 21-23 May 2019. Similar to the role EBACE plays in the European business aviation community, so too has the Asian Business Aviation Conference & Exhibition (ABACE) grown to become the premier event focused on the industry's growth throughout China and the Asia-Pacific.

Jointly hosted by the NBAA and the Shanghai Airport Authority (SAA), and coordinated with the Asian Business Aviation Association (AsBAA), ABACE2018 underscored the enthusiasm, growth and potential for business aviation in the Asian region. Next year's ABACE will take place in Shanghai from April 16-18, 2019.

I would also like to invite readers of *World Commerce Review* to join the estimated 27,000 industry professionals attending the upcoming 2018 NBAA Business Aviation Convention & Exhibition (NBAA-BACE), which will take place October 16-18, 2018 in Orlando, FL.

Widely regarded as the most important three days in business aviation, NBAA-BACE will once again bring together current and prospective aircraft owners, manufacturers and customers into one meeting place to get critical work accomplished, all while once again showcasing the size, strength, and diversity of this vital global industry.

NBAA remains committed to protecting and promoting the global development of business aviation. On behalf of the more than 11,000 members of NBAA, I invite you to consider attending one or more of these impressive events, where you may experience the strength and scope of our industry firsthand. ■



Embracing the future



As the 2018 edition of EBACE concluded, the event once again served as a powerful and forward-looking showcase for the European business aviation industry. Simon Williams shares his thoughts

The Isle of Man Aircraft Registry was represented at the 2018 European Business Aviation Convention & Exhibition by Simon Williams, Director of Civil Aviation and Adrian Tickle, Flight Operations Technical Manager. This very successful event concluded in Geneva on 31st May 2018 and I note that the trade show drew 418 exhibitors which represents an increase on last year. There were 54 aircraft on static display which reflected the broad spectrum of business aviation, including ultra-long-range business jets, turboprops and helicopters. It was great to see a very strong [Isle of Man industry presence](#) at the show as ever.

“This was a decidedly upbeat, optimistic EBACE week, which highlighted the passion and enthusiasm at the heart of the Business Aviation community,” said Juergen Wiese, chairman of EBACE co-organizer, EBAA. *“The show reflected a reverence for the industry’s history, as well as an embrace of its future.”* This was a sentiment shared by Ed Bolen, President & CEO of EBACE co-organizer, NBAA: *“The new aircraft models, the new business models, the featured speakers and the trends we discussed all point to an energetic industry looking toward tomorrow.”*

EBACE 2018 was however initially tinged with sadness at the outset when it was announced that a well-respected industry figure, Serge Dassault, had sadly passed away at the age of 93. It was a notable mark of respect for this great industrialist that the organisers chose to dedicate the event to his memory.

EBACE 2018 started with the unveiling of an industry-wide initiative to further the development and adoption of Sustainable Alternative Jet Fuels. With international climate and emissions requirements in mind, the Isle of Man Aircraft Registry team are working hard to support clients understand and meet [CORSA requirements](#).

Thereafter, the key themes that emerged were: Brexit; European airport and airspace access; business aviation’s role in times of crisis; and the promotion of career opportunities. Yves ‘Jetman’ Rossy was the keynote speaker and understandably attracted a great deal of interest.

A key 'market intelligence theme' that I am now noting with more frequency, is that the US business aviation market is performing increasingly well. Demand appears not to be as strong currently in Europe but there does seem to be increasing confidence that the US-led resurgence will have a positive 'knock-on' effect in Europe and beyond.

This will allow us to be at the forefront of aviation regulation whilst maintaining high standards of ICAO compliance and importing best practice from the UK, Europe and beyond. All of our work is based on my central vision that the Isle of Man becomes a centre of aviation excellence

This all has to be tinged with a sense of realism given talk of 'trade wars' between major nations which is inevitably exacerbated by continued global political and financial uncertainty. But it looks like there are clear signs of sustained increases in business aviation activity and associated improvements in positive market sentiment. Clearly this is a welcome development.

Some EBACE attendees and *WCR* readers may be surprised that IOMAR does not have an exhibition booth at this or other events. Such a high-profile arrangement might be expected of the 6th largest private/corporate business aviation registry in the world. However, we have deliberately settled on a more humble modus operandi that serves our clients (and the Registry) well and has proven to be very successful.

Instead, we establish a meeting programme directly with new/existing clients and then meet with them at the location of their choice. We put the client first and go to them, rather than expecting the reverse. We prefer to focus on delivering matters of real substance based on our ethos of Safety with Service. Or put another way: 'facilitating high regulatory standards whilst delivering excellent customer service'.

I spent the entire EBACE event in back-to-back meetings, followed by evening networking events. I noticed a real sense of focus, genuine enthusiasm and optimism in those that I met. It was an altogether very positive and heartening experience.

In particular, I was delighted to note the consistent, strongly positive feedback for the hard-working team at the Isle of Man Aircraft Registry. I am not one given over to hyperbole or exaggeration, so am genuinely delighted to have received such a strongly supportive response from our clients, many of whom have been with us since we commenced operations in 2007.

Europe is very important to the Isle of Man Aircraft Registry and we have grown to become the second largest European private/corporate business aviation registry. From my perspective as a Registrar and Aviation Safety Regulator I anticipate that Brexit will have little or no effect but we stand ready to assist in the face of unforeseen challenges. We have members of our team whose main focus is on working with and supporting our European based clients; we will do our utmost to help manage any challenges they face to a successful outcome, so that they can just get on with operating their aircraft safely and efficiently.

One of our main priorities this year is to complete the 'repatriation of the aviation legislative process from the UK' to the Isle of Man. Later this year I anticipate that the powers will be in place for us to be able to: draft; consult on; and then put into operation secondary legislation in a nimble and responsive fashion.

This will allow us to be at the forefront of aviation regulation whilst maintaining high standards of ICAO compliance and importing best practice from the UK, Europe and beyond. The new Isle of Man Air Navigation Order will be laid out to mirror the ICAO Annexes with a strong focus on clarity and accessibility. All of our work is based on my central vision that the Isle of Man becomes a centre of aviation excellence.

The Isle of Man Aircraft Registry is an international, off-shore, highly ICAO compliant aircraft register with as many clients outside Europe as there are within. Thus we balance the wider international efforts with those focussed on Europe. In so doing, we strive to meet the varying demands of a wide range of operational scenarios and this aspect of our work makes the job very interesting, enjoyable and satisfying.

It is very pleasing to receive positive feedback from our clients but we will never become complacent because there are always improvements that can be made. The icing on the cake is to have received two awards from *WCR* this year; one of which was for the second year running!

In summary, EBACE 2018 was unquestionably a success. Business aviation is a great industry populated by clever, dedicated and passionate individuals; the technology and continual advances in this area are extraordinary. I believe that we can look to the future with well-founded optimism. I very much look forward to attending EBACE 2019 and beyond.

Next up is the Isle of Man Aviation Conference which takes place here on the Island on 13th June 2018. The Conference was over-subscribed last year and we are experiencing similarly strong interest this time round. It is a great opportunity for new and existing clients to meet us, discuss contemporary aviation issues and to continue to build on our increasingly successful strategic partnerships. I can't wait! ■

Simon Williams is Isle of Man Director of Civil Aviation

To find out more about the Isle of Man Aircraft Registry please visit our [website](#). If you missed Isle of Man Director of Civil Aviation, Simon Williams at EBACE 2018 and would like to follow up with him then please either call: +44 (0)1624 682358 or email: simon.williams@gov.im

The Isle of Man – the place for maritime business

Dick Welsh introduces the Isle of Man maritime centre,
that has built its reputation on global-leading levels of
service

Why is the Isle of Man the go-to place for maritime business? Is it maritime heritage; political and economic stability; quality of life; professional services; pro-active government; quality register; innovation; digitisation; maritime clusters? No, it is a combination of all of the above, and more.

The Isle of Man, as an island nation has a long standing maritime history and tradition. This was reinvigorated in the 1980s when its government committed to run an international ship register with the vision that this would form the basis for an international maritime centre by attracting shipping companies and professional services to facilitate this new business. Thus a new sector to the Island's diverse economy was born.

Today, the maritime centre is thriving with commercial yachting services alongside traditional shipping services and a full range of professional services companies providing a one-stop shop for all maritime related business.

At the heart of its success is the highly regarded Isle of Man Ship Registry, boasting a register of over 18 million gross registered tons which competes on a global stage and outperforms many of its European neighbours' traditional shipping centres. But the register is more than its tonnage. It has built its reputation on the service it provides to an industry which expects ever more from its Flag States.

Aligned with the quality of its fleet, which it controls by working with quality owners and quality ships, this really is a winning package. In addition to this, in an ever-changing global marketplace, the Isle of Man has stayed ahead by leading on digital systems and digital transformation to provide the very best service to its clients. Service which is truly 24/7 with a client-focused and pragmatic approach to regulation. Its global reach and promotional activity is such that the majority of its client base is now outside of Europe, with over 60% of its tonnage controlled from the major shipping centres of Asia.

Set up on a cost neutral platform by the government, the Ship Registry is a regulatory body which does not confuse its purpose with generating revenue for the State. Thus it is able to keep its fees low and cover its costs. With these commercial advantages added in, the entire offering makes a compelling choice for ship and yacht owners alike.

The private sector of the Isle of Man is served by two cluster organisations critical to its success: the newly formed 'Isle of Man Maritime' and the 'Isle of Man Superyacht Forum', both working to ensure the Isle of Man is attractive

... the Isle of Man has stayed ahead by leading on digital systems and digital transformation to provide the very best service to its clients

to new businesses and work with government to promote maritime business, employment opportunities, communications, training and education. By working in focused clusters, the message of collaboration in a proactive and robust political and economic setting, with full government support, is out there and becomes a very attractive proposition.

The Isle of Man's two leading maritime sectors work together with the government to great effect. In the traditional shipping sector, many of the clients of the Ship Registry have established bases in the Isle of Man as well as the legal services, finance, insurance, payroll and legal services which have developed to support the sector. And more recently, the superyacht sector which provides services to the growing global industry of large yachts operating commercially and for pleasure.

As part of the British Red Ensign Group of registers, the Isle of Man is best placed to provide Yacht Code expertise and advice to yachts in build and in service. The Red Ensign Group registers of Isle of Man, Cayman Islands and UK have the lion's share of large yacht tonnage, with over 90%. With the re-launch of the Large Yacht Code, branded as the Red Ensign Group Yacht Code last November.

There is a very strong message that the Red Ensign is the market leader and works with the industry to ensure the codes remain current and set the bar in terms of safety, pollution prevention and crew conditions and welfare. The Code is recognised as the de-facto international standard for superyacht construction and operation.

So there it is. A modern, maritime success story. Government and private sector working together to create a platform for maritime growth, training and education. In so doing the Isle of Man is the go to place for discerning owners of ships and superyachts, where quality, safety and crew welfare is of paramount importance and all provided and regulated with a friendly, helpful and pragmatic approach.

The Isle of Man. The flag of choice. ■

Dick Welsh is Director of the Isle of Man Ship Registry

To find out more, please visit: www.iomshipregistry.com or contact us at shipping@gov.im





There's much more to marine insurance than meets the eye

Simon Dixon says thinking about insurance may not be your thing, but never make the mistake of leaving it until it becomes 'a thing'

A 5-minute read that could save you a lifetime of insurance headaches. It's said that in love, what you don't know can't hurt you. But it's completely the reverse when it comes to matters of insurance.

We regularly speak to world-savvy and sophisticated entrepreneurs from all walks of life, and they often express surprise and astonishment when we explain exactly what is involved when insuring that luxurious new superyacht.

No pun intended, but there's a lot to take on board. You probably haven't thought of it, but we have.

Of course, you want to make sure your yacht has truly comprehensive cover from top-notch insurers and at the right price. That's vital. But it's just the beginning.

That gleaming yacht we see on the surface hides a mountain of insurance liabilities. And just as a mountain needs special skill and expertise to scale successfully, those insurance liabilities need special skills and expertise to manage.

One way or another, owning a yacht involves just about every kind of insurance for which there is a policy, and you or someone you employ, needs to be aware of every one of them to be fully covered. There's Contents Cover of course, and there's also the expensive toys; perhaps a helicopter or a submersible. They need comprehensive insurance for a wide range of risks too.

Next there's cover for the ever-burgeoning list of environmental regulations and responsibilities - and what about pollution? There's lots of lovely clauses to ponder on this issue alone.

Then there are those things you hope never happen but sometimes do. It's called the unexpected.

Never overlook the plain unlucky stuff as you sail around the world, war risk, acts of piracy and terrorism at sea, third party liability issues such as when a security guard's weapon discharges on board and injures someone, or worse. Or just mundane stuff such as an unexpected but heavy bump with another vessel while berthing.

There is of course the weather, tempestuous and unpredictable, bringing with it storm damage, unscheduled calls in foreign ports, and crew sickness.

*Then there are those things you hope never happen
but sometimes do. It's called the unexpected*

Which then leads us to mandatory medical insurance implications. Taking care of your crew doesn't have to cost an arm and a leg, but do it right and it may stop them jumping ship.

There are plenty of booby traps too: perhaps a guest loses a valuable necklace on board; you assume it's covered by the policy, but is it? A visitor slips and injures themselves while on a wet deck; what does your policy offer in terms of third party liability? Or, you decide to charter the yacht to some good friends for a honeymoon. After all, you're fully covered - but are you?

Chartering the vessel as an ongoing commercial enterprise or making it a company asset ushers in a fresh quiver of issues and careful insurance considerations must be made, including the fiduciary duty of all directors. You have a duty in law to protect the company's principal asset, even if the closest you get to water is wearing a Rolex Submariner.

Keeping your insurance strategy ship shape

Large companies often employ a full-time risk manager to worry about these myriad issues and their complexities. But for those who don't want to go down that route, Moore Stephens offers a complete and authoritative assessment from Accidents to Zone Ratings of your insurance needs, incorporating all risks and liabilities based on decades of thinking and learning about these things day in and day out.

It's what you know and who you know

Moore Stephens ensures you have a complete policy document (it's pernicky, fastidious, detailed; perhaps not the sort of thing you'd choose for bedtime reading - but someone in your organisation needs to). And once we have agreement on all the liabilities and insurable risks, we seek out the best deals for you through our third-party insurers.

One of the key reasons why Moore Stephens can be invaluable to you in this regard is because we know who to approach and why.

Take Hurricane Irma for example. When that massive hurricane hit Cape Verde in August 2017 it resulted in claims exceeding \$5 billion. Prior to this, premium rates had remained more or less the same for some years. In fact, some rates were actually reducing, but as a direct result of that hurricane, some traditional markets have posted 30% to 40% rate rises in one year as they struggle to replenish reserves.

This has given rise to new markets keen to break into the Maritime sector. These new markets don't carry the legacy weight of those losses to such a great extent. Using our knowledge and contacts, we can seek out these markets to negotiate keener rates.

In the end, the service we offer boils down to the same sentiment expressed by those with the most basic of all insurance policies - it's a nice feeling to know you're insured. And it's even nicer to know you are properly and professionally covered by what we believe to be the best service in the business.

Thinking about insurance may not be your thing, but never make the mistake of leaving it until it becomes 'a thing'.

Talk to [Moore Stephens](#) today. ■

Simon Dixon is an Insurance Risk Specialist with Moore Stephens Brokers Limited

Seafarer medical benefits – what does the marine industry provide?

The world's pool of talented and qualified seafarers is drying up. Mark Bononi writes that owners and operators will have to focus on salary and benefits to attract and retain them

Seafarer medical benefits provided by shipowners did not exist until about 30 years ago. Fast forward to the early 1990's, when the birth of seafarer medical benefits occurred. Someone, somewhere realized that seafarers weren't in fact machines, but rather human beings with wants, needs and desires. But what are vessel owners willing to provide, when the usual primary concern is operating cost? We will address the application of benefits for seafarers in three main sectors, commercial shipping, cruise and superyachts.

The commercial shipping sector

Most seafarers working in the commercial shipping sector hail from non-industrialised nations such as the Philippines and other parts of SE Asia. There are many reasons for this, not the least of which is that the employment environment for shipping is attractive to the residents of those countries while at the same time the necessary level of compensation is attractive to the shipowner.

There is legislation in to protect seafarers and in addition there are organizations such as the POEA (Philippine Overseas Employment Administration). There are also CBA's (Collective Bargaining Agreements) which outline the conditions of employment between a seafarer union (typically) and the shipowner. While all of these things are better than nothing, they really do not provide the seafarer with more than basic needs and typically a death benefit to the family in the event of a seafarer accident whilst employed.

While the commercial shipping sector has entertained the idea of seafarer benefits in the past, the current economic environment in that industry is such that few offer anything more than the minimum requirements of the above mentioned documents, as well as what is required by MLC 2006, as amended. When benefits were offered, they typically were designed to cover the seafarer when he/she was at home, between contracts.

In addition, the seafarer's family would be afforded medical insurance for the entire year. The economic environment in most of the commercial seafarer countries is such that the cost of these benefits is quite low. However, when multiplied by the number of seafarers that may be employed by a given shipowner, it becomes a significant line item and one that many shipowners simply cannot sustain in the current environment.

... as seafarers and their talents become scarce, every operator in the major marine sectors will need to work to stay competitive if they wish to attract and retain them

The cruise sector

The cruise sector is completely focused on the 'guest experience' which is the polar opposite of where the focus is on the commercial shipping side. The guest experience is heavily influenced by the attitude and performance of the seafarer onboard. It only follows then that to be a long-term success in the cruise industry, seafarers need to be well looked after. This certainly includes a compensation and benefits package that is not only competitive, but again also indicative of the wants and desires of the seafarer.

Most cruise ship companies now offer benefits to at least their high-ranking officers. Earlier this year, MHG published a comprehensive, anonymous report of what the various cruise lines provide to their seafarers. What is particularly interesting to note are the vast array of options, some of which do not particularly match the size of the cruise operator. In addition, it is valuable for the various operators in the industry to see what their peers are doing for their seafarers.

Seafarers working in the cruise sector overlap somewhat with the commercial shipping sector with regard to home country selection (for very similar reasons). However, due to the differing work environment, the expectations of the seafarer are also different. It is for this reason that many cruise lines are not only offering medical coverage, but also disability, life and even retirement savings plans. The full suite of benefits still lies with the senior officers, but there are also basic benefits being extended to the crew such as vacation medical coverage.

As the cruise sector continues its rapid growth, seafarer benefits will most certainly be come to more in the forefront of an employer's mind. After all, attraction and retention of great talent is a key component of the success of the cruise line. It certainly is not cost effective to continually need to train staff who subsequently leave for an opportunity where better benefits can be found.

The superyacht sector

Luxury and excess are two words that come to mind when one thinks about the superyacht sector. High net worth individuals, demanding service and attention at the very highest level, yet all the while making it look effortless. This is the life of the 1%, the elite. You may therefore conclude that all the seafarers working on yachts enjoy the cream of the crop when it comes to benefits.

As it turns out, this is not actually the case with every superyacht. Take a moment to think about how a superyacht owner amassed their wealth. It certainly was not by overspending before they were in a position to enjoy their wealth and of course, old habits can die hard. However, one other factor to note about yacht crew, is that they are typically well paid.

Originally this was seen as sufficient for a yacht owner and typically the crew were content. This has changed significantly as the industry has matured. Now, more and more seafarers are expecting to be offered benefits in addition to their salary. Can we really blame them, when they see the lavish lifestyle that the typical yacht owner leads?

So exactly what can a yacht crewmember expect, with regard to benefits? Similar to the cruise sector, they vary considerably from yacht to yacht and size does not always matter. Many smaller yachts in the 30-40m range provide as comprehensive, or better benefits than ones that may be 100m or more in length.

However, the general rule is that the larger the yacht, the more extensive and attractive the benefits package will be. This usually includes year around medical coverage (including home country), disability, life insurance and personal accident benefits. It may also include an employment benefit in the form of a rotational schedule, which

until just a few years ago was not heard of in the yacht sector. There are even some yacht owners who cover the cost of family members, although this is generally restricted to the captain.

Looking forward

Will the commercial shipping sector it come back? Yes. But when, is anyone's guess. But once it does, commercial seafarers are likely to enjoy medical and other benefits, as part of their overall employment package again. As for cruise and yachts, both sectors are doing quite well and there is no sign of that changing any time soon. There is already much concern that the world's pool of talented and qualified seafarers is drying up quickly.

And while that is a topic for another day, suffice it to say that as seafarers and their talents become scarce, every operator in the major marine sectors will need to work to stay competitive if they wish to attract and retain them. This directly translates into the need for vessel owners and operators to focus on salary and benefits for their seafarers which will keep them afloat for years to come. ■

Mark Bononi is Director of the Yacht Division at MHG Insurance Brokers

ABOUT US

MHG Insurance Brokers introduced crew benefits to the marine industry in 1991 and have since grown into a multi-discipline marine insurance brokerage and adviser. MHG is now recognized internationally for developing innovative crew insurance programs for cruise lines, superyachts and commercial vessels worldwide. With offices and business partners located in Florida, London, Isle of Man, Hamburg and Monaco we are well placed to support vessel owners'

insurance requirements in major centres of marine activity. MHG provides insurance solutions and advice to 40% of CLIA's global member cruise lines and 20% of the world's 200 largest yachts.

What we do

Our core business of marine crew insurance has expanded over the years to include liability and casualty cover for the wider marine community: from ship repairers, cruise concessionaires, as well as owners of pleasure craft and similar vessels. Our portfolio of insurance programs is seen as a valuable attraction and retention solution by employers worldwide. Our expertise in this specialized area is regularly utilized as a resource by clients, helping them interpret and stay up to date on regulations and legislation affecting the marine industry, especially in crew employment matters. While we are very proud of this, we believe that what sets us apart is the excellence of service provided to each client from inquiry stage, through the claims process and beyond. Our close relationship with the world's leading insurance markets, combined with an outstanding service team, has positioned MHG as the marine industry's authority on crew insurance.

MHG Ocean Benefits Limited, trading as MHG Ocean Benefits, MHG Insurance Brokers and MHG Underwriting Services, is registered with the Isle of Man Financial Services Authority as an insurance intermediary in respect of General Business. Registered in the Isle of Man, company number: 120885C

A sea turtle is shown swimming in clear blue water. The turtle is positioned in the lower half of the frame, moving towards the left. Its head is turned slightly towards the viewer. The water is a deep blue, with some light reflections on the surface. The overall scene is serene and natural.

Specialised superyacht solutions

The daily operations of vessel and crew management is complicated and time-consuming. iBos shows how you can put all your administration in one place

● -Bos – a company that specialise in superyacht solutions either on-board the yacht or with a shore based administration staff and/or management companies. Our widely used crew management solution called Cello Marine can manage your crew personal details, crew certification requirements, leave scheduler and full payroll including emailing payslips. We have now also developed a module to calculate Malta Social Security to help the corporate service providers using our solution.

To compliment Cello Marine, i-Bos specialises in developing a full range of multi-currency financials, including expenses with Access Financials and bespoke marine-specific document management, using Laserfiche. Both Access Financials and Laserfiche are connected through an API so all information only need be loaded once. We are also linking a digital signature platform for use with the signing of seafarer contracts etc.

i-Bos provides a number of consultancy services. Our team has over 40 years experience in installing and commissioning the latest software in a number of applications, from multi-currency financials to stock and procurement application through payrolls and CRM's systems. i-Bos has the resources and the know-how to help you make the right choice and get the solutions that fit your business. All our solutions can either stand alone or interface together to complete all administration requirements.

We understand that the decision to implement a new business solution is not taken lightly. The commitment shown by your supplier is just as important as the software itself. i-Bos Limited offers a comprehensive service, beginning with pre-sales consultancy and extending into full support for the lifetime of your system.

To find out more about our development process, select a stage below:

- Pre-Sales Consultancy and Project Management

- Implementation and Configuration
- Post Implementation Support

Once your new system is in place, our experts will configure it to your precise business needs. This may involve anything from setting up user profiles for members of staff to re-designing your report pack. Again, we are acutely aware of the need for minimal disruption to your business activities. Our highly experienced technicians are will work closely with your team to ensure configuration proceeds to schedule and we give the same care and attention to subsequent system upgrades and software enhancements. ■

ABOUT i-BOS

We are a company based on the Isle of Man and have been in business for 12 years. Our specific Cello Marine solution is developed in house with extensive support and in-house modification capability when requested. We can tailor the product for use as just a payroll solution or a Leave calculator to cope with shift patterns, flight details, rotation etc. Cello holds as much personal data as you wish to enter from name and date of birth, to bank accounts, qualifications, addresses and salary details. Contracts can be created easily, both whilst on probation or full term or temporary and will feed through to the payroll solution if required.

For more please contact us by email: Graeme@ibosltd.com or phone +44 (0) 1624 612343. www.ibosltd.com

Living the high life



Tom Page looks forward to the superyacht event of the year, the 2018 Monaco Yacht Show

Cruising the Mediterranean is a ritual that has been undertaken by numerous seafarers over the millennia, many as part of their working life but more recently by pleasure seekers as they relax and enjoy their superyacht break. I have been lucky to spend some time on superyachts, whether cruising the Mediterranean during the summer months and drinking champagne at anchor along the French Riviera, or enjoying the winter in the idyllic Caribbean.



Monaco is among the most famous destinations in the world given its combination of luxury, wealth and extravagance. Its marina, Port Hercules, is no different. An opulent extension of the Principality's flamboyant image; it's surrounded by casinos, luxurious homes, grand hotels and incredible restaurants.



Speak to anyone in the superyacht sector and they will tell you that in September the yachting industry turns its focus exclusively to the Monaco Yacht Show. Over four champagne-fuelled days some of the wealthiest individuals on the planet will be converging on Monaco, where 125 extraordinary one-off superyachts built by the world's most respected shipyards are showcased. Over 580 leading companies from the yachting industry will be there to welcome them.

Set in the iconic Port Hercules in the principality of Monaco, the Monaco Yacht Show represents the pinnacle of luxury. Monaco provides the ultimate showcase for industry influencers from the most reputable superyacht builders, award winning yacht designers, luxury suppliers, influential brokerage houses to the most sought-after water toys, prestige cars, helicopter and private jet manufacturers.

The MYS is the premiere luxury event worldwide where visitors can discover the greatest aspects of superyachting against the glamorous backdrop of Monaco.

From Port Hercule in Monaco and Puerto Banús in Marbella, to Marina di Porto Cervo and Marina di Portofino in Italy, there's a certain feel of supremacy among the historically popular Mediterranean superyacht marinas.

But, with the number of superyachts continually on the rise, and the desire of owners, guests and even crew to explore and experience new locations all around the world, there are a number of superyacht marinas emerging as challengers to the current set of elite destinations; Yas Marina, Abu Dhabi, Yacht Haven Grande, St Thomas, US Virgin Islands, Port de Gustavia, Saint Barths, Caroline Bay, Bermuda, Golfito Marina Village, Costa Rica and Jolly Harbour Marina, Antigua to name a few. ■

Tom Page is a freelance journalist, writing on travel and lifestyle

