WORLD COMMERCE REVIEW

WINTER 2019

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A moral economy

One definition of the moral economy is that it is one based on fairness, justice and goodness. The populace is protected against unexpected change, and institutions have been developed to make life, and economic life, more predictable and stable and to minimise the effects of change.

This involves protection against outsiders. It can be seen in the current trade disputes that are enveloping the global economy, the raising of tariffs and non-tariff barriers by all the major economic powerhouses, be it the United States, Japan, the European Union, or China and India.

The moral economy was a response to a world of scarcity, of famine, of extreme uncertainty, the conditions of the Malthusian world. Unfortunately, this top-down 'control' of the economy can also hinder innovation, the very thing that can improve the life-prospects of the whole of the global population.

The moral economy involves the use of political power to enforce rules, to raise taxation, to balance opposing economic and political extremes. This highlights the role of the ruling classes, the privileged elites, in stymying innovation and progress. All innovation is OK so long as they are preserved from the potentially disruptive effects.

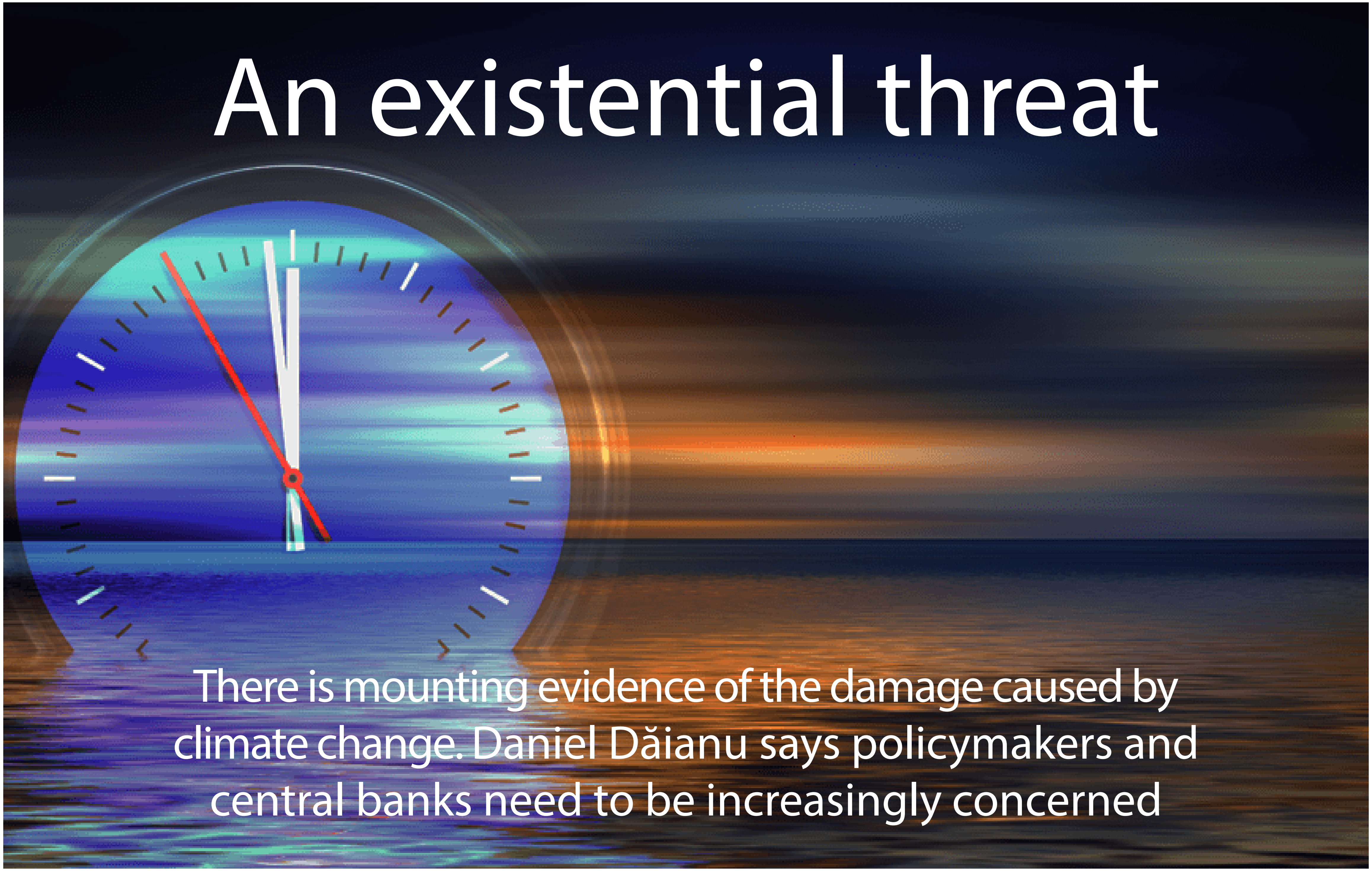
Innovations such as Artificial Intelligence, nanotechnology, and biotechnology are having major societal affects, and the question to be asked is will the sustained and accelerating innovation we have seen over the last three hundred years continue, so that we reach the 'singularity', the hypothetical future point in time when technological growth becomes uncontrollable and irreversible, resulting in unfathomable changes to human civilization.

The moral economy should protect the population and the global economy from the financial elites in London and New York, the economic elites in Germany and China, and the 'cultural' elites in California and Paris. The moral economy should also realise that the rules of the old world order are out of date. The vast scale of technological advance has outstripped them and they must be renegotiated.

2019 had many anniversaries to mark, not least Bretton Woods in 1944, when the 44 Allied nations met to impose order amid the ruins of the war. China was not invited. Today, that mistake would be unthinkable. The world urgently requires Bretton Woods 2.0 – a recognition that our technology-driven world requires new rules and methods to enforce them.

The old world order is falling apart and our politicians need to build a new one. Fast. The current global structure cannot be preserved in aspic. It is time to move away from statist protectionism to the benefits that come along with free markets, free trade, free people, and innovation. ■

An existential threat



There is mounting evidence of the damage caused by climate change. Daniel Dăianu says policymakers and central banks need to be increasingly concerned

Financial markets are inherently myopic and misconduct is not rare. This means that proper regulations have to operate to rein in finance. Moreover, the Great Recession was enhanced by monumental failures of policymaking and a misleading paradigm, as Alan Greenspan ruefully remarked during Congress hearings in August 2008.

Let us recall the Big Bang of 1986 in the City of London, the rescinding of Glass Steagall in the US in 1998 and what followed via other waves of deregulation – with the emphasis put on 'self-regulation' (light touch regulation) according to the logic that markets know best, that they can regulate themselves!

But finance is not the most blatant case of neglect, or inadequate philosophy in policymaking. In 2006, in a famous report, Nicholas Stern, permanent secretary at the UK Treasury at the time, stressed that climate change poses the biggest challenge to economics, that markets can hardly account for climate change and their effects, that public policies need to address this reality sooner than later[1].

Nicholas Stern's views and those of scientists that think analogously (The Club of Rome, as a gathering of kindred spirits, being a most prominent one, the UN Intergovernmental Panel on Climate Change and various other groups of experts have also to be mentioned) have, arguably, been vindicated and there is a wide-spread wakeup call in this respect.

There is mounting evidence that points at an existential threat due to effects of global warming and overall climate change, to environmental degradation.

A recent article published by *Nature*, the distinguished scientific weekly, talks about a tipping point mankind may have already crossed and the existential menace unless resolute measures are adopted[2].

Climate change will, inter alia, foster more migration, massive shifts of population from inhospitable areas. And one can already see how disruptive such migration can be socially, economically, and politically.

A personal recollection deserves to be made by the author of this text (nota bene: who was an MEP). In 2008 and 2009, climate change was heatedly debated in the European Parliament, and action was asked for by many MEPs. Unfortunately, action was stalled, or derailed in advancing legislation and prodding other EU institutions to move forward resolutely.

Policymakers, in general, have to be much more attentive to sustainable growth challenges in their decision making

This occurred owing to the power of vested interests, of car manufacturers especially, and it should also be said, owing to various EU member states which flexed their bargaining clout. Ironically, some of those car manufacturers have been involved in big scandals for obnoxious practices in recent years; they cheated on emissions they produce. One has to add here disasters caused by the negligence of major oil and gas companies.

It makes sense to say a few words on central banks and their rising concern about climate change. For to see major central banks paying attention to climate change may surprise only a few. As a matter of fact, they have started to consider income distribution, new technologies (AI, digitalization, fintech/blockchain), cyber-warfare increasingly in recent years. Central bankers seem no longer to be like high priests.

Central banks realize that their conventional and non-conventional operations do have distributional effects, that income distribution does matter for a fair society, for the stability of democracy. And that, apart from the unknowns that they confront when overhauling their cognitive and operational frameworks, including how to integrate financial markets in their inflation targeting models (which used to assume that price stability implies, ipso facto, financial stability), there is a huge challenge posed by climate change. This is because climate change entails a different existential territory in view of the threats is poses.

A framework for understanding the concerns of central banks when it comes to climate change must consider, among other things:

- a dramatically changed environment (*"Low rates for longer with rising vulnerabilities…"* as the latest *Global Financial Stability* report of the IMF remarks), demographics, economic stagnation (or secular stagnation, as Larry Summers suggested by resuscitating an expression used by Alvin Hansen in 1937), and a *"regime change"* for monetary policy, as Olivier Blanchard put it[3];

- the exposure banks and other financial institutions have to sectors that are and will be severely impacted by climate change;

- de-carbonization of the economy, which is a must if mankind wishes to survive. Green finance is a catchword in this regard and central banks can and are supposed to do a lot in this respect by, among other things, accepting green bonds as collateral, or purchasing them outright.

By the way, there is a network of central banks that examine climate change seriously and aim at adapting their policies in this regard. This network was initiated by the Bank of England and includes the Bank of Canada, Banque de France, the Bundesbank. The ECB has joined this demarche and other central banks are likely to follow.

Reexamining monetary policy neutrality

But what about market neutrality? Should it be maintained as a central tenet of central banks' conduct when it comes to climate change?[4] This is a most critical issue to address. Central banks' stance may seem appropriate in view of their traditional philosophy not to interfere in markets' resource allocation function.

But, as it is alluded above, one has reasons to debate this stance in view of financial markets' inherent myopia and, when it comes to climate change, of massive inter-generational involved distribution effects, as well as negative externalities that are not factored in by markets.

As central banks have resorted to unconventional measures (QEs in particular), and in doing it, have considered, for instance, how to support SMEs, why not favour sectors that are lesser polluters and green industries? This is the spirit of green finance.

It may be that central banks have to broaden their mandate; as they pay attention to distributional effects of their operations, they have to consider climate change and whether they can do something about it as well. Not necessarily alone, certainly, but together with other public policymakers.

But, arguably, they may have to go beyond considering various risks and banks' exposure to sectors which are heavily impacted by climate change; they would need to think in terms of enhancing a sustainable habitat for people. This may imply a change of philosophy and conduct, of their 'institutional heart and soul'.

To sum up, three perspectives one can imagine on monetary policy neutrality: one that keeps things unchanged; one that keeps a neutral policy rate, but redefines neutrality; and one that discards neutrality. Let us focus on the latter two.

Redefining neutrality

A neutral policy rate (NPR) implies non-interference with market resource allocation. But NPR relies on potential output growth and takes the inflation target as the key parameter; some central banks consider also unemployment as a policy parameter (keep in mind the Unemployment Act of 1946 in the US). And potential output can be redefined in terms of 'welfare' (the ongoing debate on redefining GDP, shifting to Gross Welfare Product).

One can add another dimension to potential output/growth, namely 'sustainability', the extent to which economic activity harms the environment. Therefore, in a certain context, slower economic growth may be better than higher growth, a sort of steady state economics – as the leading ecologist Hermann Daly propounded decades ago. This happens when growth produces significant negative externalities.

The bottom line: the policy rate would consider a level of economic activity that takes into account social and ecological concerns. But who would define that level of economic activity?

This a fundamental question, for it may cripple central banks' independence to the extent 'non-harming environment potential growth' would be set by someone else.

Or central banks would not consider environmental concerns in their decision algorithms and governments, instead, would favour less carbon-intensive sectors as part of an overall industrial/environmental policy. In this case, central banks would maintain a monetary policy neutrality stance that would be quite similar to option one.

Discarding neutrality

Discarding market neutrality relies on a fundamental assumption: that markets are too myopic to consider ecological concerns. In this respect, one would make a distinction between accepting 'green bonds' as collateral and redefining the policy rate as a 'green policy rate'.

Discarding market neutrality introduces a clear bias in formulating the policy rate. As Mark Carney said: there could be an environmental Minskyan type moment.

Among aspects to consider are in this context are:

- heavy exposure of banks, of finance in general, to high carbon emitting (carbon intensive) sectors; the aim is to reduce this exposure, via regulation and preference for green bonds

- central banks need to work together with governments

- transition costs to a new, 'sustainable equilibrium' may be high, but unavoidable

- there is a coordination problem involved.

A key problem persists: who would set the policy rate? Another cognitive and operational issue: can we have models that, as finance is being taken into account in revised new Keynesian frameworks, consider environmental concerns too? Quite likely, this is possible.

There are influential voices (central bank governors included) who say that monetary policy is already overburdened, that ecological concerns should not constrain monetary policy further – Jens Weidmann, the governor of Bundesbank, is one of them. This view clashes with other central bankers' view, who are keen on having central banks involved in combating climate change (Mark Carney, Villeroy de Galhau for instance).

The European Commission has named climate change one of its leading priorities, as a matter of fact its top priority. And it has asked the European Investment Bank (EIB) to be a *"financial engine of the low-carbon transition"* – while the president of the EIB, Werner Hoyer, talks about the power of green public finance[5].

Another policy issue is whether one can devise macro-prudential policies measures that consider environmental concerns by reducing overexposure to high-carbon sectors. This should not be a problem.

Can a carbon tax deal with negative externalities (as a group of eminent economists, including Nobel Prize laureates argued in a Wall Street message of 17 Jan 2018)? Taxes clearly can help since they influence incentives. But, as is the case with a Tobin tax, taxes may not be sufficient to change business conduct dramatically.

The corporate world, major companies in particular, have to turn into stakeholders, alter their short-termism in pursuing their profit objective. Ethical considerations have to get into the picture as well. Maximizing profits has to be constrained by other goals, by the need to make our life sustainable, by an injection of ethical values in decision-making processes.

Business models have to change, as would individual and collective habits have to. But can we change our economic and social models, 'reinvent capitalism'? There is an ongoing debate on this topic, that was triggered by the financial crisis and the waking up to the reality of proliferating 'winners take all' games, the erosion of the middle class[6].

Economics, applied economics in particular, need to overhaul themselves too. A few tracks of action are to be highlighted here:

- changing GDP to other welfare measure; the report produced by a group of economists led by Joseph Stiglitz and Jean Paul Fitoussi[7] comes to mind, and more recent work by Diana Coyle and Mariana Mazzucato as well;

- focusing on citizens' life conditions; some suggest that the median-income per capita should be a key measure for policymakers; that would hook up well with the notion of inclusion[8];

- how to make stakeholders' concept embedded into firms' natural temptation to pursue higher profits and be responsive to share-holders' interests remains a big challenge.

A recent open statement of the Business Roundtable in the US, that groups 180 CEOs of the most powerful American companies, suggests that something may have happened in their collective mindset in view of the natural calamities of recent years. These calamities can no longer be seen as isolated events, as tail events; they have become rather common occurrences and this cannot be looked upon nonchalantly.

Things have become very worrisome and we need to provide answers to key questions:

- can we summon the political will to do something significant about it?

- do we have the knowledge and the resources to change business models and society's interaction patterns in order to make transition to a sustainable life?

- can we do it at a time of a new 'cold war' between the US and an economically and technologically growing China? When Realpolitik and Geopolitics, Geo-economics are back in action so prominently?

- can the EU play a global coordinating role in this respect in view of Europeans' attachment to 'green values'?

Can powerful vested interests be overcome? Can all this be achieved within the time span that it appears we have at our disposal in order to obtain our habitat livable? How can we cope with so many disruptions and ruptures simultaneously?

Central banks have a major role to play not only since they have been regarded, justifiably or not, as *"the only game in town"* (Mohamed El Erian). Christine Lagarde's words in the European Parliament, where she indicated empathy with the idea that 'market neutrality' needs to be reexamined in the conduct of central banks, of the ECB, were quite refreshing.

Policymakers, in general, have to be much more attentive to sustainable growth challenges in their decision making. ■

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Endnotes

1. Nicholas Stern, "The Stern Review: The Economics of Climate Change", London, LSE, 2006

2. "Climate tipping points: too risky to bet against", Nature, 27 November 2019

3. Olivier Blanchard, in his presidential speech at the annual AEA meetings of Jan 2019: ("Public debt and low interest rates")

4. See also Benoit Coere, "Monetary policy and climate change", ECB, 8 November 2018

5. Werner Hoyer, "'The Power of Green Public Finance", Project Syndicate, 27 November, 2019

6. Among thoughtful works are Paul Collier's "The Future of Capitalism. Facing the New Anxieties", Allan Lane, 2018; Raghuram Rajan, "The Third Pillar: How markets and the State leave Community behind" Penguin, 2019"; Paul Mason: "Post-capitalism: A Guide to Our Future", London, Penguin Books, 2015.

7. Joseph Stiglitz, Amartya Sen, Jean Paul Fitoussi, "Report of the Commission of the Measurement of Economic Performance and Social Progress", Paris, 2010

8. Klaus Schwab, "Ending short-termism in keeping score", Project Syndicate, 17 October 2019

This article is based on the presentation made at an ISEE (Institute for the Study of Extreme Events) seminar on climate change, Bucharest, Academy of Economic Studies, 23 October 2019.

How to make the European Green Deal work

Ursula von der Leyen has proposed a European Green Deal to make Europe climate neutral by 2050. Grégory Claeys, Simone Tagliapietra and Georg Zachmann consider how this initiative could be made to work

European Commission president Ursula von der Leyen has made climate change a top priority, promising to propose a European Green Deal that would make Europe climate neutral by 2050. The European Green Deal should be conceived as a reallocation mechanism, fostering investment shifts and labour substitution in key economic sectors, while supporting the most vulnerable segments of society throughout the decarbonisation process. The deal's four pillars would be carbon pricing, sustainable investment, industrial policy and a just transition.

First: a meaningful carbon price should be established for all sectors, by strengthening the EU emissions trading system (ETS) and by pushing EU countries to increase the price for emissions not covered by the ETS. To ensure a robust mechanism against carbon leakage, a carbon border tax should be prepared.

However, such a measure will be extremely politically challenging, and the EU's future climate policy should not rely on its successful implementation. Other instruments should therefore be put in place first, including subsidies for low-carbon exports and stricter environmental standards importers would have to comply with to access the EU market.

Second: the carbon price should be complemented by a sustainable investment strategy that pushes companies to switch technologies and promotes behavioural change among citizens, offsetting any rising costs they face because of higher carbon prices. Green investment should be promoted by shifting current EU funds towards this purpose while enabling EU countries to support green investment, and by incentivising private investment through regulatory measures and through support for European promotional banks.

Third: European industry should be strengthened through support for disruptive green innovation; by creating the conditions for innovative, green, European companies to flourish (for example through new product standards and via carbon-based contracts for difference to ensure competition between companies for the most efficient technologies); and through measures to export the European Green Deal on the back of a reform of EU neighbourhood and development policy.

Fourth: the adverse social consequences of climate policies should be taken into account and minimised in each European climate policy proposal. Unavoidable impacts should be addressed by targeted compensation measures. The scope of the European Globalisation Adjustment Fund can be broadened and the mechanism adjusted to aid the transition in coal-mining regions.

A single carbon price for all sectors and countries is economically efficient but implies substantial distributional effects

The contours of the European Green Deal

The European Union has stated repeatedly its aim to be at the forefront of global action against climate change. The EU has adopted policies to reduce its greenhouse gas emissions and support energy from clean sources, while being active in international climate negotiations.

However, the EU has not managed to reduce its greenhouse gas emissions convincingly, and has not done enough to tackle emissions in some sectors. In transport, greenhouse gas emissions are rising, while in electricity systems coal continues to play a persistent role. Energy efficiency improvements in buildings have been unsatisfactory and the decarbonisation of industry has proved difficult.

Meanwhile, climate policy has become one of the most divisive EU topics. The FridaysForFuture movement has mobilised mainly young people to demand stronger climate policies. In contrast, there has been a backlash against fossil-fuel price increases perceived as unfair, as seen with the *gilets jaunes* movement in France and beyond.

In this context, European Commission president Ursula von der Leyen has promised to broaden and strengthen EU climate policy (von der Leyen, 2019). She intends to propose a European Climate Law that would require the EU to become climate neutral by 2050 – likely making Europe the first continent to do so.

To reach this ambitious goal, a comprehensive policy framework is required, encompassing the climate, energy, environmental, industrial, economic and social aspects of this unprecedented process. This is what the European Green Deal is all about.

Von der Leyen has put forward a broad concept of the European Green Deal, sketching out about 20 different proposals. They include an increase in the EU's 2030 emissions reduction target from 40 to 55 percent, the introduction of a carbon border tax, the drafting of a Sustainable Europe Investment Plan, the partial transformation of the European Investment Bank (EIB) into a climate bank, the extension of the EU emissions trading system (ETS) and the development of a new industrial policy for Europe (von der Leyen, 2019).

These proposals are preliminary and, at the time of writing, are still in the form of general policy guidelines. Von der Leyen has said she will come up with a detailed policy plan within the first 100 days of her mandate. So, while we have some general contours, the European Green Deal remains to be structured.

This *Policy Contribution* seeks to contribute to the design of the European Green Deal by outlining a realisable plan focused on what can be considered its four foundational pillars: carbon pricing, sustainable investment, industrial policy and a just transition.

How to price greenhouse gas emissions well

Putting a price on all emissions is essential because it incentivises all relevant parties to reduce their greenhouse gas footprints. Without such a price, other climate policy measures – such as subsidies or standards – cannot effectively reduce emissions[1]. The new Commission is therefore right to strive for a sensible price on all greenhouse gas emissions. A major reform of emission pricing in Europe will have to address three questions of principle:

A single price or differentiation between sectors/countries?

A key question when pricing greenhouse gas emissions is whether each unit of emissions (typically expressed as the greenhouse gas equivalent of one tonne of carbon dioxide) should have the same price, or whether prices in different sectors and/or different countries should be allowed to vary.

Currently, Europe has a hybrid system. Greenhouse gas emissions from large industrial emitters (including power generators) that fall under the EU ETS have a single price throughout Europe, while other emissions, such as from heating or road transport, are not explicitly priced.

Textbook economics would suggest putting the same price on all emissions. This would incentivise economic actors to reduce all emissions that can be mitigated at a cost below this emission price and would avoid inefficient circumvention (such as consumers preferring to use natural gas that is not covered by the current emission pricing system, instead of electricity which is). Consequently, harmonising emission prices across sectors reduces the total cost of emissions reduction[2].

But while a single carbon price for all sectors and countries is economically efficient, it implies substantial distributional effects. Two examples:

1. To decarbonise transport – which is essential to achieve a carbon-neutral continent – much higher carbon prices would be needed than the carbon price required to decarbonise most electricity production. Electricity prices will be determined by the most expensive unit that is needed to meet the demand – which will still often be a fossil-fuelled power plant (even though the bulk of electricity is produced carbon-free) – and might thus drastically increase without much impact on power-sector emissions. This will have massive distributional consequences as all electricity consumers will have to pay these higher prices.

2. A single carbon price will affect more poorer EU countries, which typically have higher emissions per unit of GDP. Therefore, in sectors with emissions that are not very sensitive to expected carbon prices[3], keeping carbon prices lower might reduce undesirable distributive effects little impact on emissions.

For efficiency reasons, the European Commission should strive to converge towards a single carbon price over time. Heating and transport emissions should be priced to provide economic actors with incentives to change their consumption behaviour and/or invest in cleaner technologies. And emissions in sectors with high levels of trade across EU country borders (eg. electricity and industry) should have the same price in each country to avoid distorting the single market[4].

But giving EU countries some flexibility to set prices for emissions that are price insensitive but have significant distributional consequences might have limited cost in terms of efficiency but high political value. The right tool would be a significant and rising European minimum tax rate on emissions, which those countries that want to cut emissions faster[5] can exceed if they want.

Carbon leakage has not represented a substantial issue for EU industry under the emissions trading system

Tax or trading permits?

There are two main instruments for putting a price on emissions. Either the government fixes a price – a tax – or the government issues a fixed volume of emission allowances and leaves the market to determine a price for these allowances. Economists have a slight preference for taxation because there is less risk of getting the price wrong than of getting the volume wrong.

But in practice, policymakers try to guide both the price and the volume by adjusting either if the system does not provide the expected results. Consequently, mixed systems (where some emissions are covered by carbon trading and others by taxes) and/or hybrid systems (where prices in trading systems are managed) are the norm rather than the exception.

The EU has a mixed system with half of the emissions falling under the EU ETS, and the other half being only partially covered by national taxes[6]. The EU ETS is also a hybrid system because the system is regularly adjusted to deliver 'sensible' prices[7].

The European Green Deal can retain the current mixed and hybrid system. But it should include proposals to push EU countries to put the right prices on emissions in some of the areas not covered by EU ETS: transport, heating and maybe agriculture. The right approach would be to revise the 2003 Energy Taxation Directive (2003/96/EC), which sets minimum tax rates for fuels.

A European agreement on minimum carbon prices in the non-ETS sectors would allow national governments to establish national carbon-pricing rules within their national fiscal systems, while reducing concerns about intra-EU carbon leakage. It will still be difficult to define a minimum tax rate that is equally acceptable to the poorest and richest countries. But as the fiscal revenues accrue at the national level, these revenues in principle allow each country to target compensation at the most affected national consumers.

The EU ETS can also be strengthened by providing investors with some clearer guidance on future prices. Our suggestion would be to give the European Investment Bank a mandate to sell guarantees that protect investors against low carbon prices in the future. This would create a liability for future governments in case of carbon prices that are too low[8].

What to do with the revenues

Emissions pricing in the EU can bring substantial revenues. Putting a price of €40/tonne[9] on all EU emissions (around 4.5 billion tonnes annually) would lead to €180 billion in revenues – significantly more than the current revenues from the EU ETS (around €25 billion[10]).

The first issue is how much of this money would accrue at the European level and how much at national level. This is a largely political question. While it might be more efficient to have more revenues available in the centre to enable compromises in difficult issues, EU countries in the past only allowed the European Commission to set up two relatively small centralised funds.

The second question is what to use these revenues for. They can be used for the general budget, returned to consumers to mitigate distributional effects, used to support the development of low-carbon alternatives, public investment in low-carbon infrastructure, or given to companies to compensate them for competitive disadvantage arising from stronger climate policies. Getting this balance right will be crucial for the political viability of any emissions pricing system[11].

Currently, most ETS revenue is given to national governments, which are bound by a relatively weakly monitored commitment to spend half of the money for climate and energy purposes. For the years 2021-30 two special European funds have been set up to centrally support innovation (Innovation fund: €20 billion) and lower-income EU countries (modernisation fund: 2 percent of issued allowances).

We would advise against using additional emissions pricing revenues in the general budgets of EU countries, and would suggest instead to use additional funds to support the development of the low-carbon economy through public funding of research, development and innovation, support for private investment in low-carbon alternatives, and compensation for the most-affected households that must increase their carbon-related spending (heating, electricity).

Dealing with leakage

If Europe puts in place a stringent climate policy while other parts of the world do not, there is a risk that emissions-intensive companies might leave the EU with its high emission prices, and relocate to places with significantly lower or no emission prices. This is called carbon leakage. This issue is set to become more relevant with the EU pursuing a more ambitious climate policy, but we do not know the exact order of magnitude of the issue (PMR, 2015).

Studies show that carbon leakage has not represented a substantial issue for EU industry under the ETS (Branger *et al* 2017; Ferguson and Sanctuary, 2019; Zachmann *et al* 2011). It is also important to consider that the carbon price represents one element among many others in an industrial strategy. Other considerations include energy prices, logistics, territorial legacy and innovation ecosystems.

Currently, carbon leakage is dealt with by giving emission allowances for free to companies in specific sectors. The allocation mechanism for free allowances is based on production benchmarks to ensure that companies have an incentive to reduce emissions but not to reduce production in the EU. But the mechanism has led to massive windfall profits for companies (they received allowances for free but included the cost of emissions in the price of their products). It is not desirable to continue with this method to deal with carbon leakage.

Part of the European Green Deal, according to von der Leyen, would be an alternative system: a carbon border tax (CBT). This has two aims: i) preventing carbon leakage by ensuring that all goods consumed in the EU, whether imported or produced domestically, are treated the same; ii) pushing other countries across the world to also decarbonise. This would be achieved by putting a tax or tariff on the emissions embedded in imported products. In addition, EU exporters might reclaim the cost of the emissions embedded in their products to ensure that European companies are not at a competitive disadvantage when selling abroad.

In reality, calculating the emissions content of imports is feasible[12] but difficult, as all emissions along the entire value chain would need to be considered. Even more challenging would be the risk of potential retaliation from trade partners. Von der Leyen already made clear that a CBT should be compatible with the rules of the World Trade Organization (WTO), to ensure that countries cannot retaliate based on WTO rules.

But even if the CBT is safe-guarded against formal objections, trade partners might still perceive a CBT as overreach and threaten/implement retaliatory measures (such as, for example, when the EU tried to introduce a unilateral carbon price on intercontinental flights)[13].

The ongoing fierce debate between proponents and opponents of such a tax[14] show that achieving a meaningful border tax will require the expenditure of a great deal of political capital in Brussels and the national capitals. There is a risk that discussing a complex solution to a potential problem will distract attention from more urgent issues and result in a weak compromise.

Any CBT proposal will be extremely politically challenging, and the EU's future climate policy should not rely on its successful implementation. This is particularly because the scale of the carbon leakage problem remains unknown.

Therefore, the EU should follow a trial-and-error approach, with the first priority being to do what is necessary to ensure an appropriate price on all greenhouse gas emissions in Europe. As far as the leakage risk is concerned, the EU should help domestic producers of steel, cement and chemicals (eg. the products most affected by higher carbon prices) to become cleaner – as it did in the past with renewable energy subsidies for the electricity sector.

The overarching objective of the Green Deal should not be to boost growth but to facilitate the reallocation of capital in and across sectors in order to decarbonise

Companies that produce internationally traded goods with significantly lower emissions than the average could be granted subsidies linked to the reduced emissions. The value of these subsidies per tonne of mitigated emissions might be significantly higher than the carbon price as long as the new technologies are not mature. This could help to build the competitive advantage of European industry for the global low-carbon economy.

In addition, carbon rebates for exports (ie. companies can reclaim the carbon price embedded in export products) can be applied, combined with a support scheme for low-carbon production of otherwise emissions-intensive products.

As far as the second aim of pushing other countries across the world towards decarbonisation is concerned, the EU should make better use of environmental standards. Requiring compliance with strict environmental regulations a condition of access to the EU market of 500 million people should be a strong incentive to all other countries to adapt and change their production processes.

In parallel, the European Commission should work on a WTO-compatible and acceptable CBT, but should hold off from implementing it[15]. The Commission should closely monitor the evolution of carbon leakage risks in Europe, and ultimately implement a CBT if the risks start to materialise.

Mobilising investment for the transition

How large is the 'green investment gap'?

Most estimates of the yearly average additional investment (public and private) necessary to achieve the EU's current 2030 climate and energy targets are in the range of €175 billion to €290 billion[16]. The European Commission's most recent estimate (European Commission, 2019a) of this 'green investment gap', taking into account the currently agreed target[17], is €260 billion per year. According to this estimate, the investment needs per sector would be: €125 billion for the residential sector, €71 billion for the service sector, €21 billion for the transport sector, €21 billion for power generation, €13 billion for the power grid, €4 billion for the industry sector, and €2 billion for boilers.

Whatever the exact aggregate number for the 'green investment gap', it is important to note that the models used in these estimations tend to underestimate investment that will be needed for the low-carbon transition[18]. In addition, the success of technologies in the long run is highly uncertain.

As a result, it might be preferable to over-invest in green R&D in the short-term to insure against potentially catastrophic events in the future. Also, scenarios involving less behavioural change on the part of citizens are generally the most expensive in terms of investment.

This means that if Europeans want to preserve their current way of life as much as possible they need to invest even more today. All in all, despite the high uncertainty surrounding these estimates, the desirable number for additional investment is probably nearer to the €250-300 billion per year range[19]. In this context, the Sustainable Europe Investment Plan mentioned by Ursula von der Leyen in her political guidelines and in her first speech (16 July 2019) to the European Parliament only envisages a €100 billion per year target.

What would be the macro consequences of the Green Deal? Despite the potentially significant size of the plan (and despite being a good selling point for the European Green Deal), the possibility of obtaining a so-called double dividend – both a positive environmental effect and a positive macroeconomic effect – seems to be overstated.

Even if the potential crowding-out effect of the investment pillar of the European Green Deal appears to be very low, especially in today's low interest rate environment, the aggregate macroeconomic effect of the transition, and of the investment plan to support it, is overall expected to be relatively modest[20] (around +0.1 percent of annual GDP growth according the literature review conducted by Gueret *et al* 2019)[21].

Besides, the overarching objective of the Green Deal should not be to boost growth[22] but to facilitate the necessary reallocation of capital in and across sectors in order to decarbonise, and to mitigate the resulting reallocation in employment.

A 'green golden rule' could make the European fiscal framework much more flexible by exempting from the fiscal rules public investment that mitigates or adapts to climate change

Having said that, even if the overall impact on growth is expected to be small over the whole period, a potential co-benefit from a macro perspective of having a 10-year investment plan ready would be to have a list of concrete off-the-shelf investment projects that can be rolled out more quickly if they are needed from a countercyclical perspective (which might come in handy quickly given the slowdown currently experienced by the European economy). This would boost the total macroeconomic effect of the plan, given that multipliers have been higher during recessions.

In terms of timing, political economy considerations dictate clear sequencing: green investments need to be made as soon as possible, before carbon prices rise to a high level, so households and companies can switch smoothly to green alternatives when this happens. The green investment push thus needs to start now. The temptation to procrastinate and to leave the burden of reaching the 2030 targets to the 2024-2029 Commission should be avoided.

The EU has very limited resources to conduct its own investments. Its main role in plugging the green investment gap will thus be to design an investment plan that will: 1) mobilise public funds through the EU budget and member states' national budgets and through the European Investment Bank in order to take advantage of the historically low interest rates from which European governments and institutions currently benefit, and 2) incentivise the private sector to invest in the transition.

How can the Commission boost public investment for the transition?

Public investment will be needed because of the public-good nature of some the investments. This will be particularly the case for deployment of a sustainable transportation system, which will involve, first, helping owners of old polluting vehicles to replace them by more environmental-friendly vehicles, and, more importantly, developing alternatives to car ownership.

This implies renovating the railway network or building bicycle facilities. Another important role for the public sector will be to renovate public buildings and social housing to make them energy efficient. Finally, public authorities will also have to invest in R&D in new technologies, especially carbon capture and storage.

More generally, direct public investment is also important for increasing the long-term credibility of other climate-mitigation instruments and to reduce the potential regulatory risk perceived by private investors. From an incentive perspective, it is important also that governments should bear some of the losses in case of failure resulting from a change in environmental regulation to convince investors the regulation is definitive.

The role of the Commission will be twofold: greening the EU's own investments, and encouraging EU countries green their public investments.

Greening the EU's own investments

At the European level, the main tool to invest directly will remain the EU budget. The European Commission (2018c) has already proposed to increase the share of EU spending that contributes to the EU's climate objectives from 20 percent in the 2014-20 Multiannual Financial Framework (MFF) to at least 25 percent in the next MFF (ie. from about €30 billion to about €45 billion per year over 7 years). This is a good first step, but there are two important caveats.

First, given the total size of the EU budget (around 1 percent of GDP), it will always remain a marginal source of green investment compared to the overall needs. But even if the overall effect is small, the share of cohesion policy funding in public investment per EU country is very variable (from zero in Luxembourg to 84 percent in Portugal[23]), which means that a shift towards green investment in the EU budget could still play a catalyst role in some countries in which cohesion funds play a significant role.

Second, increasing the target goes in the right direction, but for the EU budget to be significant in filling the green investment gap, it is also crucial to review how EU expenditures are accounted for as contributing to the fight against climate change. The current methodology tends to overestimate substantially the contribution of the EU budget, in particular of agricultural funds (European Court of Auditors, 2016).

Each expenditure item is given a climate coefficient of 0 percent, 40 percent or 100 percent depending on its contribution to climate change mitigation or adaptation. This method has the advantage of being simple and pragmatic, but can be highly misleading: for instance, expenditure that leads to an increase in emissions does not have a negative coefficient for negative impact. A more demanding but much more accurate methodology that would try to estimate carbon content of each action would help make the EU budget genuinely greener.

Encouraging and enabling green public investment by EU countries

Despite the EU budget's significant role in some countries, most public investment is still carried out at the national level in the EU. As a result, the strategic goals and the funds allocated to them are in the hands of national governments and not under the control of the EU.

If the European Commission wants to foster investment to accelerate the transition, it must find a way to encourage public investment in member states and then use indirect measures to steer it so it contributes to the climate objective. For this, the Commission has two main tools at its disposal.

The first is the country-specific recommendations made under the European Semester, which have recently highlighted the need for investment in some particular sectors at the local level to fulfil common objectives, including the fight against climate change (European Commission, 2019b).

Even though EU countries have often not followed through on the country-specific recommendations in recent years (Efstathiou and Wolff, 2018), this represents at least a welcome first attempt to coordinate investment across member states around some European priorities.

The second, and probably more influential, tool for the EU to steer investment is the European fiscal framework. In general, fiscal rules should be reformed to deter countries from slashing public investment when they consolidate their public finances, and to ensure that they are able to take advantage of favourable interest rates to invest in public goods.

One way to do that would be to include some form of golden rule in the European fiscal framework to allow the financing of investments through the issuing of debt. At the very least, as proposed by Claeys *et al* (2016), public investment could be accounted for in the same way that corporate investment is accounted for: its costs could be distributed over the whole service life of the investment, rather than smoothed over four years, as is the case now.

If an agreement cannot be found to reform thoroughly the fiscal rules to make them more investment-friendly in general, a reform focused on authorising deficit-financed green investment during the transition should be pursued as part of the European Green Deal. One way to put in place a form of 'green golden rule' would be to revise the investment clause of the European fiscal framework to make it much more flexible in order to exempt from the fiscal rules public investment that mitigates or adapts to climate change.

In fact, the current clause already allows for deviation from the structural balance medium-term objective to finance investments *"with positive, direct and verifiable long-term effects on growth and on the sustainability of public finances."* Given the potentially high risk in the long run of climate change for public finances, it would not be a stretch to apply the clause to green investment.

However, other refinements would be necessary to transform the clause from a temporary exemption that can only be used in bad times[24] to a more permanent exemption for green investment from the rules, even in good times.

To avoid any abuse of such a green investment clause by EU countries that might be tempted to apply the exemption to their current expenditures, two safeguards could be introduced.

First, the maximum amount of green investment exempted could be related to the level of the green investment gap in each country, which would be determined each year as part of the European Semester.

Private investment will drive electrification and improved energy efficiency, and will also represent most of the investment in the transport sector

Second, clear accounting rules would be needed to separate investment in the low-carbon transition from other expenditures. This could be facilitated by the introduction of an ambitious taxonomy for sustainable finance[25] and clear rules concerning the issuance of green bonds. Well-defined green investments financed through the issuance of green bonds could thus be clearly separated from the rest of the budget and exempted from the rules.

How can the Commission encourage private investment in the transition?

Corporations and households will be responsible for the vast majority of investment needed for the transition[26], as the sectoral distribution of investment needs also suggests.

Private investment will drive the electrification and improved energy efficiency of the privately-owned segment of the residential sector, and of the service and industry sectors. Private investment will also represent most of the investment in the transport sector given that replacement of private vehicles will be covered by households.

In the energy sector, investment in renewable power generation or electricity storage will mainly be financed by the private sector. The Commission thus needs to find a way to mobilise significant resources from the private sector and redirect financing from brown towards green activities to fill the green investment gap.

The role of the Commission will be twofold: to create a conducive regulatory framework, and to improve the financing conditions for green investment.

Creating a conducive regulatory framework

The most important tool to push companies and households away from brown activities will be a high carbon price. Another important step will be to put in place as soon as possible an ambitious investment taxonomy that will make brown activities unattractive to investors.

But these tools will not be enough to encourage the efficient deployment of immature low-carbon technologies, which are confronted with several market failures. Private deployment of low-carbon technologies will help to bring down the cost of these technologies (as was the case for photovoltaic, wind, batteries and electric vehicles) and will therefore enable large-scale take-up in the EU and beyond.

Hence, public support instruments beyond carbon pricing will be crucial for an efficient decarbonisation pathway. Particularly important will be public support for private R&D investment, pilot projects and first deployment. Much of the monetary incentives will have to come from the member states. But the Commission must enable and encourage such incentives by allowing EU countries (especially in terms of state aid rules) to experiment with support programmes.

Improving the financing conditions for green private investment

Many green technologies are more capital intensive than brown technologies. Consequently, financing conditions play an important role in the technology choices of economic actors.

In other words, there are many sectors in which, depending on the interest rate and on their access to finance, households and companies can choose either green (for example an electric vehicle with a high capital cost but lower fuel costs) or brown (for example a conventional car with a lower upfront cost but higher fuel costs)[27].

Direct support for private investment is thus complementary to the price and regulatory incentives needed to solve market failures. In particular, it is crucial to provide assistance to valuable projects that face financing constraints because their social desirability arises from positive externalities that are not internalised by private investors or manifests itself beyond the maturity of traditional financial instruments – scenarios that are particularly the case for green investment.

The best instrument for this would be to use more actively public development banks – the EIB and national public finance institutions – to finance the transition.

On that front, the Commission's main tool to crowd-in private investment will remain InvestEU, the upgraded version of the Juncker Plan, which at time of writing is planned to continue to be part of the EU Multiannual Financial Framework for 2021-2027.

The Juncker Plan was originally intended as a short-term demand stimulus to substantially leverage the Commission's limited resources through private investment. The European Fund for Strategic Investments (EFSI) – the formal name of the main instrument of the Juncker Plan – received a €16 billion guarantee from the EU budget and €5 billion of the EIB's own resources to enable the EIB Group to invest in riskier projects that have difficulty finding other sources of financing, and to reduce the potential crowding-out effect, without risking its AAA rating.

This was supposed to generate at least €315 billion of additional investment before mid-2018 by crowding-in private investors. EFSI was extended in 2017 until 2020 and the guarantee increased to €33.5 billion (€26 billion from the EU guarantee and €7.5 billion from the EIB) with the goal of mobilising €500 billion in additional investment by 2020.

For 2021-2027, the proposed size of the InvestEU guarantee is €38 billion, which is expected to mobilise €650 billion in investment, with 30 percent of this overall budget contributing to climate objectives.

It is difficult to assess if the Juncker Plan has achieved its goal and contributed significantly to an increase in investment in Europe, but the European Court of Auditors (2019) and Claeys and Leandro (2016) were sceptical about the additionality of investments decided under the plan.

According to the European Court of Auditors (2019), at least one third of the projects were not additional, ie. they could have been executed without EFSI, either by the EIB without EU budget support, or via alternative private financing sources.

Another issue with the plan is the slow disbursement of the funds. According to the EIB's own model (EIB, 2018), the peak impact of the plan will be in 2020-2021, six years after its design and 12 years after the beginning of the crisis. The Juncker Plan could not function as a stimulus tool.

However, despite its flaws as a stimulus plan, the Juncker Plan was a smart attempt to leverage the very limited EU resources using private capital markets. Moreover, improvements were made when the plan was renewed in 2017, and others improvements are envisaged as part of the InvestEU proposal. The new approach is to put less emphasis on volume and more emphasis on investing in the EU's top priorities, in particular fighting climate change.

For InvestEU to become the main financial vehicle of the European Green Deal, its guidelines need to be much stricter in terms of sustainability

However, to ensure InvestEU succeeds, additional changes to the programme and its governance should be made. In particular, the additionality criteria in the choice of projects that can benefit from the EU guarantee should be improved. To ensure that these projects are additional, they need to be different to the usual EIB projects, otherwise the green investment gap will not be reduced. The EIB's internal rating currently plays an important role in determining whether projects can be submitted to the independent committee in charge of granting the EFSI label.

However, the ratings themselves are provided by the EIB team, creating a risk that the EIB has an incentive to underrate projects to make them eligible for the EU guarantee and to reduce its own risks. As a safeguard against this, the rating could be delegated to an independent team.

Other changes could also be considered to ensure that financed projects are different from traditional EIB projects, such as the systematic use of subordinated instruments or of instruments with longer maturities. Furthermore, to be truly additional, InvestEU should focus on projects that really lack financing options.

In addition, for InvestEU to become the main financial vehicle of the European Green Deal, the guidelines need to be much stricter in terms of sustainability. For instance, almost three quarters of the projects supported by EFSI in the transport sector in the first three years of the programme were high-carbon projects, and EFSI still supports fossil-fuel projects in the energy sector (Roggenbuck and Sol, 2019). The selection of projects thus needs to be much stricter and in line with climate goals.

A more radical approach could be for the Commission to push for the reform of the European Investment Bank in order to adapt its mission and transform it into the EU's climate bank. In her political guidelines, von der Leyen said she wanted to increase the share of total EIB financing dedicated to climate investment from 25 percent to 50 percent by 2025. To do this, the Commission must convince the EIB board of governors – the finance ministers of EU countries – to change how the EIB functions and the projects it invests in[28].

If the Commission wants the EIB to contribute to filling the green investment gap, it must avoid duplication of investment already committed under national budgets or EU Structural Funds, or that could be financed by the private sector. Instead, to best use limited EU funds, the EIB should be refocused on financing investments that are strategic, in particular in the energy transition.

In addition, the EIB – even without the EU budget guarantee for EFSI – should be able to do more to finance the transition. Its volume of new lending disbursed has gone down every year since 2015, and its total outstanding amount of loans has fallen as well.

The EIB has clearly some margin of manoeuvre to act more forcefully: its capital ratio has gone up in recent years, its leverage has been going down since 2012, and according to its statutes (article 16.5), it can lend as much as two and a half times its level of subscribed capital, plus reserves and profits, which means its portfolio of loans could reach around €600 billion, compared to about €450 billion today.

The EIB currently benefits from very favourable rates for its borrowing from capital markets[29] and it would be a shame not to use this opportunity to finance worthwhile projects that can contribute to the fight against climate change.

If EU countries are (unduly) afraid for the EIB's rating, the Commission should propose a new capital increase, similar to that which was done at the beginning of 2013 to increase the EIB's firepower to fulfil its enhanced mission as the EU's climate bank.

An additional important part of transforming the EIB into the EU's climate bank is scaling-up its technical assistance activities, which are important for supporting local governments across Europe in developing (ie. procuring) and structuring clean energy projects.

An industrial policy for the European Green Deal

To be politically and socially accepted and supported, the European Green Deal must make decarbonisation into an opportunity to revitalise European industry, and thus to ensure long- term economic growth and jobs. That is, while heading towards climate neutrality by 2050, the European economy has to remain highly competitive at global level, in the context of increasing competition from China and other big players.

While EU countries implement their own industrial policies, it is important to also have a broader EU-level industrial policy, in order to prevent market distortions and to allow synergies and economies of scale.

An EU industrial policy for the European Green Deal should be structured according to a three concentric circles strategy.

Circle 1: foster disruptive innovation

Innovation is the driving force for decarbonisation, and will be at the core of the decarbonisation of industry. To achieve climate neutrality while leading global decarbonisation from an industrial standpoint, Europe must become a global innovation powerhouse for clean energy, clean mobility and smart buildings technologies. To do so, Europe must invest more in R&D, and must invest better.

- Investing more: Europe's R&D spending in relation to GDP remains lower than in other major economies. In 2015, Europe's private and public sectors combined spent 2.04 percent of GDP on R&D, compared to 2.07

percent in China, 2.79 percent in the US, 3.29 percent in Japan and 4.2 percent in South Korea (Eurostat, 2019). Europe will thus not meet the target it set itself in 2010 to spend 3 percent of GDP on R&D by 2020. The EU business enterprise sector in particular needs to invest more. Its share of total R&D expenditure is much lower in Europe (64 percent) than in the US (72 percent), or China, Japan and South Korea (almost 80 percent) (Eurostat, 2019).

- Investing better: Europe is a global innovation leader in sectors such as automotive and biopharma, but is less present in the fast-growing technological, electronics and digital sectors that will increasingly underpin clean energy, clean mobility and smart buildings solutions. To turn decarbonisation into an industrial opportunity, the EU must push the business enterprise sector to scale-up its R&D investment also in these disruptive sectors.

In the framework of the European Green Deal, two existing EU initiatives could be enhanced and used to stimulate more R&D investment by the business enterprise sector in clean disruptive technologies.

The first tool is the European Innovation Council (EIC), currently in pilot phase. This is inspired by the US Defense Advanced Research Projects Agency (DARPA), an agency of the US Department of Defense that has significantly contributed towards many technologies, including the internet and GPS.

DARPA has a rather limited budget of about $3 billion per year and focuses on the identification and recruitment of, and provision of support to, top innovators. Likewise, the EIC is designed to financially support – through a combination of grants and equity – innovators who are developing high-risk, disruptive innovations with the potential to create new markets.

The EIC could become the core innovation tool of the European Green Deal, with a strong mandate in the areas of clean energy, clean mobility and smart buildings. To enable this, and to make the EIC truly comparable to DARPA, the EIC will have to be endowed with at least €15 billion from 2021 to 2027 under Horizon Europe[30].

The second tool is the Innovation Fund (IF). Established under the EU ETS for the period 2021-2030, the IF supports the demonstration of low-carbon technologies and processes in energy-intensive industries, carbon capture and utilisation and storage of carbon dioxide (CCU and CCS), innovative renewable energy and energy storage technologies.

The IF has been endowed with at least 450 million carbon allowances, amounting at current carbon price levels to about €11 billion. A sensible way to further scale-up the IF would be to rapidly reduce the number of allowances allocated for free under the ETS, and to use the resulting revenues for the IF.

In general terms, it must be emphasised that fostering disruptive innovation will require a significant dose of risk-taking and an acceptance that there will be failures. New support models that provide numerous and still sizeable grants in a relatively non-bureaucratic way are crucial to enable disruptive ideas to emerge.

Accepting that a significant proportion of these ideas will fail is better than putting money on safe but non-disruptive bets[31]. As Rodrik (2014) put it *"failure is part and parcel of a successful industrial policy effort"*[32].

Circle 2: create the conditions for innovative European companies to flourish in a receptive market

Public funding for disruptive technological innovation does not by itself guarantee industrial development. The success of DARPA strongly relates to the overall US economic ecosystem, which strongly favours innovation, and to its ability to turn disruptive innovations into marketable products. DARPA's limited budget shows that creating the conditions for making innovative products marketable can be more important than public funding for innovation itself.

The EU has three main tools to create the conditions for innovative, green, European companies to flourish in a receptive market.

The first, more general, tool is the completion of the EU internal market. Fragmentation in environmental standards, energy taxation and support measures for clean technologies prevent innovative European cleantech companies from scaling up in the way that their US and Chinese competitors do on their domestic markets.

It is vital to develop a solid regulatory framework, focused on ensuring competition and access to a truly single market, with common environmental standards. To do this, national industrial policies need to be coordinated – otherwise they create distortions that lead to further fragmentation of the EU single market. As Altomonte and Veugelers (2019) put it: *"failing to coordinate would hamper the full exploitation of the size of the EU market and the related economies of scale."*

The second, more specific, tool is public procurement. In the EU, this is estimated to amount to about 16 percent of GDP (European Commission, 2018). Given its scale, public procurement represents a unique tool to foster innovation.

For example, requiring clean mobility solutions in public procurement tenders could provide a solid boost to the demand for electric cars and buses, helping transform the European automotive industry. To become the global leader in electric cars, China did not focus on public funding for innovation, but rather on creating demand for them through supportive government policy, including public procurement programmes (Fredriksson *et al* 2018).

The third tool is carbon-based contracts for difference, which could be a technology-neutral support mechanism for the deployment of low-carbon technologies. As in the renewables sector with auctioned feed-in premiums, industrial producers of carbon-intensive products would obtain a public subsidy for each unit sold.

For example, a steel producer that only needs 0.5 tonnes of CO_2 to produce one tonne of steel (compare to a benchmark of 1.5 tonnes of CO_2/tonne of steel), and that managed to secure a carbon price of €50 per tonne through the system of carbon-based contracts for difference, would receive €25 for each tonne of its low carbon steel when the EU ETS price is at €25. These contracts for difference can be auctioned to ensure competition between companies for the most efficient technologies.

Fragmentation in environmental standards, energy taxation and support measures for clean technologies continue to prevent innovative European cleantech companies from scaling up

These three complementary tools can foster the emergence of the necessary ecosystem that will enable innovative green European companies to grow in a receptive market.

Circle 3: export the European Green Deal

The EU produces less than 10 percent of global greenhouse-gas emissions. This implies that to have an impact on global temperature levels, the EU needs to push the European Green Deal beyond its borders. To do so, a two-step strategy is needed.

The first step would be the rapid establishment of the Neighbourhood, Development and International Cooperation Instrument (NDICI), which has been proposed by the European Commission as part of the EU's 2021-2027 budget discussions (ongoing at time of writing). NDICI would bring together EU funding for its external policies in a single instrument.

The Commission has proposed a budget of €89.2 billion for the NDICI for 2021-2027, while the European Parliament has called for a budget of €93 billion. A quarter of the NDICI budget would be earmarked for climate action – about €3 billion/year over the period.

NDICI should be put in place quickly because the sooner it is in place, the sooner the EU can increase its visibility and leverage in developing countries, while pooling existing resources would favour internal efficiency and – most importantly – impact in the field (Tagliapietra, 2017a). Meanwhile, the climate component of NDICI should be scaled-up, to reach, say, a minimum of €5 billion/year.

A higher amount would give NDICI more leverage to stimulate recipient countries to implement the energy-market reforms that are necessary to attract international (and thus also European) private investors.

The second step would be to further consolidate and streamline EU development finance and climate activities outside Europe, which are today divided between the European Commission, the EIB, the European Bank for Reconstruction and Development (EBRD) and EU countries.

Streamlining could be done by creating a single entity such as a European Climate and Sustainable Development Bank, as proposed by Council of the European Union (2019), which strongly made the case for fixing the current system of European multilateral finance, which is characterised by overlaps, gaps and inefficiencies.

It will be important to use the revenues from climate policies to compensate the citizens most affected by the rise in carbon prices

Council of the European Union (2019) outlined three options for creating a European Climate and Sustainable Development Bank: i) building on the EBRD and the external financing activities of the EIB; ii) creating a new, well-capitalised, institution with mixed ownership (including the European Commission, EIB, EBRD, EU countries and others); iii) creating it as an EIB subsidiary. Together with NDICI, a European Climate and Sustainable Development Bank could become a key tool to export the European Green Deal.

Such an approach would represent a triple win for the EU. First, it would help meet the EU's climate finance obligations and thus help to achieve the 'conditional' emission-reduction commitments assumed by most developing countries under the Paris Agreement.

Second, it would enable EU industry to enter into new, rapidly growing, markets. And third, it would help economic development in the EU's partner countries, providing an invaluable foreign policy dividend for the EU.

How to make the transition inclusive and just

Climate policies including emissions standards for cars, renewables support financed through levies on households' electricity consumption and carbon pricing for heating fuels disproportionately affect poor households, and might thus lead to an increase in inequality (Zachmann *et al* 2018).

The impact will be particularly significant for the lowest deciles of the income scale, for those in rural and suburban areas (who will be affected by the rise in fuel prices) and for regions that are particularly dependent on the production of fossil fuels, such as coal, and will thus be affected by the disappearance of some industries and jobs. This means that some segments of the population and some regions particularly affected by the transition will require special assistance.

However, while climate policies can have adverse distributional consequences, inaction cannot be the answer. Not acting would make everybody worse off, ultimately with a greater negative affect on low-income households compared to high-income households. There is hence no trade-off between climate and equity.

From a political perspective, what makes the situation more difficult is that the gains from climate policies will mostly be invisible if these policies succeed and disaster is avoided, while the costs of climate policies are immediate and tangible, especially for the most vulnerable population groups.

To avoid a dangerous backlash against climate policies (such as the reaction that was at the root of the *gilets jaunes* movement, which led the French government to abandon an expected carbon tax increase), the question is therefore how climate policies and compensation schemes should be designed to counterbalance these adverse distributional effects.

Designing less-regressive climate policies

The first solution is to prioritise less-regressive policies and focus on less-regressive sectors first. Climate policies for different products/services have different distributional impacts. In order to reduce the regressive effects, climate policymakers might prioritise the least-regressive elements.

For example, putting high prices on carbon in transport, and in particular on aviation, will have less dramatic distributional consequences than a similar price for heating or electricity.

Policymakers should also focus on less-regressive policy tools. Different instruments can be used to decarbonise a sector and some policy instruments are more regressive than others. Policy choices should therefore be concerned not only by effectiveness and efficiency considerations, but should also take distributional aspects into account.

In the discussion on taxes versus technology standards, distributional concerns provide an additional argument for the former.

Most importantly, policy design should seek to minimise regressive effects. For example, giving free allowances to companies whose face-value is priced in for consumers is an unnecessarily regressive instrument.

Correcting regressive climate policies through compensation

Policies dealing with the social consequences of the transition and ensuring that no one is left behind will take two complementary forms.

Countries strongly reliant on coal use employment as an argument to delay the necessary transformation, though coal jobs in Europe no longer represent a sizable issue

First it will be important to use the revenues from climate policies (and in particular the increased revenues resulting from a more comprehensive carbon pricing system) to compensate the citizens most affected by the rise in carbon prices.

To do this, money raised from taxing emissions could be returned to citizens in the form of a so-called dividend[33]. This could take the form of lump sum transfers like in Switzerland, where two thirds of the revenues from carbon levies go back to the population through this means[34].

Money can also be targeted at the lower deciles of the income distribution. This is the case, for example, in British Columbia in Canada, where revenues from the carbon tax have been used to reduce taxes for the lowest paid, plus provide an additional transfer conditional on low income levels.

In the light of the fiasco of the increase in the French carbon tax in 2017-18, which resulted (in combination with a large increase in oil prices) in the emergence of the *gilets jaunes* movement, Bureau *et al* (2019) made a detailed proposal for France that could be used as a blueprint in many EU countries.

They proposed to redistribute fully the French carbon tax revenues, through transfers based on income and geographical criteria, targeting the most affected locations such as rural and small urban areas with limited access to public transport. Using this combination of criteria would minimise the number of people negatively affected by the rise in carbon prices – in the French case such a system of transfers would compensate fully the six lowest deciles of the income distribution.

From a political perspective, it appears that well-designed compensation mechanisms are crucial if the population is to accept climate policies. This is what the Swiss, Canadian and French (in a negative way) examples suggest.

What should the European Commission do on that front? Given that most of the revenues from the ETS and from national carbon taxes go directly to member states, the EU cannot directly put in place such a compensation scheme.

However, as part of the European Green Deal, the Commission should at least raise awareness about this issue among EU countries, encourage them to share best practices and even make recommendations in the context of the European Semester for such schemes that could be put in place at national level.

Second, given that the reallocation of capital resulting from the fight against climate change will also result in a reallocation of employment, it is crucial to put in place policies to facilitate the transition towards new jobs for those whose jobs are at risk. Even if overall the net effect on employment is neutral or even slightly positive, the transition will make some jobs disappear, while creating new ones[35].

The transitional issue related to climate change is not very different to the challenges from globalisation or technological change, so the solution could be the same: if a change in the demand for skills is rapid, there is a role for authorities to play to ensure that the workforce (and in particular displaced workers with low skills) can be retrained successfully and quickly.

It is thus crucial to invest heavily in human capital: adult education, re-training, and policies to improve the labour mobility of older workers, to avoid a high level of unemployment in some particularly affected regions.

At the EU level, Claeys and Sapir (2018) and Tagliapietra (2017) proposed broadening the scope of the European Globalisation Adjustment Fund so it can also finance active labour market policies to help workers who have lost their jobs as a result of the implementation of EU climate policies.

Managing the transition in coal and energy-intensive regions

Over the last few years it has become evident that supporting coal and energy-intensive regions is of vital importance to ensure the social viability and political feasibility of the transition to climate neutrality. Countries strongly reliant on coal keep using employment as an argument to delay the necessary transformation. But this argument is hollow, because coal jobs in Europe no longer represent a sizable issue, either at national or regional level.

Production of coal in the EU has been decreasing since 1990. Alves Dias *et al* (2018) estimated that by 2030 the closure of coal mines and coal-fired power plants across the EU could lead to a loss of 160,000 jobs (or 0.06 percent of the current EU workforce). It should also be noted that 109,000 of these jobs are already considered at high risk, because of a lack of competitiveness.

While coal jobs are objectively not substantial from EU or national perspectives, their loss could have a substantial impact from a regional perspective. By 2030 several regions are expected to be particularly hard hit by the transition: one region in Poland could lose up to 41,000 jobs, and a further three (in the Czech Republic, Romania and Bulgaria) could each lose more than 10,000 jobs (Alves Dias *et al* 2018).

Given the limited and regional nature of this challenge, the EU could well provide a solution for the coal jobs that will be lost in the transition. Offering such a solution would be beneficial in terms of: i) refocusing the coal transition debate on the only area it should belong to – energy policy; ii) providing an incentive to coal-reliant countries to implement or accelerate coal phase-out plans.

The EU should propose to member countries a speedy coal phase-out and should con- currently put in place a scheme, such as the Just Transition Fund proposed by von der Leyen (2019), to support workers who would face losing their jobs. This would reflect what it is already being done in the United States[36], and what was done in Europe during the coal-mining transformation of the 1950s[37].

In 2017, the European Parliament proposed the creation of a Just Transition Fund, which would use 2 percent of the revenues from the auctioning of emission allowances to support regions with a high share of workers in carbon-dependent sectors and where per capita GDP is well below the EU average.

This proposal was rapidly dismissed, however, notably because of opposition from the European Commission.
In 2018, the European Parliament put forward a new proposal to establish a Just Transition Fund, this time in the context of the MFF negotiations, and with a proposed endowment of €4.8 billion for 2021-2027.

The EU does not need to establish a new Just Transition Fund to support coal-mining regions; it only needs to make a better use of the existing European Globalisation Adjustment Fund

But the EU does not need to establish a new Just Transition Fund to support the transition in coal-mining regions. It only needs to make a better use of the existing European Globalisation Adjustment Fund (EGF), which was established in 2006 and has a maximum annual budget of €150 million for 2014-2020 – a budget that has so far not been fully employed, with on average €40 million disbursed from the EGF each year.

The EGF supports workers who lose their jobs because of major structural changes in world trade patterns arising from globalisation. It can be triggered when more than 500 workers are made redundant by a single company, or if a large number of workers are laid off in a particular sector in one or more neighbouring regions. The EGF provides up to 60 percent of the funding for projects, lasting up to two years, to help workers who have been made redundant find new employment or set up their own businesses. EU countries apply for finance from the EGF and national or regional authorities oversee the deployment of project funds.

The EGF has been transformed over time. In 2009, its scope was broadened to cover also people losing their jobs as a result of the global financial and economic crisis. In 2014, the categories of workers eligible for support were broadened to include young people not in employment, education or training (NEETs).

In short, the EGF has been adapted to new economic and social challenges emerging in Europe. The EGF should now be extended to people losing their jobs in coal-mining regions as a result of the decarbonisation process[38].

This can be done quickly by amending the regulation governing the EGF, as was done in 2009 in response to the negative impact on employment of the global financial and economic crisis. The amendment could increase the use of the currently under-utilised EGF (Claeys and Sapir, 2018). The amendment should:

- Broaden the scope of the EGF, to include support for EU coal-mining regions that commit to a timely coal phase-out;

- Modify the redundancies requirements, to allow the EGF to be used not only once workers lose their jobs, but also before this happens. This would allow the planning of an orderly transition, limiting the socio-economic effects of the coal phase-out in these regions;

- Extend the implementation period from 24 to 36 months, to allow for proper implementation in complex cases, such as the closure of coal mines.

Under the 2021-2027 EU budget, the focus of the EGF on coal-mining regions could be further strengthened, transforming it into a European Globalisation and Climate Adjustment Fund (EGCF).

In order to ensure coal mining is phased out across the EU by the end of the 2021-2027 EU budget cycle, the EGCF would need to be endowed with adequate financial resources, with additional resources taken from the European Social Fund. The 'coal-item' in the EGCF budget for 2021-2027 should be €150 million per year, a total of €1 billion over the period (Tagliapietra, 2017).

By mobilising about 0.1 percent of its total budget, the EU could thus provide a significant incentive to coal-reliant EU countries to complete the coal phase-out, generating substantial benefits in terms of climate, environment and human health. Doing so on the basis of the existing EGF could speed up the overall process by avoiding the bureaucratic hurdles related to a new institutional set-up.

Concluding remarks

The recipe for the success of the European Green Deal is as simple as it is breath-taking: to intelligently promote deep decarbonisation by accompanying the economic and industrial transformation this necessarily implies, and by ensuring the social inclusiveness of the overall process.

Should the strategy succeed, the European Green Deal might become a blueprint for other countries and a tangible example that pursuing climate neutrality is technically feasible and economically and politically viable.

To be clear, this will not be an easy ride. As in any revolution, there will be winners and losers. What a European Green Deal should do is provide a clear sense of direction to citizens and companies, and put in place mechanisms to ensure that the most vulnerable segments of society are supported and not left behind.

But to be politically sustainable, policymakers must be honest about the nature of the European Green Deal.

The European Green Deal does not need to redefine EU economics. All it needs to do is to shift our economy from fossil fuels to zero-carbon in a way that's socially and politically viable.

The European Green Deal should thus not be promoted as a powerful economic bazooka, but rather as an efficient reallocation mechanism, fostering investment shifts and labour substitution in key economic sectors, while helping the most vulnerable segments of society throughout the process.

In practice this means promoting a shift from fossil fuels to renewables, turning combustion-engine car jobs into electric car jobs, compensating low-income households for higher fuel prices and re-training coal miners to get new jobs.

This is how President von der Leyen should present the European Green Deal to make it socio-economically successful and politically sustainable. ■

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Endnotes

1. Without a carbon price, falling fossil-fuel prices might make it attractive to use fossil fuels in unregulated sectors, while greater efficiency of devices might encourage increased usage (rebound effect).

2. This is becoming more important as electrification is seen as a main avenue for decarbonisation. When fossil fuels in heating, cooling, mobility and other energy services compete with electricity, they should not be subject to (too) different carbon prices.

3. That is, when the level of the carbon price is very far from the marginal abatement cost in this sector.

4. This should also include the harmonisation/cancellation of existing national compensation schemes for indirect emission costs in the EU ETS.

5. For example, those EU countries that have above-average 'effort sharing' targets for 2030.

6. There is a complex national patchwork of explicit or implicit taxation of fossil fuel use in transport and heating (Kettner-Marx and Kletsen-Slamanig, 2018).

7. A surplus of emission allowances has built up in the ETS since 2009, as a consequence of the economic crisis and high imports of international credits. This led to low carbon prices. This problem was addressed by introducing in January 2019 a market stability reserve: a system under which 900 million allowances are transferring into a reserve rather than *auctioned. As a consequence of this intervention, the price of emission allowances quickly increased from below €10 in early 2018 to about €25 per tonne of CO_2 at the time of writing.*

8. For more details on such guarantees, see Zachmann (2013).

9. There is no European Commission modelling on what carbon price would be needed to achieve 50-55 percent decarbonisation by 2030. Existing modelling for policies that imply a 45 percent emissions cut by 2030 compared to 1990 indicate a carbon price of at least €28. But targeting to go from 4300 million tons of CO_2 equivalent of greenhouse gases (mt) in 2020 to 2600 mt (a 55 percent reduction compared to 1990) instead of 3100 mt (minus 45 percent compared to 1990) implies an almost 50 percent increase in mitigation (from 1200 mt to 1700 mt), which arguably comes at strongly increasing marginal cost. See https://ec.europa.eu/energy/sites/ener/files/technical_note_on_the_euco3232_final_14062019.pdf

10. The EU ETS covers less than half of all emissions. Only about 60 percent of the allowances are auctioned, and the price at time of writing is around €25.

11. By definition, carbon tax revenues would go into the general budget. But implicit linkage to expenditure is a common practice when introducing new taxes. For revenues from the ETS, the EU and member states would be relatively free to dedicate it to specific purposes.

12. The EU could use standardised norms such as ISO 14067 that have been created to measure the carbon footprint of products (for details, see https://www.iso.org/obp/ui#iso:std:iso:14067:ed-1:v1:en).

13. In 2012 the EU tried to make intercontinental flights leaving from or arriving in the EU buy emission allowances for the whole emissions of each flight. It was seen as a relatively simple case. Nevertheless, WTO compliance of the scheme was challenged and fierce opposition from the US and China (which threatened to retaliate by no longer buying Airbuses) killed the project politically.

14. See, for example, Horn and Sapir (2019) and Wolff (2019).

15. Our proposals would actually give time to the European Commission to prepare a ready-made solution for a CBT if it is needed in the future.

16. See for instance European Commission (2018a).
17. However, this estimate corresponds to a -40 percent emission reduction target, not to the more ambitious -55 percent proposed by Ursula von der Leyen. As abatement costs are typically non-linear, the green investment gap to reach that target could even be larger.
18. For instance, the PRIMES model used by the European Commission "does not include investment in roads, railways, ports and airports infrastructure and in systems facilitating sharing of vehicles etc., as these are out of the scope of the model. Investment or hidden costs related to behavioural or organisation structural changes or in sectors outside energy are not part of the calculation of investment expenditures either. Generally, the model does not include the full investment expenditure of industrial plants and buildings, but only the parts that relate to energy and efficiency and to a certain extent to the additional investment expenditure to change process technology in the industry" (European Commission, 2018b, p330).
19. This number increases further if the international climate finance promises of developed countries from the 2015 Paris Agreement are added ($100 billion per year).
20. This is probably the case because the models used assume a low multiplier on average over the next decade.
21. This does not take into account, however, that averting climate change soon enough would lead to the avoidance of (hardly quantifiable) costs related to health care, climate-related damage, the loss of value of stranded assets, migration, and to compensation for distributional effects.
22. Actually, boosting growth significantly could make the climate targets harder to achieve, unless a full decoupling of economic growth and greenhouse gas emissions is achieved thanks to technological progress.
23. https://cohesiondata.ec.europa.eu/Other/-of-cohesion-policy-funding-in-public-investment-p/7bw6-2dw3
24. Today, the investment clause is subject to the following conditions: that the member state's GDP growth is forecast to be negative or to remain well below its potential (resulting in negative output gap greater than 1.5 percent of potential GDP) and that the member state remains in the preventive arm and that an appropriate safety margin with respect to

the 3 percent of GDP deficit reference value is preserved (European Commission, 2019c). As a result of these restrictive conditions, only two countries, Italy and Finland, have so far applied to the use the investment clause.
25. Such a taxonomy is at time of writing under discussion; see https://ec.europa.eu/info/business-economy-euro/banking-and-finance/green-finance_en
26. Overall, it is useful to remember as an order of magnitude that public investment represents around 3 percent of EU GDP, while private investment represents 17 percent of EU GDP in 2019 (AMECO).
27. The current low interest rates are thus good news for low-carbon technologies but there is no guarantee that interest rates will remain as low as now throughout the whole transition.
28. The EIB has proposed to its member to stop lending to fossil fuel projects by 2020, but this crucial move is currently blocked by some countries which still want gas projects to be financed by the EIB. If this might help to reach the 2030 target, it is however important not to forget the final objective of reaching carbon neutrality by 2050, which has some implications for the investments made before 2030. This 'path dependence' should rule out substituting carbon with gas, which might be good enough for reducing 2030 emissions, but is incompatible with the 2050 neutrality.
29. The EIB issued on 18 September 2019 bonds with a 15-year maturity worth €3 billion at 0.05 percent.
30. Horizon Europe is the EU's research and innovation framework programme for the period 2021-2027. The European Commission proposed to endow it with a budget of €100 billion, while the European Parliament has proposed €120 billion. Of the eventual budget, 35 percent is due to be earmarked for climate-related research.
31. The European Research Council is a good example of the value of risk-taking, as so far it has funded seven Nobel Prize laureates.
32. Rodrik also recalls an anecdote about Thomas Watson, the founder of IBM, who supposedly advised cautious managers that: "if you want to succeed, raise your error rate."
33. It is true that tax revenues are generally fungible in the overall budget, but some mechanisms should be put in place to ensure transparency of the level of revenues generated by the carbon tax, so that governments can show that they use the revenues to compensate those most affected by the tax.

34. Another interesting policy put in place in Switzerland is the mechanism by which the carbon price increases automatically if emission targets are not met, but price rises are postponed if they targets are exceeded. This provides citizens with an incentive to control their emissions, as noted by Bureau et al (2019).

35. Sectors in which jobs could be lost include power generation using fossil fuels (including coal mines, fossil-fuel power plants an refineries), energy-intensive manufacturing, transport, the equipment sector for fossil-fuel technologies and retail sales of fossil fuels (eg. gas stations). In principle these job losses will be compensated for by new jobs in sectors including renewable energy installation, maintenance and operation, and construction (because of the need to renovate the building stock). The renewable energy sector should create more domestic jobs than the fossil-fuel energy sector (see Zachmann et al 2018).

36. The concept of a 'just transition' was developed by North American unions in the 1990s, with a focus on support for workers who lost their jobs as a result of environmental protection policies. Examples of US federal just transition initiatives include President Obama's Partnerships for Opportunity and Workforce and Economic Revitalisation and President Trump's Assistance to Coal Communities programme.

37. Europe's 1950s transition mechanism for coal-mining regions was the European Coal and Steel Community (ECSC) Fund for the Retraining and Resettlement of Workers. With the 1957 Treaty of Rome, this fund was transformed into the European Social Fund, which in its early stages was used to support workers who lost their jobs in sectors that were modernising, such as coal mining.

38. In 2017, a first coal-related project was financed by the EGF, to support the Spanish coal-mining region of Castilla y León. Spain applied for a €1 million to help redundant coal miners and young NEETs in the region find new jobs, following the dismissal of 339 coal workers in five coal mines. In order to be eligible, Spain had to establish a link between the redundancies and major structural changes in world trade patterns resulting from globalisation. Spain successfully argued that the European coal industry is increasingly suffering from competition from cheaper coal from non-European countries.

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The authors are grateful to Jean Pisani-Ferry, Dirk Schoenmaker, Reinhilde Veugelers and Guntram Wolff for their input and encouragement. This article was originally published on Bruegel


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We’re in danger of forgetting the lessons from Bretton Woods

Roberto Azevêdo says the world risks forgetting the importance of a rules-based system of economic cooperation, which has underpinned decades of unprecedented peace and prosperity

The WTO, the World Bank, and the IMF have a long track record of working together. It's something I've worked to enhance while in office. Based on my interactions with David at the G7 and in Berlin, and Kristalina's strong support for the trading system, that cooperation is set to keep growing.

Big anniversaries are an occasion to look back and reflect. Today's event is timely for reasons that go beyond a 75th birthday. Not because the key lessons from the Bretton Woods Conference have changed. But because — more than at any point in the past seven decades — we seem to be in danger of forgetting those lessons.

When policymakers from 44 Allied nations gathered in New Hampshire in July 1944, battles were still raging in Europe and the Pacific. Yet their focus was not the war, but the peace that had become visible on the horizon.

Their goal was to prevent a repeat of the 'beggar-thy-neighbour' trade and currency policies of the 1930s. Economic isolationism had deepened the Great Depression and fuelled political extremism, fragmentation and war. More trade and economic interdependence, they believed, would foster durable prosperity and security. Economic cooperation was the means to that end.

They succeeded. The Bretton Woods Conference laid the groundwork for a new era of global economic cooperation. This cooperation was embedded in the International Monetary Fund, the World Bank, and the multilateral trading system.

Any institution created by humans is imperfect. Our institutions were — and are — no exception. Nevertheless, this system of rules-based economic cooperation has underpinned decades of unprecedented peace and prosperity. International trade has increased more than 37 times since the GATT was created in 1947, far outstripping growth in economic output. The WTO's binding rules now extend to 164 members, covering 98% of world trade.

Predictably open international markets have helped enable rapid growth and poverty reduction in developing countries. As recently as 1980, 40% of people lived in extreme poverty. Today it is fewer than one in ten, and the international community aims to end extreme poverty by 2030.

Here's one measure of the success of the post-Bretton Woods order: try to picture how the world would look without institutionalized economic cooperation. It takes more than a bit of imagination.

Rules are critical for global economic growth, and they are better when they can be effectively enforced

In contrast, participants at Bretton Woods knew exactly how the absence of cooperation looked. They had lived through the political and economic disaster of the interwar period. Good ideas were out there — for example, ill-fated world economic conferences in the 1920s and 30s had sought to bring down trade restrictions and restore monetary order.

But institutions were weak. And the Depression swept away whatever willingness leading economies had to work together. Countries turned inward — with results that were collectively, and individually, disastrous.

As the late MIT economist Charles Kindleberger put it: *"When every country turned to protect its national private interest, the world public interest went down the drain, and with it the private interests of all."*

Compare this with the response to the financial crisis of 2008-09. By acting through international forums like the WTO, the IMF and the G20 — and with the World Bank ramping up lending support — governments delivered coordinated fiscal and monetary stimulus. They kept markets broadly open. Global value chains remained intact, with the jobs and purchasing power they entail. By paying heed to the global public interest, countries better served their national interests, and the interests of their citizens.

Nevertheless, a decade on, the global economic order is under severe strain. Powerful voices claim that national well-being is hurt, not helped, by international rules.

Yet the fact is that international economic cooperation is perhaps even more necessary today than it was in 1944. The world economy is increasingly multipolar, making national and international economic interests intertwined even for the largest economies. Policies have economic and environmental effects that are keenly felt across international borders.

Institutions like the WTO, the World Bank, and the IMF have a critical role to play in managing spillovers and mediating tensions in the collective interest. Only by working together — and coherently — will we be able to meet the growth, sustainability, employment, and development goals we all share.

We cannot afford to stand still. Over the past 75 years, our three institutions have already changed in ways that would have astonished the officials who went to Bretton Woods.

As far as the WTO is concerned, our ability to foster predictability, investment, and growth requires us to adapt to a fast-changing world — a world of disruptive technologies and unprecedented ways of doing business.

The good news is that WTO members are working to modernize our rulebook. Indeed the much-called-for WTO reform is already happening. Starting with the Trade Facilitation Agreement in 2013, members have pragmatically struck deals that delivered gains for everyone.

Alongside longstanding issues like agriculture and development, they are now addressing issues that define 21st century commerce. This December, WTO members have an opportunity to strike an agreement on curbing fisheries subsidies. This would make an important contribution to restoring depleted marine fish stocks.

Rules are critical for global economic growth, and they are better when they can be effectively enforced.

In closing, I want to recall something US Treasury Secretary Henry Morgenthau said at the end of the Bretton Woods Conference: *"We have come to recognize that the wisest and most effective way to protect our national interests is through international cooperation — that is to say, through united effort for the attainment of common goals."*

His words were true in 1944. They are every bit as true today. ■

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This article is based on a speech delivered at an event in Washington on 17 October to mark the 75th anniversary of the Bretton Woods Conference

An Asia trade war threatens

The trade war between the USA and China is ongoing. Abhijit Mukhopadhyay says the Japan-South Korea dispute threatens to further derail international business

The background

The full-blown trade war between the USA and China is yet to be resolved substantially, despite repeated negotiations. Meanwhile, in one corner of the Asian continent another unexpected trade war has triggered prospects of further deterioration in international trade.

In early July this year Japan has decided to tighten restrictions on the export of semiconductors and computer displays used in smartphones and chips to South Korea, effective from 4 July 2019[1]. Though the decision may look like a unilateral one, but there is a deeper and longer history behind.

This was triggered by the late 2018 Korea's Supreme Court verdict which ruled against several Japanese companies including two of Japan's largest – Mitsubishi Heavy Industries Ltd and Nippon Steel & Sumitomo Metal Corporation[2]. The verdict was in favour of the families of the South Koreans who were illegally forced to work for Japanese companies during the Second World War.

Many of these 'conscripted' workers worked as bonded labours or slaves without pay in different facilities in Japan, including a Mitsubishi shipyard and machine tool factory in Nagoya in 1944. Mostly members of these workers' families are the complainants against Japanese companies in Korean courts.

While Mitsubishi has been ordered to pay $134,000 to each of ten claimants in the case, Nippon Steel & Sumitomo Metal Corporation has been asked to pay $88,000 to each of four plaintiffs. Subsequently, a South Korean Court ordered the seizure of shares worth $356,000 held by Nippon Steel in a joint venture with South Korean steel company Posco. Japanese government promptly called this move unlawful and made all efforts to block its implementation[3].

This is not all; more than 12 such cases are pending in various South Korean Courts involving around 70 Japanese companies – as claimed by the Ministry of Foreign Affairs of Japan. A Stanford University Research paper puts the number of Korean workers in colonial period sent to mainland Japan, Sakhalin and the Southern Pacific islands for working in the mining, construction and shipbuilding industries at an estimated 725,000. Most of these workers are no more, but their family members have sought legal avenues to sue Japanese companies[4].

...the outcome of this conflict is a litmus test for global trade – it will decide if the global trading system can still resolve disputes amicably

The timeline

After Japan's decision to restrict exports of semiconductors and computer displays, the government of South Korea make their displeasure known and regretted the 'economic retaliation' of a verdict made by the courts in the country, on which the government does not have any control. Japan denied retaliating in response to the court verdict, and cited 'weaknesses' in South Korea's export control system.

Absence of talks between trade authorities, lack of trust and security risks were cited as the reasons behind the decision[5]. However, no specific example of such 'weaknesses' or 'security breach' have not been mentioned officially.

It seems that current unilateralism and protectionism have a popular justification in 'security risks'. This was started by the USA last year, but increasingly followed by other countries to impose trade restrictions.

South Korea, of course, denied these accusations and stated that an emergency inspection of companies importing chemicals from Japan showed no evidence that these chemicals were subsequently sent to any other countries, including North Korea[6].

Japan followed their export restriction decision with removal of South Korea from a white list of countries with preferential trade status. So, Japanese companies exports to South Korea now have to be approved on a case-by-case basis for three materials used in semiconductors, smartphones and other high-tech devices. Incidentally, these final products are South Korea's key exports to the world[7].

This led to a panic and frenzy among the electronics and smartphone manufacturers in Korea for obvious reasons. Samsung Electronics Vice Chairman went to Japan in July to secure his company's value chain, in the light of the Japanese export restrictions[8].

In August, Japan approved export of a material, known as EUV photoresists, to South Korea – with a warning that any 'improper use' would compel Japanese government to expand the restrictions on export to other products. Photoresists is crucial for Samsung's advanced contract chipmaking production[9].

On 12 August Korean Industry Ministry announced that Korea would drop Japan as a 'preferred trading partner'. Subsequently, the government made the necessary administrative steps and dropped Japan from the country's preferred list of trade partners in September. Japan has been relegated to the A-2 group countries, where strategic goods can be exported under certain conditions. The government also assured the Korean exporting companies that it will minimise their losses[10].

Meanwhile, in September South Korea's Trade Minister conveyed the country's decision to file a complaint to World Trade Organization (WTO) against Japan. The minister has termed Japan's export restrictions 'politically motivated' and 'discriminatory'[11].

Later in the month, foreign ministers of these two countries met on the sidelines of the United Nations General Assembly. Though the meeting has been claimed to be 'cordial', South Korean Foreign Minister conveyed that *"big disagreements on the issues at hand"* remain[12].

Immediately after that, on 1 October the South Korean Trade, Industry and Energy Ministry issued a statement saying that the Government of Japan has not approved shipment of hydrogen fluoride to Korea even after 90 days of submission of a Japanese exporter[13].

On 11 October, two countries ended their first round of discussions on the dispute with an agreement to meet again for further consultations. The meeting has taken place in the context of Korea's complaint with WTO[14].

This is apparently part of WTO dispute settlement procedure and if the issue does not get resolved within 60 days then South Korea can request the WTO Dispute Settlement Body to establish a panel to deliver a verdict. Another round of talks has been held on 19 November, but the deadlock remained[15].

These two Asian economic powerhouses are once again slated to meet in third week of December for senior level talks amidst some hope of de-escalation. All eyes will be on this series of meetings in the year-end[16].

The history

Japan colonised the entire Korean Peninsula from 1910 till 1945. But the legacy of that colonial past still haunts both these nations, as can be observed in current trade war between these two. Apart from the conscripted labour in mining, construction and shipbuilding industries during the period around Second World War, the issue of 'comfort women' is another big and sharp thorn of the Japanese colonial past.

Different historians estimate the number of affected women at anywhere between 50,000 to 200,000. These women, many of them Korean, were forced into service in Japan's military brothels during Second World War. Enlisted to the military 'comfort stations' by force, Korean 'comfort women' – many of them under the age of 18 – were exploited as sex slaves in those confinements.

After South Korea unshackled itself from the clutches of Japanese colonialism demand and negotiations for compensation started with Japan. In 1965, an agreement was inked whereby Japan provided $800 million ($6.5 billion in 2019 dollars) aid to South Korea as 'economic cooperation'.

However, the issue of 'comfort women' refused to die down. In 2015, both the countries reached a 'final and irreversible' agreement that arrived with a personal apology to the affected women from Japanese Prime Minister

Shinzō Abe and around $8 million for a compensation fund. But a substantial part of South Korean population rejected the deal as they felt it was done without consulting the victims or their families.

Some of them refused the compensation money in protest. President Moon Jae-in discarded the 2015 agreement and shut down the foundation for comfort women, funded by Japan, in November 2018 – around a month before the contentious Supreme Court verdict[17].

There have been immediate repercussions in both the countries against the other one. For example, beer exports from Japan to South Korea fell almost 100% in the month of September 2019[18]. The outlets of Japanese retail chains like Muji and Uniqlo have been practically boycotted by the South Koreans in Seoul and other Korean cities before the year-end festive season.

Similarly, in Japan there has been a revival of old tropes about 'untrustworthy' Koreans. Since the normalisation of ties since 1960s these two countries have mostly been able to keep their cultural, political and social disagreements separated from the realms of commerce and national security[19]. However, this time the emotions are running high, and history and politics seem to trump business and economics.

Conclusion

What the US President Donald Trump started last year is now spreading like a virus all over the world now. The model of unilaterally imposing various restrictions on trade and economic partners has gained legitimacy since the world's largest economy is doing that repeatedly. Additionally, the USA under Trump has practically relinquished the mantle of global leadership. Both Japan and South Korea are close allies of the USA; ideally the USA should have persuaded these two countries away from precipitating this crisis. But in a new world economic and political order that is not going to happen.

Exports of chemicals, which Japan restricted for South Korea, are pivotal for the global tech industry. Japan accounts for as much as 90% of global production of these chemicals. The country exported $400 million worth of these products to South Korea in 2018. Value-wise it may not look that substantial, but these inputs are essential for all kinds of electronic devices.

South Korea, moreover, is a dominant manufacturer of memory chips. If Japan chokes the supply line to South Korea then there will be a cascading effect through global supply chains[20]. With the US restrictions on Chinese giants like Huawei and ZTE existing, this may sound like huge trouble for the manufacturing of all kind of tech products across the world.

Needless to say, apart from this technological halt or pause, this may even result into increase in the prices of tech products. The inequality in ownership of tech gadgets and products across different segments of consumers may also get hastened subsequently.

Ironically, in 2011 China restricted exports of rare-earth minerals to Japan, and then Japan responded by investing in its own mines – resulting in drops in Chinese market share in rare-earth minerals. If South Korea enhances its capabilities to produce these key chemicals on their own in the long run, then even Japan will face similar eventualities.

Regional supply chains in this part of Asia, in any case, is thoroughly disturbed now – as South Korean and Japanese companies are rushing in the chaos to find alternatives to China as a manufacturing base, in the light of American sanctions.

President Trump has already cautioned both these countries with a threat to impose import duties on their cars. So, what Japan is doing may harm its economy more than any other.

However, this muddle has not yet reached the stage where de-escalation is not possible. These are still early days, and commercial damage till now has been limited. One can still be optimistic about a defused situation.

But, the outcome of this conflict is a litmus test for global trade – it will decide if the global trading system can still resolve disputes amicably or the new meaner order, in which supply chains are weaponised in political games, is here to stay for some time. ■

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The world turned upside down

Little has changed since the 2008 financial crisis. Mervyn King considers economic policy in turbulent times, and argues that the global economy needs to reform

Introduction

In the early years of the Bank for International Settlements, Per Jacobsson wrote its annual report, establishing a tradition of intellectual rigour and policy relevance to that report which continues to the present. As Managing Director of the IMF, he personified its true role as 'trusted advisor' to governments. So I want to offer a little advice of my own to those entrusted with economic policy in turbulent times.

This year we celebrated the 75th anniversary of the founding of the Bretton Woods institutions. But it is no time to celebrate. A decade ago, we thought the banking crisis was over – with the recapitalisation of the largest global banks – and that the recovery already visible in emerging economies would soon spread to the industrialised world. That recovery has proved frustratingly slow, and no sooner do we think we are on track to 'normalise' than new obstacles appear. The IMF has revised down its estimate of world growth both this year and next. And every data release seems to bring gloomy news.

Before the financial crisis, the world economy grew at over 4% a year almost one year in two. Since the immediate bounce back from the Great Recession of 2008-09, there has not been a single year in which the world economy has grown by more than 4%. Relative to GDP, global debt is higher today than in 2007. If the problem before the crisis was too much borrowing and too much spending, then the problem today is too much borrowing and too little spending. The world economy is stuck in a low growth trap.

Following the Great Depression, there was a period of intellectual and political upheaval. First, Keynesian and then rational expectations revolutions altered our views on economic policy. No-one can doubt that we are once more living through a period of political turmoil. But there has been no comparable questioning of the basic ideas underpinning economic policy. That needs to change.

The economic and political climate has rarely been so fraught. Ripples on the surface of our politics have become breaking waves as the winds of change have gained force. Trade disputes between the US and China, riots in Hong Kong, the fall from grace of several important emerging economies in Turkey, Argentina and Brazil – not to mention the complete collapse of Venezuela – all remind us of the fragile nature of our world today.

The European election results in May and growing tensions between France and Germany over the future direction of the euro area should shake the complacency among European elites.

... key features of standard models are unhelpful in two important areas of economic policy, namely getting the world economy out of its low growth trap, and preparing for the next financial crisis

In addition, politicians in the United States have been turning inwards in an increasingly divisive political conflict, just as the *Pax Americana*, the mainstay of the post-war world, is slowly disappearing.

Earlier this year, a new sculpture entitled *The World Turned Upside Down* was unveiled outside the London School of Economics[1]. It is a large globe which has been inverted so that one can immediately see, as one cannot from the conventional Mercator's projection in two dimensions, the true size of Africa and Latin America, and the vastness of the oceans. This sculpture serves as a metaphor for my theme today – namely, that the conventional way of looking at things has misled us in both the diagnosis of, and the prescription for, our current economic problems.

Central banks, and the economics profession more widely, see their models as descriptions of the world. But this exaggerates the extent of our knowledge, especially in a world of radical uncertainty where we simply do not know what might happen next. Models are neither right nor wrong, but helpful or unhelpful.

In present circumstances, I am going to argue that key features of standard models are unhelpful in two important areas of economic policy, namely getting the world economy out of its low growth trap, and preparing for the next financial crisis.

Interest rates and global recovery

Following the global financial crisis, we drew comfort from the fact that in the industrialised world, apart from southern Europe, unemployment never reached the levels experienced during the Great Depression when unemployment in the United States was over 14% for an entire decade, reaching a peak of 25%. By contrast, during the Great Recession US unemployment peaked at 10% in 2009 before steadily falling back to 3½%, the lowest rate for fifty years. For this reason, we can claim that a repetition of the Great Depression was averted.

But there is another way of looking at the economic performance of the past decade. Imagine that in 1930, an observer looked back at the growth of the US economy since the turn of the twentieth century and noted that output per head had grown at an average rate of around 2% a year. They might then have projected forward GDP per head to 1950.

Within a few years that benchmark would have looked unattainable as output fell by 30% in the early 1930s. Yet by 1951, GDP per head had recovered to the level that would have been projected 20 years earlier. Although significant resources had been lost in the interim, output was now back on its previous trend path.

Now consider what has happened since 2008. Using the IMF WEO projection for the US through 2024, we might ask at what rate GDP per head in the US would have to grow from 2024 in order to regain its previous trend path by 2028? The answer is 5½% a year[2].

That is a tall order, and without growth at that improbable rate we will be worse off relative to pre-crisis expectations than was the case twenty years after the Great Depression. Following the Great Inflation, the Great Stability and the Great Recession, we have entered the Great Stagnation.

Six years ago, at the IMF, Larry Summers re-introduced the concept of secular stagnation to economic debate[3]. It is surely now time to admit that we are experiencing it.

In terms of the failure to meet reasonable expectations, it does not really matter whether the source of this secular stagnation stems from supply or demand. But if we are to escape the low growth trap, the diagnosis of the phenomenon is relevant.

Conventional wisdom attributes the stagnation largely to supply factors as the underlying growth rate of productivity appears to have fallen. But data can be interpreted only within a theory or model. And it is surprising that there has been so much resistance to the hypothesis that, not just the United States, but the world as a whole is suffering from demand-led secular stagnation.

That resistance stems, I believe, from adherence to a particular model of how monetary policy operates. In this model, the economy grows at some exogenous rate on which is superimposed random shocks – 'headwinds' or 'tailwinds' – which are also exogenous and unobservable. Weakness of growth reflects either a fall in underlying growth potential or an unusually persistent negative shock. The return to an equilibrium path is hindered by frictions of various kinds, and the role of monetary and fiscal policy is to accelerate that return.

But this model – ubiquitous in the analysis of stabilisation policy – is not helpful in today's circumstances[4]. Why not? Because we entered and departed the global financial crisis with a distorted pattern of demand and hence output. National saving ratios were too low in some countries and too high in others.

Normally, we might expect changes in prices and interest and exchange rates to correct this disequilibrium. But this is where expectations enter the picture.

The investment required to stimulate production in those sectors that could support sustainable growth is held back by extreme uncertainty about future prices. Producers cannot meet future consumers in the marketplace, separated as they are by time and space.

In the language of economic theory, a world of incomplete Arrow-Debreu contingent futures markets means that there is no mechanism for supply and demand to interact in order to make expectations of future prices and production consistent with steady growth. With extreme uncertainty, expectations are a dragging anchor on spending[5]. The notion that a market economy is self-stabilising is misleading.

This is a story of a demand-led secular stagnation driven by uncertainty and incomplete markets. And who can deny that uncertainty is at unusually high levels? Political turbulence, disputes over trade that could last for years, the disagreement within Europe over the basic structure of a monetary union, all these have contributed to uncertainty that may not be resolved quickly.

The new IMF index of trade uncertainty has risen very sharply over the past year after twenty years of broad stability at low levels; the index of global economic policy uncertainty produced by Baker, Bloom and Davis has reached record levels, and is higher today than during the financial crisis; and the BlackRock geopolitical dashboard shows that policy risks are the highest for years and greater than at the peak of the Eurozone crisis[6]. In such an environment we would expect that a secular stagnation of investment spending would persist, and that is exactly what has been happening.

Escaping from this low growth trap is a different proposition than climbing out of a Keynesian downturn. And requires different remedies. In a Keynesian downturn during a conventional business cycle, the aim is to boost aggregate demand. Temporary monetary or fiscal stimulus restores demand to its trend path and can then be removed. We are not overly worried about which components of demand respond to the stimulus.

But to escape permanently from a low growth trap involves a reallocation of resources from one component of demand to another, from one sector to another, and from one firm to another. There has been excess investment in some parts of the economy – the export sector in China and Germany and commercial property in other advanced economies, for example – and insufficient in others – infrastructure investment in many western countries.

To bring about such a shift of resources – both capital and labour – will require a much broader set of policies than simply monetary stimulus. And where there is excess capacity, it will also imply writing down asset values on the balance sheets of both industrial and financial companies to more realistic levels. That will require, given today's high debt levels, the recapitalisation of some financial intermediaries in some countries.

It is the failure to face up to the need for action on many policy fronts that has led to the demand stagnation of the past decade. And without action to deal with the structural weaknesses of the global economy, there is a risk of another financial crisis, emanating this time not from the US banking system but from weak financial systems elsewhere.

Much current debate is focussed on whether monetary policy has sufficient room and sufficient power to counter a new economic downturn. Among many politicians, there is an ingrained belief that 'monetary activism' is the answer to sluggish economic growth[7]. There are times, such as 2008-10, when activism is indeed appropriate.

But far more urgent is the question of which set of policies will support the reallocation of resources necessary to escape today's low growth trap. The answer goes well beyond monetary and fiscal policies to include exchange rates, supply-side reforms and measures to correct unsustainable national saving rates.

Take Europe as one example. Further monetary easing, and a weaker euro, may be supportive of a recovery in the south but it will further distort the structure of economies in the north. Until France and Germany can resolve their differences over structural reforms to the monetary union, monetary stimulus on an even larger scale is not just papering over the cracks but widening those cracks. I am tempted to say that the only advice one could give a new President of the ECB is to stay in Washington!

Certainly, the IMF has a potentially important role to encourage global cooperation – not formal coordination, but a common move towards an escape from the low growth trap through the adoption of country-specific policies to reallocate resources and joint agreements on ways of coping with debt reductions to forestall a financial crisis. Most important of all, the Fund could help foster a private but challenging debate among policymakers about the merits of today's conventional wisdom.

Firefighting and access to central bank liquidity

Let me turn now to how we might deal with another financial crisis, and make a case for new thinking here too.

The last financial crisis led to the Great Stagnation and was obviously costly in terms of lost output. But it was also expensive in financial terms. A recent IMF study found that the cost of interventions, including guarantees, to support financial institutions between 2007 and 2017 in 37 countries amounted to $3.5 trillion)[8].

It is hardly surprising, therefore, that such interventions have proved highly unpopular. Yet without them the financial system and the wider economy would have collapsed.

It is no accident that the recent book by Ben Bernanke, Tim Geithner and Hank Paulson – the three musketeers responsible for saving the American banking system – is titled *Firefighting*. Confronted with a conflagration of extraordinary proportions, they hosed the financial fire with unprecedented injections of liquidity to prevent it spreading. And the use of overwhelming force became a guiding principle of crisis management.

But if that principle means that in a crisis all debt issued by the financial sector must be guaranteed by the government, ie. by the rest of us, then it is not enough to worry that in future the Fed or other central banks will be limited in their ability to provide such guarantees.

Instead we must construct a political settlement under which we accept that in a crisis liquidity is created to douse the fire in return for some limit on the extent of maturity transformation that is created by the private sector. In essence, I am arguing for a tax on maturity transformation.

My concern today is not the mechanism of such a scheme – I have written on that in my book *The End of Alchemy* where I argue for a scheme of pre-positioned collateral related to the maturity transformation of the individual financial institution[9]. Rather, it is the imperative of putting in place an ex ante framework for the provision of central bank liquidity to douse a fire. I say this for two reasons.

First it is impossible to know when a small fire that should be allowed to burn and extinguish one or more institutions turns into a conflagration that threatens the entire system. That judgement was a problem during the crisis for all of us - even the three musketeers who initially said no to firms that asked for help[10]. They did not provide assistance to Countrywide, the US equivalent of the British bank Northern Rock. And they faced major problems in saving Lehman Brothers because lending against inadequate collateral makes no sense. If an agreed ex ante framework with pre-positioned collateral had been in place, the problem would not have arisen.

Second, in a crisis it is too late to create political legitimacy for the necessary emergency responses. Congress has placed fetters on the ability of the Treasury and the Fed to fight the next crisis – the wheels of some of the fire engines have been dismantled. We should not be surprised that it has done so because the actions taken during the crisis were not part of an armoury agreed with Congress beforehand.

As former Fed and other officials have said these restrictions on the Fed are undesirable. But they will be removed only in the context of a clear ex ante framework that makes banks, and other institutions that engage in maturity transformation, part of an insurance scheme that is accepted as fair.

Insurance pay-outs are more likely to be acceptable than bailouts. The political economy of 'bailing out' banks would be much improved if we could show that banks had subscribed in good times to an insurance scheme which entitled them to borrow in bad times. Without an agreed framework, in the next crisis Hank Paulson's successor will once again be kneeling in front of Nancy Pelosi – I assume she will still be there – asking Congress to rescind the legislation that has restricted the Fed's powers.

As all financial firefighters discovered, only a solvent government, through its central bank, can create the liquidity demanded in a crisis. It follows that it is impossible to design a regime for liquidity regulation without its being properly integrated into the design of central bank liquidity provision.

Radical uncertainty means that we cannot be confident that particular assets will prove to be liquid in some future crisis. Better to replace that regulation by an insurance scheme that ensures that all runnable liabilities are covered.

Unfortunately, the response to the crisis has been a combination of excessively detailed regulation, on the one hand, and a plea for greater freedoms for firefighters, on the other.

Complex regulation imposes unnecessary costs of compliance and gives a false impression of the security of the banking system. And the absence of an agreed ex ante framework for firefighting requires a commitment to use almost unlimited resources without political authority for the necessary actions.

Now is the time for the Federal Reserve, and other central banks to begin behind closed doors discussions with legislators to make the latter realise how vulnerable they will be in the event of a future crisis. Congress would be confronted with a choice between financial Armageddon and a suspension of some of the rules that were introduced after the last crisis to limit the ability of the Fed to lend. It is time for some new thinking about the lender of last resort function.

Conclusions

Through the twin issues of current economic stagnation and the search for a framework to deal with banking crises run two common themes. First, radical uncertainty means we should not place excessive reliance on models that assume knowledge we cannot possess, whether of the response of the economy to changes in economic policy or the numerical calibration of risk weights. As John Kay and I argue in our forthcoming book *Radical Uncertainty*, the focus of policy design should be on robustness and resilience[11].

Second, democratic legitimacy of policy actions derives from careful institutional design of ex ante mechanisms. Central bank independence was granted by legislatures to achieve certain objectives. The same principle should apply to policies for dealing with financial crises.

In 2005, at the annual Jackson Hole Symposium, I extended the traditional definition of price stability when I said that, *"economic policy stability is best thought of as an environment in which the decisions of households and firms are not materially affected by the need to insure against future arbitrary or mischievous changes in government policy."*

Today, the world has been turned upside down, and is a turbulent place. A market economy cannot flourish if policymakers behave in ways that lead private-sector agents to expect future economic policies to be subject to arbitrary or capricious changes.

In turbulent times, expectations really matter. Radical uncertainty is weighing on investment and growth across the world, and there is simply no way of knowing from where the next financial crisis will come. Radical uncertainty pervades the outlook for world trade, the future structure of European monetary union, the rewriting of Britain's unwritten constitution, the rebalancing of the Chinese economy, economic policies across Latin America, the potential population explosion in Africa, and that is not even to mention the Middle East.

To whichever parts of the world a firm exports, and from whichever part of the world it imports, there is no market in which to lay off the risks that result from such uncertainties. The price signals that might encourage productive and sustainable investments are invisible when markets contingent on all these possible outcomes do not, and could not, exist.

That is why a market economy, although by far the best means we have discovered for promoting prosperity, does not have self-stabilising properties. And when the world economy is stuck, as I believe it is, in a low growth trap then even national policies may struggle to restore the profitability of private investment.

Those were the conditions in which the Bretton Woods institutions were set up, and they are the conditions in which multilateral institutions are needed today to encourage cooperation among nations to find a way back to a path of sustainable growth that meets the aspirations of so many who today feel left out. That task will require intellectual imagination and ingenuity.

The failure of conventional models to capture the reasons for weak growth of the world economy, and the failure to establish a proper ex ante framework for the provision of central bank liquidity in a crisis, reflect an intellectual and political unwillingness to challenge the conventional wisdom.

75 years ago, the IMF was borne out of a commitment to radical reforms to the international financial system. At Bretton Woods, half a century of global conflict was a powerful incentive to contemplate something new. Is not a

global financial crisis followed by more than a decade of secular stagnation sufficient to persuade economists and politicians to be equally radical?

Another economic and financial crisis would be devastating to the legitimacy of a democratic market system. By sticking to the new orthodoxy of monetary policy and pretending that we have made the banking system safe we are sleep-walking towards that crisis.

According to his biography, Per Jacobsson *"believed firmly that intelligent, practical people, if they are well and fully informed, will take the right decision."*[12] But there are times, and perhaps we are living through them, when it is more important to challenge the conventional wisdom.

The World Turned Upside Down was an English ballad published in 1646 as a protest against the attempt by Parliament to impose on the people an austere and unpopular version of Christmas. Successful elites, even Parliaments, not only listen to popular concerns; they are open to new ways of thinking about problems. Let me leave you with these words of John Maynard Keynes (from the Preface to *The General Theory*):

"The difficulty lies, not in the new ideas, but in escaping from the old ones."

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Endnotes

1. *http://www.lse.ac.uk/News/Latest-news-from-LSE/2019/03-Mar-19/LSE-unveils-new-sculpture-by-Mark-Wallinger*

2. Using data on GDP per head at constant prices from IMF WEO Database April 2019. The updated Database for October 2019 would if anything raise the required growth rate from 2024 through 2028.
3. Larry Summers (2013), http://larrysummers.com/imf-fourteenth-annual-research-conference-in-honor-of-stanley-fischer/. See also Hans-Werner Sinn (2009), https://www.project-syndicate.org/commentary/forget-inflation. For a more technical analysis of secular stagnation in a New Keynesian rather than an expectations- driven model see Eggertson, GB, NR Mehrotra and JA Robbins (2017), "A Model of Secular Stagnation: Theory and Quantitative Evaluation", NBER Working Paper 23093. Closer in spirit to the interpretation in this lecture is Rachel, L and LH Summers (2019), "On Secular Stagnation in the Industrialized World" NBER Working Paper 26198.
4. See the discussion of a "narrative revision downturn" in chapter 8, King The End of Alchemy (2016), WW Norton (US) and Little, Brown (UK).
5. The assumption of incomplete Arrow-Debreu contingent commodity markets is at the heart of the Keynesian proposition that low demand can be a persistent phenomenon. Rational expectations cannot help us here.
The concept of rational expectations is a sensible approach to modelling in order to avoid conclusions from being drawn from arbitrary assumptions. But rational expectations is helpful only insofar as the model itself is relevant. The standard model of monetary policy misses the essence of how secular stagnation can persist.
6. The IMF index is at https://blogs.imf.org/2019/09/09/new-index-tracks-trade-uncertainty-across-the-globe/. The Baker, Bloom and Davis index is at https://www.policyuncertainty.com/. And the BlackRock geopolitical risk dashboard is at https://www.blackrock.com/corporate/insights/blackrock-investment-institute/interactive-charts/geopolitical-risk-dashboard
7. The phrase "monetary activism" does not appear in any central bank mandate and often means that politicians would like central banks to undertake quasi-fiscal actions for which they, and not politicians, would be held accountable. This view shows a disregard for the nature of institutions and their legislative mandate.
8. "The Long Shadow of the Global Financial Crisis: Public Interventions in the Financial Sector", IMF Working Paper WP/19/164, prepared by Deniz Igan, Hala Moussawi, Alexander F Tieman, Aleksandra Zdzienicka, Giovanni Dell'Ariccia,

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9. The role of the central bank as Pawnbroker For All Seasons is described in chapter 7 of King, MA (2016), The End of Alchemy, WW Norton (US) and Little, Brown (UK). See also related ideas in Kent, C, "The Committed Liquidity Facility" Address to Bloomberg 23 July 2019 which describes the Australian alternative to liquidity regulation, and the proposals by William Nelson of the Bank Policy Institute for commercial bank access to a standing Fed facility.
10. Bernanke, BS, TF Geithner, and HM Paulson Jr. (2019), Firefighting: The Financial Crisis and its Lessons, Penguin Books, New York, pps.33 and 39.
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This article is based on a speech delivered at the Per Jacobsson Lecture 2019, at the IMF Annual Meetings, 19 October 2019


NO SMOKING

The future of the euro area economy

Europe needs to strengthen common institutions and empower the European economy to respond to today's challenges, says Christine Lagarde. This would be a game changer for Europe's stability and prosperity and for that of the global economy, too

TS Eliot said that *"every moment is a fresh beginning"* and it certainly feels that way for me today. But in many respects it feels that way for Europe, too. The idea of European renewal may, for some, elicit feelings of cynicism.

We have heard it many times before: *"Europe is at a crossroads"*; *"now is Europe's moment."* Often that has not proven to be the case. But this time does in fact seem different.

Turnout at the latest European elections was the highest in a quarter of a century. A new Commission is about to begin its term with an agenda to strengthen Europe in areas like environmental policies, digitalisation and defence. Discussions are moving forward on completing banking union and building a capital markets union. This is essential because, all the while, the world around us does not stand still.

In recent years, the global environment has been transformed in ways that none of us could have imagined. We have seen the post-war global order fracturing, the rise of new – and some old – powers, rapid changes in technology, and an uncertain outlook for global trade and finance.

Uncertainty abounds and conventional wisdom is being challenged, in politics, in diplomacy and in economics. And, unavoidably, this calls on Europe to consider its place in the world and reset its ambitions. I would like to focus on the economic dimension of this question. As the global economy evolves, how can Europe best position itself?

Challenges in the global economy

This question is prompted by two main challenges in the global economy today. The first relates to the changing nature of world trade, which has multiple causes.

Ongoing trade tensions and geopolitical uncertainties are contributing to a slowdown in world trade growth, which has more than halved since last year. This has in turn depressed global growth to its lowest level since the great financial crisis.

These uncertainties have proven to be more persistent than expected, and this is clearly impacting on the euro area. Growth is expected to be 1.1% this year, ie. 0.7 percentage points lower than we projected a year ago[1].

We face a global environment that is marked by uncertainty. We have a unique possibility to respond to a changing and challenging world by investing in our future, strengthening our common institutions and empowering the world's second largest economy

At the same time, there are also changes of a more structural nature. We are starting to see a global shift – driven mainly by emerging markets – from external demand to domestic demand, from investment to consumption and from manufacturing to services[2].

In parallel, world trade is being reordered as new technologies disrupt conventional supply chains and workplace organisation, and as potential new risks emerge from climate change. All this obviously has implications for our external sector, not least because the euro area's exports are intense in capital and intermediate goods.

It suggests that Europe needs to innovate and invest to respond to these challenges and preserve its competitiveness in the longer run. But it also suggests that the high rates of trade growth that we are used to seeing are no longer an absolute certainty.

The second challenge relates to domestic growth in advanced economies. Advanced economies are in the midst of a long-term deceleration in growth rates, which have roughly halved since the late 1980s. This is reflected in the long-term decline of global interest rates. As growth rates are a fundamental driver of interest rates, even countries that have tried to raise interest rates have gradually lowered them again.

Supply-side factors, such as productivity and demographics, are clearly one driver behind this. Labour productivity growth has fallen by almost two-thirds in advanced economies since the early 1990s.

In 2015, there were four working-age people for every person over the age of 65 in advanced economies. By 2050, that ratio will be less than two to one. But there is evidence that demand-side factors are playing a role as well.

In the euro area, domestic demand has contributed to the recovery, helping to create 11.4 million new jobs since mid-2013. But over the past ten years, domestic demand growth has been almost 2 percentage points lower on average than it was in the decade before the crisis, and it has been slower than that of our main trading partners[3].

This is reflected in the shift in our current account position, which has moved from being broadly balanced before the crisis to showing a surplus since, as well as in the relatively subdued performance of underlying inflation. So, these twin external and domestic challenges call on us to consider – as Europeans – how we should respond to the new environment.

The answer lies in converting the world's second largest economy into one that is open to the world but confident in itself – an economy that makes full use of Europe's potential to unleash higher rates of domestic demand and long-term growth.

There are two reasons why this would be beneficial: *resilience* and *rebalancing*.

Resilience and rebalancing

Resilience rests on two pillars. It relies on having firms that are competitive globally and can export to the world when domestic growth falls; and it relies on having a strong internal economy which can sustain demand when the global economy weakens.

Open trade is therefore a platform for resilience, as we saw clearly during the sovereign debt crisis. From 2010 to 2013, the share of extra-euro area goods exports in GDP increased by about 20%, while the share of intra-euro area exports grew by just 5%.

The global competitiveness of many euro area firms was a vital shock absorber in that period, and the benefits were spread across the monetary union via value chain linkages. Without a strong export sector, our crisis would plainly have been worse.

At the same time, it is also clear that stronger domestic demand puts economies in better position to withstand swings in the global business cycle and disruptions in world trade – like those we are seeing at the moment – and to keep their growth trajectories on course.

One sign of this can be found by looking at the correlation between global growth and domestic growth over the past 40 years for countries with different trade exposures, as captured by their current account positions.

It turns out that the group of surplus countries tends to grow faster than the world economy during periods of global upswings, but also to contract more sharply during periods of global downturns. For the group of deficit countries, the opposite is the case[4].

And when global growth falls, stronger internal demand can help protect jobs, too. This is because domestic demand is linked more to services – which are more labour-intensive – while external demand is linked more to manufacturing, which is less labour-intensive[5].

We are seeing that shield in action in the euro area today: the resilience of services is the key reason why employment has not yet been affected by the global manufacturing slowdown[6].

But there is also a second benefit to strengthening the domestic economy, which is that it facilitates *rebalancing*. More dynamic internal growth offers a way to improve the functioning of the euro area and to accelerate crisis recovery. Since countries in a monetary union do not have their own exchange rates, they have to adjust to crises through prices.

This is easier to achieve when growth is strong at the euro area level and inflation is in line with the ECB's objective. Adjusting countries can quickly improve their relative prices and export more to other members of the union.

But if internal demand is too weak and inflation too low, such rebalancing across countries obviously becomes harder. And to some extent, this is what we saw in the euro area after the crisis. As demand was stronger in our trading partners, vulnerable countries had to reverse their imbalances mainly by increasing net exports outside the euro area.

Importantly, strengthening internal growth is fully consistent with all countries maintaining their competitiveness. If countries boost growth by investing in productive areas of the economy, it not only lifts demand in the short run. It also provides the ingredients for maintaining competitiveness in the face of long-run global challenges.

So the question is, what can public policies do to further develop our domestic demand and growth potential, while also encouraging dynamic and globally competitive firms?

Policies to boost internal growth

In my view, since our challenges are common ones, we must meet them with a common response. This involves moving towards a new European policy mix, which has a number of key elements.

The first is monetary policy, which I start with because it is my area of responsibility and which will undergo a strategic review due to begin in the near future.

The ECB's accommodative policy stance has been a key driver of domestic demand during the recovery, and that stance remains in place. As laid out in the ECB's forward guidance, monetary policy will continue to support the economy and respond to future risks in line with our price stability mandate. And we will continuously monitor the side effects of our policies.

But it is clear that monetary policy could achieve its goal faster and with fewer side effects if other policies were supporting growth alongside it. One key element here is euro area fiscal policy, which is not just about the aggregate stance of public spending, but also its composition. Investment is a particularly important part of the response to today's challenges, because it is both today's demand and tomorrow's supply.

While investment needs are of course country-specific, there is today a cross-cutting case for investment in a common future that is more productive, more digital and greener.

Public investment in the euro area remains some way below its pre-crisis levels. The share of productive expenditure in total primary expenditure – which in addition to infrastructure includes R&D and education – has also dropped in nearly all euro area economies since the crisis[7]. And new investment needs are emerging.

Both national policies and European programmes like InvestEU have a role to play. And the Budgetary Instrument for Convergence and Competitiveness is also a good start. This tool acknowledges that, even when governments need to consolidate their finances, we have a common interest in maintaining sufficient levels of public investment.

But a stronger domestic economy also rests on higher business investment, and for that raising productivity is equally important. Firms need to be confident in future growth if they are to commit long-range capital.

Though all advanced economies are facing a growth challenge, the euro area has been slower to embrace innovation and capitalise on the digital age than others such as the United States. This is also reflected in differences in total factor productivity growth, which has risen by only half as much in the euro area as it has in the United States since 2000.

To help us close this gap, we have a very potent tool at our disposal: empowering our internal market. The private sector calls it: scale. Completing the digital single market, the capital markets union and the single market in services can provide the impetus Europe needs to launch new and innovative firms and to spread new technologies faster around the union. These are the building blocks of the European economy of the future.

And the projected gains are significant: new studies find that the full implementation of the Services Directive would lead to gains in the order of €380 billion[8], while completing the digital single market would yield annual benefits of more than €170 billion[9].

This growth dividend would in turn help close the circle with public investment by ensuring that public debt is sustainable. Finally, empowering our internal market also means completing our Economic and Monetary Union. The design of EMU – and in particular the balance between risk reduction and risk sharing – is closely linked to the propensity to save and spend in Europe.

On the one hand, a monetary union focused too much on risk sharing is likely to produce moral hazard and too little saving, which harms the union as a whole. But on the other hand, prioritising risk reduction alone is likely to lead to the opposite problem: excess saving and fragile growth as countries are forced to self-insure by running persistent surpluses.

The solution to the famous *"paradox of thrift"* is institutions. Good institutions exist to ensure that people are not forced into actions that are rational at the individual level but self-defeating collectively.

So, completing EMU is about finding the right trade-off: enough protection against moral hazard to discourage under-saving, but enough mutual insurance to prevent over-saving. In this way, we could tap into new sources of growth that would otherwise be suppressed. And that would truly represent a *"new approach"* for Europe.

Conclusion

We face a global environment that is marked by uncertainty. But I believe that, if we approach this challenge in the right way, it can also be a moment of opportunity.

We have a unique possibility to respond to a changing and challenging world by investing in our future, strengthening our common institutions and empowering the world's second largest economy.

All of this would be a game changer, not just for our own stability and prosperity, but for that of the global economy, too. It does require us to think differently about Europe. It will almost certainly not be easy. But as St Francis of Assisi once said, *"Start by doing what's necessary; then do what's possible; and suddenly you are doing the impossible."* ■

Christine Lagarde is President of the European Central Bank

Endnotes

1. September 2019 ECB staff projections.

2. See ECB (2017), "China's economic growth and rebalancing and the implications for the global and euro area economies", Economic Bulletin, Issue 7.

3. Since the onset of the financial crisis, domestic demand growth in the euro area has averaged 0.5%, compared with average growth of 2.3% in the decade before 2008.

4. Internal ECB analysis.

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This article is based on a speech delivered at the Frankfurt European Banking Congress, Frankfurt am Main, 22 November 2019

A challenging path ahead

Reuben Borg, Marco Buti, Oliver Dieckmann, Björn Döhring, and Alexandru Zeana consider the European Commission’s Autumn 2019 forecast

The current weakness of GDP growth and low inflation in the euro area are unlikely to be reversed, by themselves, in the next two years. The near-term outlook will much depend on whether the rest of the economy, in particular the services sector, will remain resilient to the persistent slowdown in manufacturing, and on the continued robustness of employment.

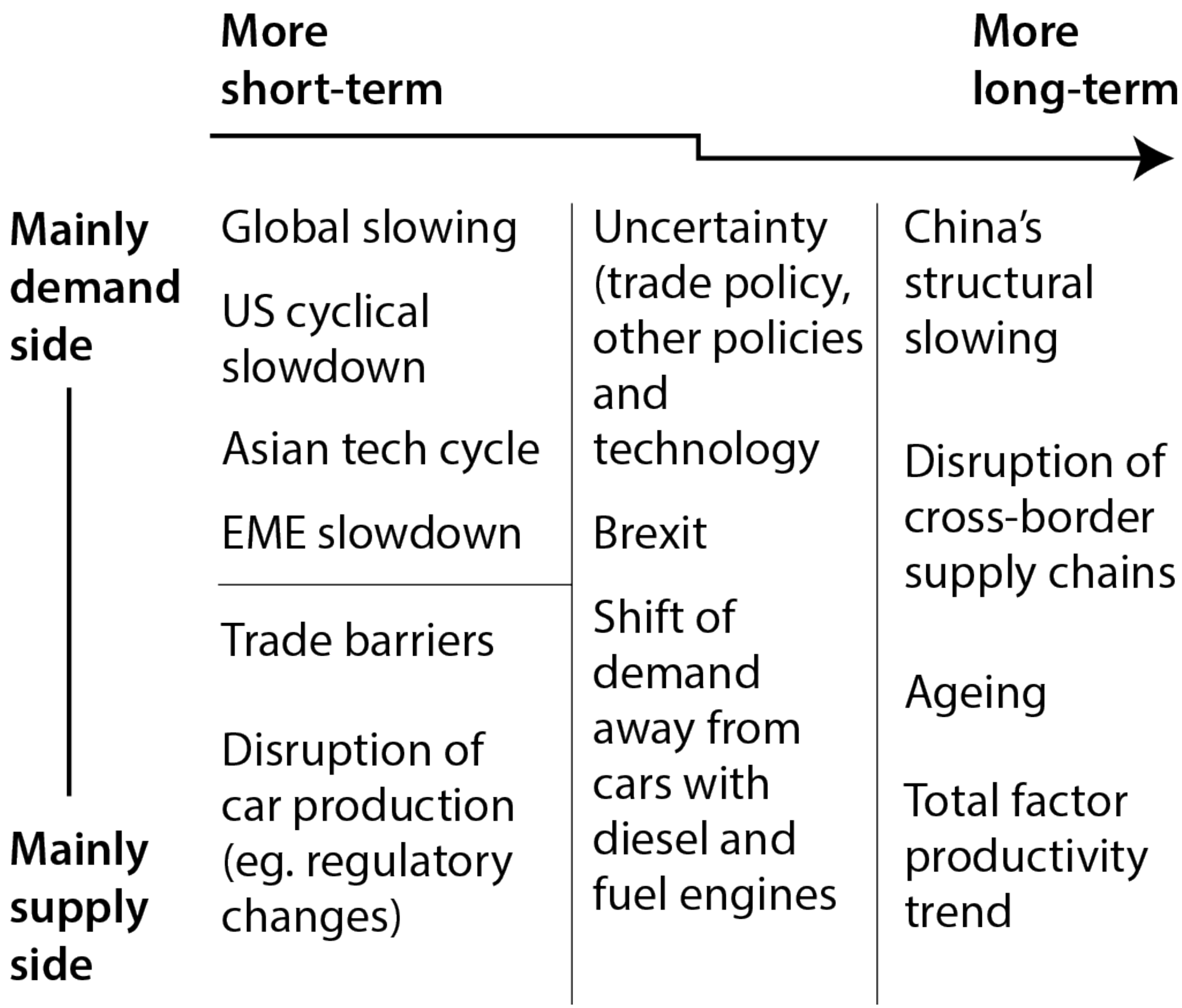
This column introduces the European Commission's Autumn 2019 Forecast, which suggests that while a recession is not in the cards unless major risks were to materialise in the near future, a prolonged period of very low growth and inflation might loom for the medium term.

A more supportive economic policy mix is needed to stabilise the economy in the near term, to prevent the risk of protracted sluggishness in the medium term, and to provide impetus to the transition towards an environmentally and socially sustainable economy.

Economic activity in the euro area has decelerated over the past year, reflecting both a global growth slowdown and domestic growth impediments. More recently, the global economy has turned out even weaker than expected, with flat-lining world trade amid high policy uncertainty (IMF 2019). The deteriorating global environment has hit European manufacturing and investment.

A closer look at the factors that are currently dampening economic growth in the euro area (Figure 1) reveals a combination of interacting supply shocks (eg. trade tensions), cyclical developments (eg. the maturing cycle in the US), structural shifts (eg. the transition in China), and long-term developments (eg. trend towards lower productivity growth).

Figure 1. Factors impacting on economic growth and inflation in the euro area



The key question for the euro area outlook is whether the various negative shocks will fade and allow an even modest rebound, whether growth will remain subdued, or whether the negative factors might interact in a way that would push the economy in the direction of recession.

The European Commission's just released Autumn 2019 European Economic Forecast projects a protracted period of slow growth and muted inflation, arguing that the impact of several factors holding back growth will not fade swiftly. GDP growth in the euro area is projected at 1.1% this year and 1.2% in both 2020 and 2021 (Table 1).

... today's policy decisions concerning education, digitalisation and research will shape the fairness, technological edge and growth potential of the economy over the coming decades

Table 1. Forecast for the euro area

Annual percentage change

	2016	2017	2018	**2019**	**2020**	**2021**
GDP	1.9	2.5	1.9	**1.1**	**1.2**	**1.2**
Private consumption	2.0	1.7	1.4	**1.1**	**1.2**	**1.2**
Public consumption	1.9	1.3	1.1	**1.6**	**1.5**	**1.3**
Gross fixed capital formation	4.0	3.5	2.3	**4.3**	**2.0**	**1.9**
of which: equipment	5.8	4.0	4.3	**2.5**	**1.6**	**1.9**
Exports (goods and services)	2.9	5.5	3.3	**2.4**	**2.1**	**2.3**
Imports (goods and services)	4.1	5.0	2.7	**3.2**	**2.6**	**2.7**
Contribution to GDP growth:						
Domestic demand	2.3	1.9	1.5	**1.8**	**1.4**	**1.3**
Inventories	0.0	0.2	0.0	**-0.4**	**0.0**	**0.0**
Net exports	-0.4	0.5	0.4	**-0.3**	**-0.1**	**-0.1**
Employment	1.4	1.5	1.5	**1.1**	**0.5**	**0.5**
Unemployment rate (a)	10.0	9.1	8.2	**7.6**	**7.4**	**7.3**
Harmonised index of consumer prices	0.2	1.5	1.8	**1.2**	**1.2**	**1.3**
General government balance (b)	-1.4	-0.9	-0.5	**-0.8**	**-0.9**	**-1.0**
General government gross debt (b)	92.2	89.8	87.9	**86.4**	**85.1**	**84.1**

(a) as % of total labour force. (b) as a % of GDP

Source: AMECO

While downside risks remain large, a movement into recession is not in the baseline. The outlook for a subdued expansion without a rebound is a change of assessment compared to previous Commission forecasts.

Equipment investment growth dropping due to weak foreign demand and uncertainty

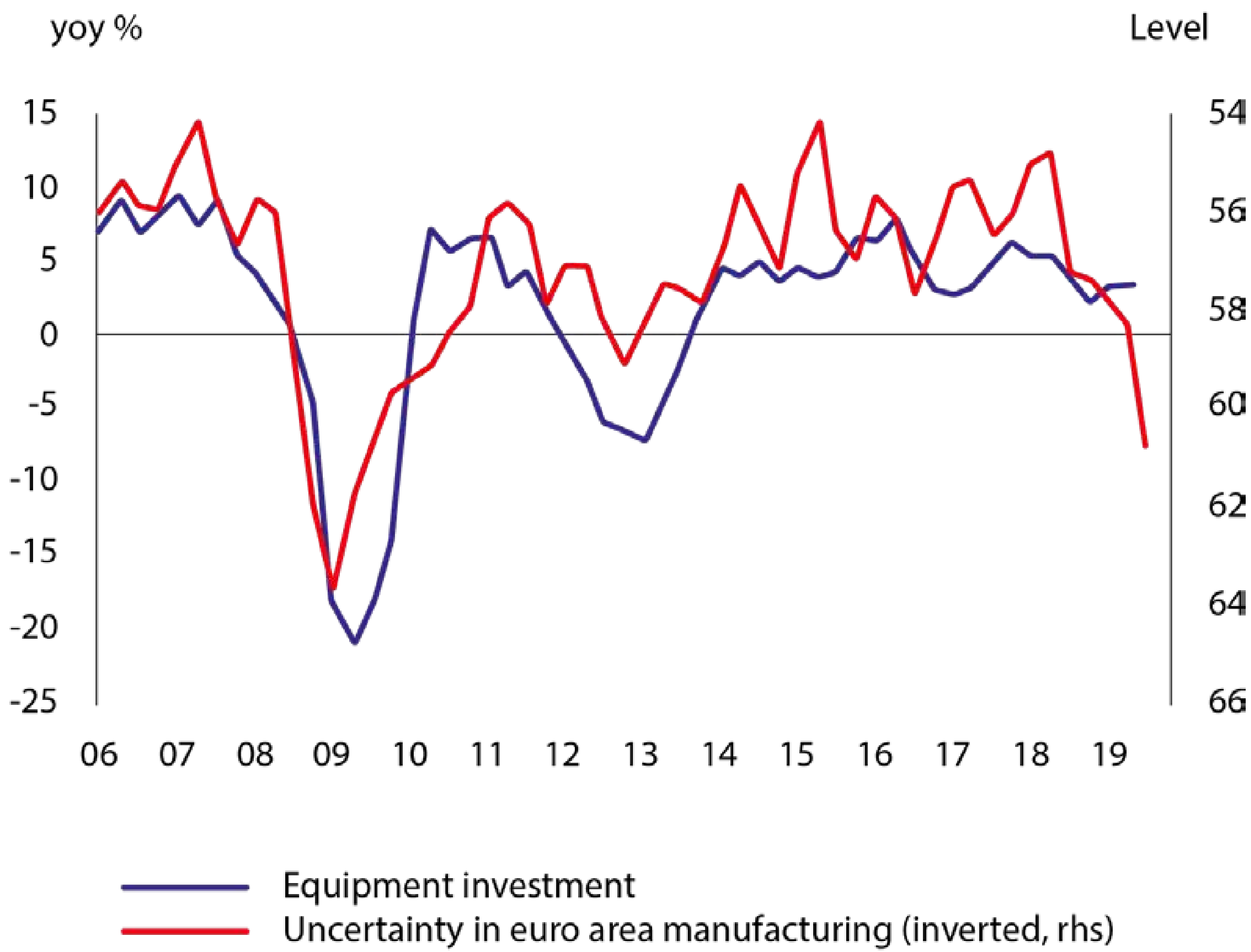
Extraordinarily high uncertainty and the implementation of tariffs by Europe's two biggest trading partners on their bilateral trade is having a large impact on investment. Global trade policy uncertainty is at a record high, and the uncertainty reflected in the dispersion of replies to the European Commission's manufacturing industry surveys has also surged (Figure 2, inverted scale).

Uncertainty at such high levels is bound to dampen investment (Baker *et al*. 2016). As it is driven by potentially persistent factors such as a lack of reliability of agreed trade rules and an uncertain outlook for cross-border activity (eg. foreign trade, FDIs, global value chains), the impact of uncertainty on the real economy may also be longer lasting. Companies might not only delay investment plans but cancel them or redirect investments into regional production chains.

Recent studies examining the impact of the current trade tensions highlight the negative impact of uncertainty (Caldara *et al*. 2019), also as a transmission channel to countries not directly involved in the trade conflict (IMF 2019: Box 1.2).

The impact of tariffs and trade policy uncertainty may be amplified through global value chains (Wozniak and Galar 2018). The geographical fragmentation of production implies that intermediate goods cross borders several times, making the production process more vulnerable to trade restrictions at each production stage and increasing the cumulative tariff incorporated in final goods prices. If persistent trade policy uncertainty were to induce firms to

Figure 2. Equipment investment and uncertainty in industry, euro area



Source: Eurostat, DG ECFIN

shorten and reshape their supply chains, the recent drop in the trade elasticity of global GDP growth could become more persistent.

Against the backdrop of the probably protracted weakness of world trade, the euro area outlook for the coming years depends on four main factors:

- if and for how long the rest of the economy, in particular the services sector, can remain resilient amid the manufacturing weakness;
- whether the negative impulse delivered through trade will spread geographically;
- if the labour market continues to hold up; and
- how wage growth will feed through to inflation.

We first raised this issue (with respect to three of these 'divergences') back in spring (Buti *et al*. 2019). By now, there are more indications of the weakness spreading, motivating the projection that the slowdown will be more persistent.

The longer the manufacturing weakness lasts, the more likely it is to spread across sectors and geographically

Not all manufacturing recessions lead to a contraction of the whole economy. While manufacturing output in the euro area as a whole has been declining since mid-2018, output growth in the rest of the economy has been holding up (Figure 3), expanding at an annual rate of around 1.7% in the first half of 2019.

Looking ahead, the services PMI has remained in expansion territory, but decreased somewhat in recent months. The Commission's services sentiment indicator has fallen below its long-term average this summer, also pointing to limits to a continued divergence of manufacturing and services.

Among the large member states, the slowdown from buoyant GDP growth in 2017 to 2019 was particularly sharp in Germany (from 2½% to less than ½%), due to its export dependency and large manufacturing base. Despite their strong integration into the value chains of German manufacturing, some neighbouring countries have so far shown remarkable resilience.

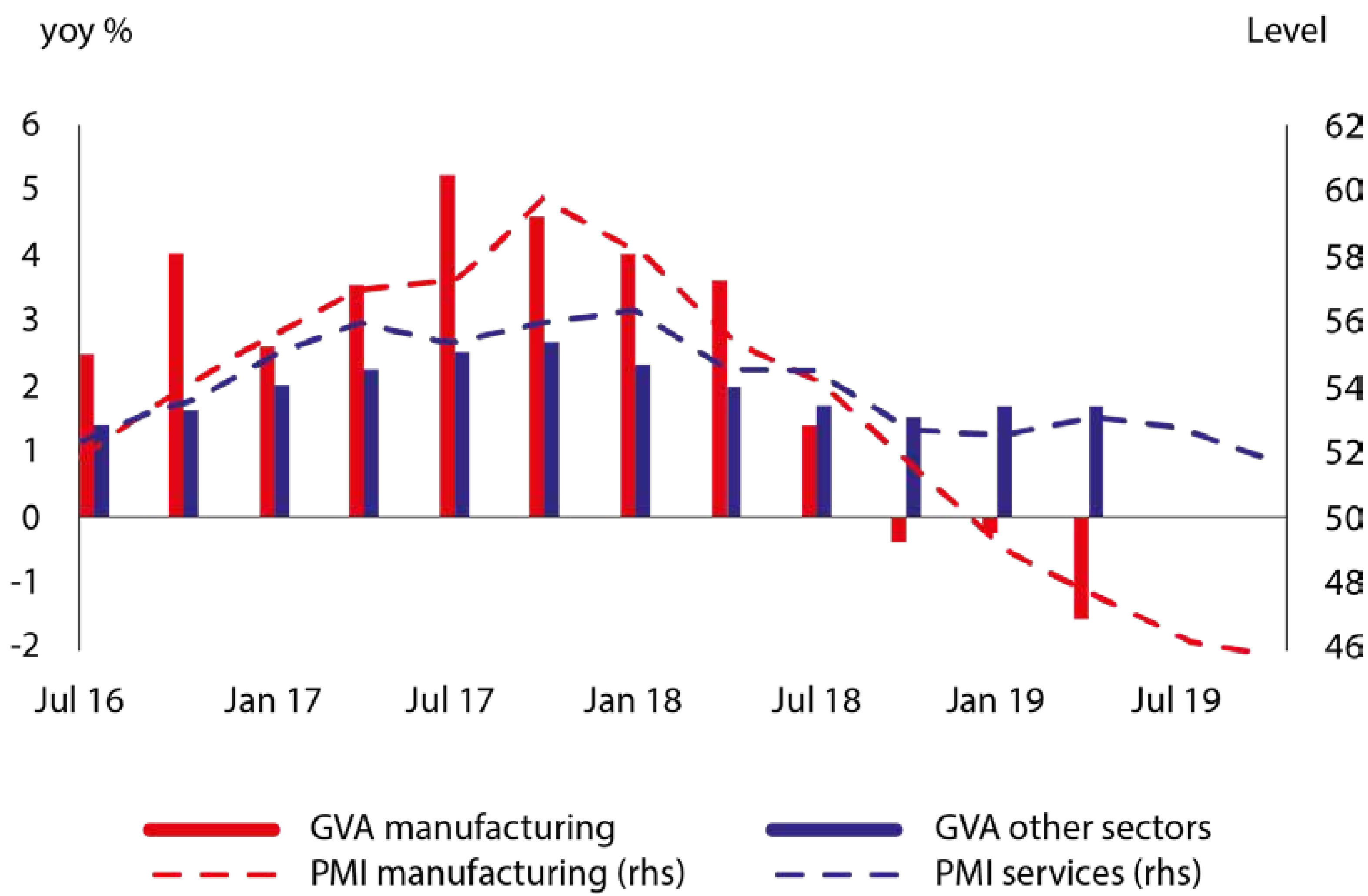
However, some convergence towards lower growth is expected for 2020. Even so, the growth rates of Central and Eastern European countries are projected to remain well above the EU average in 2020 and 2021 on account of booming labour markets, strong construction activity, and in some countries the opening of new factories and the switch to new product lines.

The strength of the labour market should prevent a worse outcome and wage growth should eventually feed through to inflation

The situation of European labour markets has improved further despite the economic slowdown. Both the number of persons employed and the number of hours worked continued to increase this year, while unemployment rates fell further.

However, near-term employment indicators have moderated over the last few months suggesting that the economy's weakness has started affecting labour markets (Figure 4). For the moment, the only indications of employment growth coming to a halt come from the manufacturing sector. Employment in the services sector and construction is still on the rise and weighs significantly more in aggregate employment.

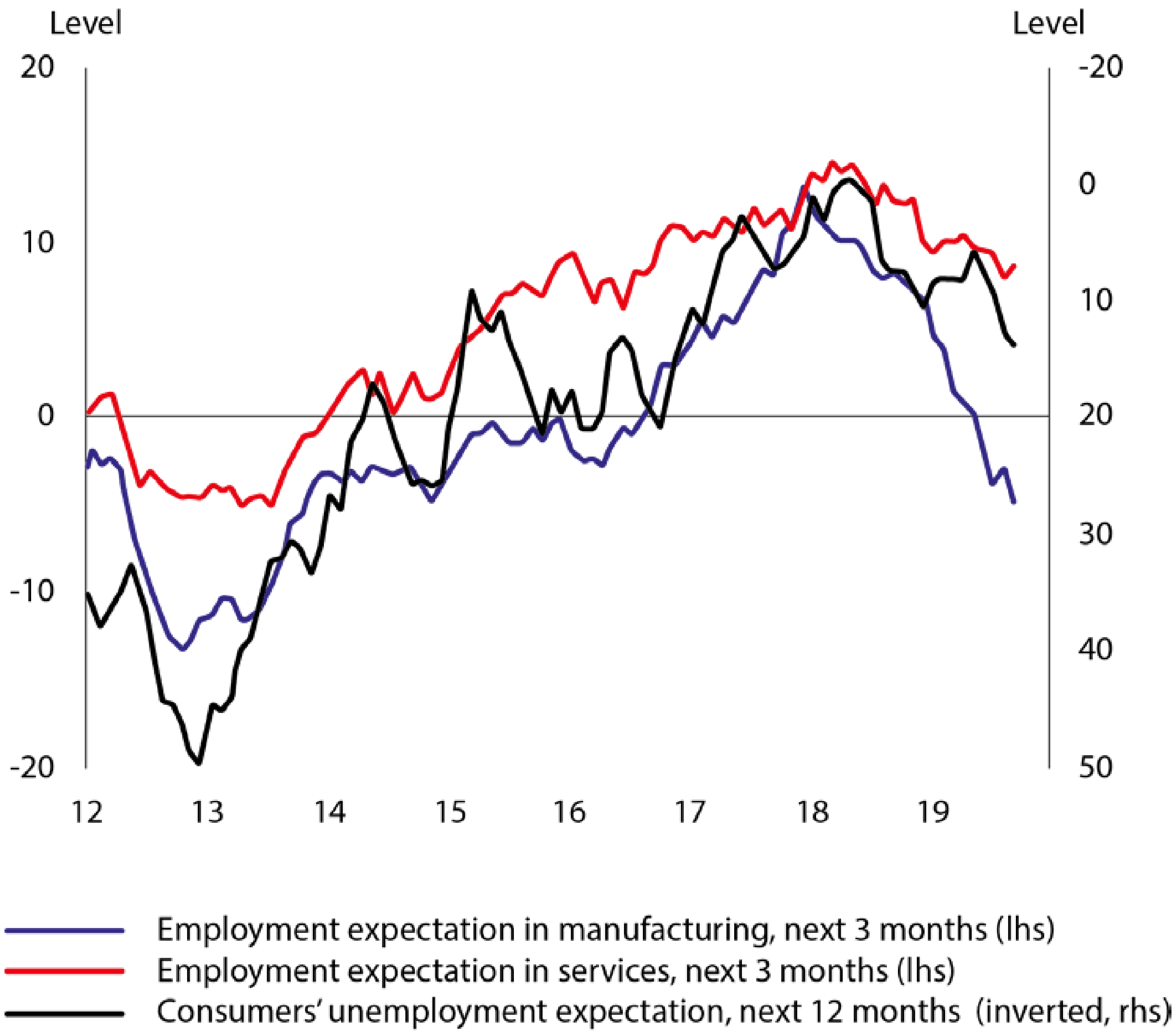
Figure 3. Gross value added and PMIs by sector, euro area



Last observation for GVA: 2019Q2; last observation PMI: October 2019

Source: Eurostat, DG ECFIN

Figure 4. Employment expectations, Commission surveys, euro area



Source: DG ECFIN

The reasons behind the slight decrease in employment growth are similar to those impacting GDP growth. An analysis of the contributors to employment growth using the Commission's Global Multi-country model (Albonico *et al*. 2017) suggests that external demand has contributed negatively to employment growth in 2019, which was only partly compensated by domestic demand.

Supply factors, including the impact of past labour market reforms and possibly some labour hoarding, have also contributed positively and are set to continue supporting employment next year, although to a lesser degree.

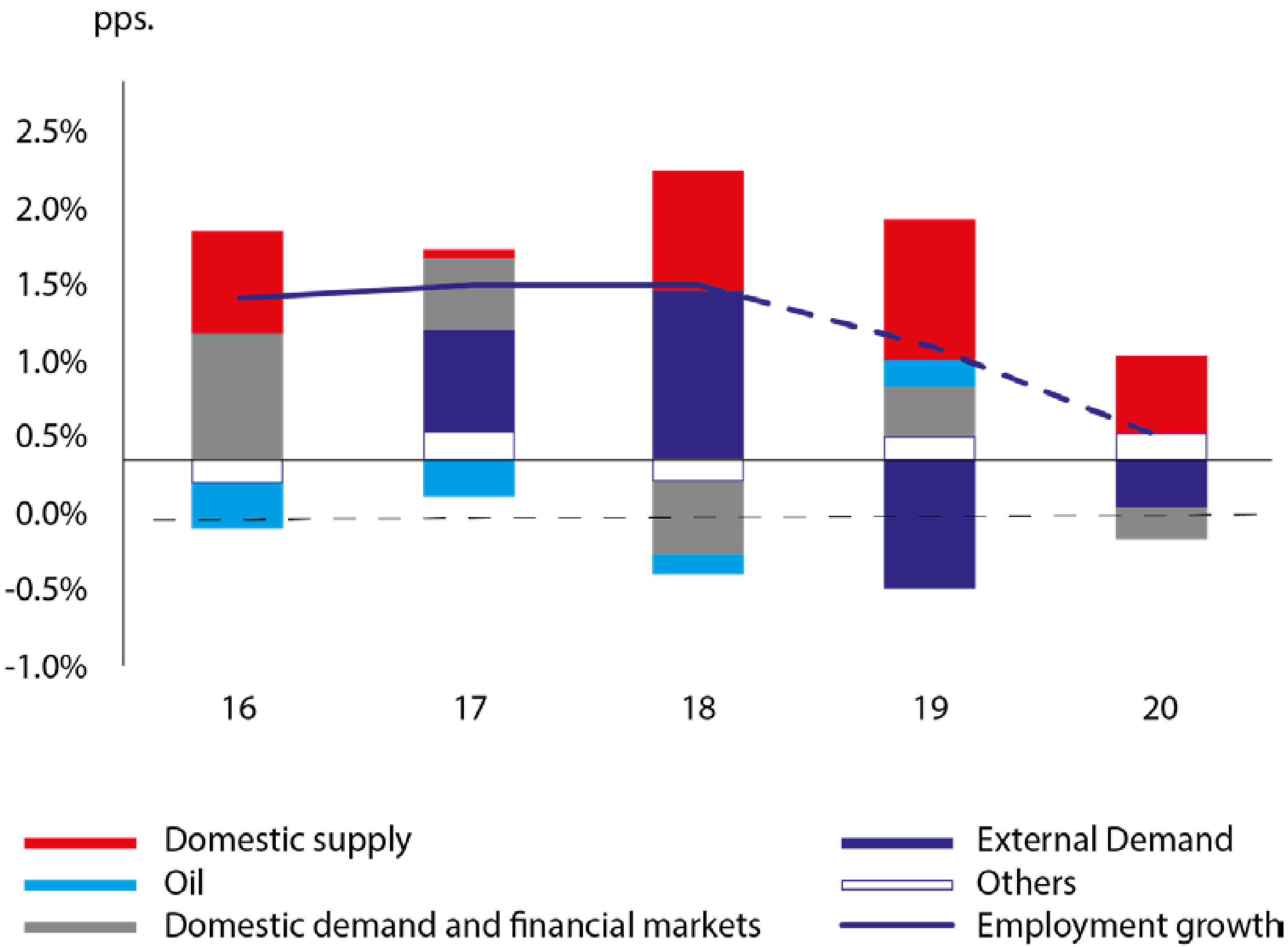
Overall, over the next two years, employment growth is expected to continue but at a moderate pace, reflecting the lagged effect of the GDP slowdown. The relationship between economic activity and the labour market thus remains consistent with traditional views such as Okun's law (Ball *et al*. 2017).

If anything, the expansion so far has been rather job-rich (Botelho and Dias da Silva 2019). As a corollary, productivity growth has declined, in part due to shifts in the sectoral composition of the economy towards services. This suggests that the rate of GDP growth at which employment growth drops to zero may now be lower than in the past.

Finally, some labour hoarding in countries and sectors where labour markets had recently turned particularly tight is expected to limit headcount reductions as long as employers perceive the current economic weakness as temporary.

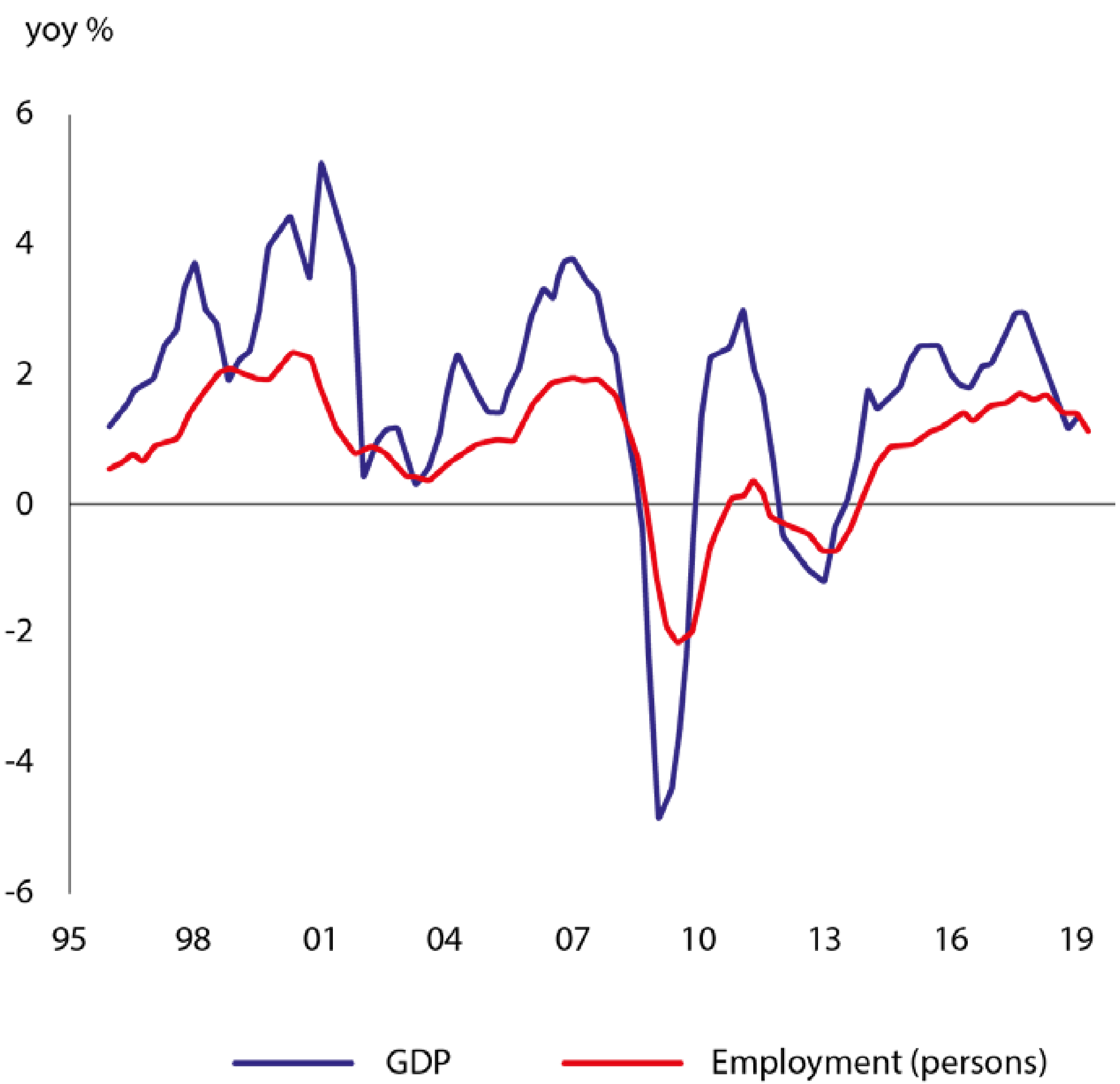
Reflecting the lagged impact of labour-market tightening, wage growth has picked up in 2017 and 2018. Aggregate data suggest that firms have absorbed higher wage costs in their profit margins rather than passing them on in higher selling prices to consumers, and core inflation has hardly reacted to higher wage growth (Figure 7).

Figure 5. Contributors to employment growth in the euro area (expressed as deviations from long-term trends)



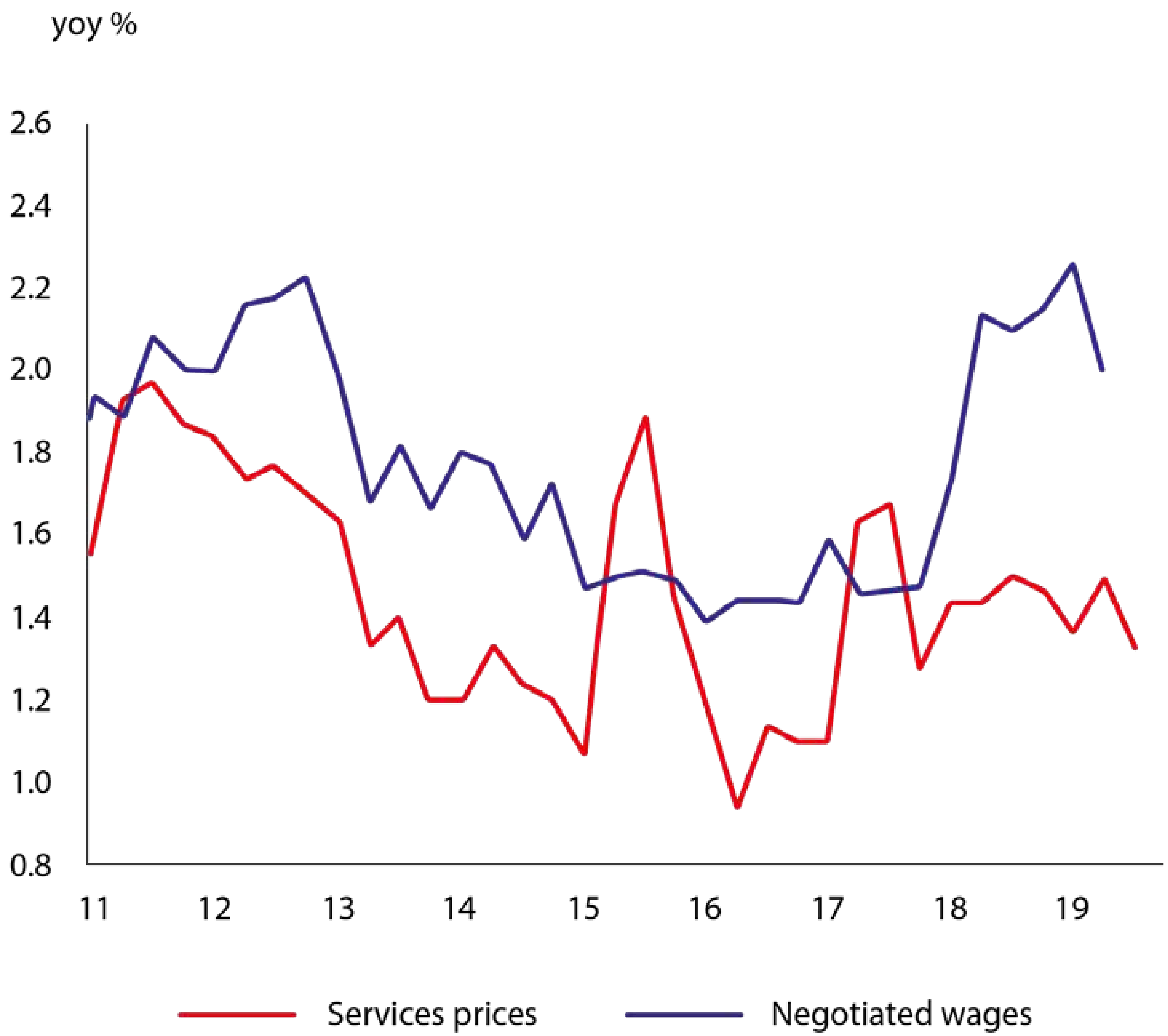
Source: DG ECFIN
Note: The bars represent deviations from the long-term trend rate of employment growth (0.3%). A bar above (below) the horizontal axis represents a positive (negative) contribution.

Figure 6. Employment and GDP growth



Source: Eurostat

Figure 7. Wage growth and services inflation, euro area



Source: Eurostat, ECB

The positive momentum in wages may last for some time, to the extent that wages have been agreed for several years, or that labour shortages persist in some sectors (eg. construction). Data for 2019 suggest, however, that wage growth may not further increase. This contributes to the expectation of only modest inflation increases as projected in the forecast.

The combination of persistent shocks and long-standing structural issues could prolong the weakness into the medium term

In the absence of further negative shocks, the negative cyclical and structural factors discussed above are unlikely to be strong enough to draw the European economy into a recession.

However, slowing productivity growth was already evident before the Great Recession, and Europe is now entering a phase where demographic ageing is felt more strongly. The combination of recent shocks with these underlying impediments to trend growth might well lead to an equilibrium with more or less stagnating aggregate economic output and very low inflation in the medium term.

Persistently low growth and inflation amid very low interest rates have implications for potential output and equilibrium real interest rates (natural rate). In the euro area, the equilibrium interest rate may have declined (Jordà and Taylor 2019; see also Holston *et al*. 2017). Both a lower natural rate and low inflation expectations decrease the policy interest rate that is needed for effective monetary policy and imply that central banks find themselves more often at an effective lower bound of policy interest rates.

Discussions about a related risk of secular stagnation (Rachel and Summers 2019) are not new. Recently, new momentum has been added to the discussion by the very low or negative long-term bond yields on most euro area sovereign bonds, which have been interpreted as an indication of reduced growth and inflation expectations and a prolonged period of very accommodative monetary policy (eg. Darvas 2019).

However, other analyses have seen the subdued pace of growth since the Great Recession largely as a legacy of the crisis, and empirical analysis has not been able to provide strong evidence in favour of the secular stagnation hypothesis (eg. Roeger 2014).

In conclusion, some of the recent shocks – such as the impact of trade policy uncertainty on global value chains or structural shifts in demand for cars – are unlikely to be reversed soon. They might interact with longer-standing weaknesses of trend growth and dampen medium-term growth to an extent where they trap the European economy in an equilibrium of very low growth and inflation.

Economic policies need to become more effective and better coordinated

The prospect of a prolonged phase of subdued GDP growth and muted inflation has prompted the ECB to implement additional easing measures in September, calling at the same time for fiscal and structural policies to be stepped up (European Commission 2019) in order to reach an overall more supportive policy mix.

The weak near-term outlook and the substantial downside risks call for the deployment of stabilising macroeconomic policies, while the risk of a prolonged period of low growth in the medium term calls for addressing the causes of low productivity growth. At the same time, policymakers must not be distracted from the challenge of steering the transition to a socially and environmentally sustainable economy.

A more supportive fiscal stance for the euro area as a whole is justified in the current situation by the sharp slowdown of manufacturing and the drop of GDP growth below trend. More importantly, the risks surrounding this outlook are large and negative, including a further escalation of trade and geopolitical tensions, and a more substantial spillover of the manufacturing slump to the rest of the economy.

Therefore, the risk associated with deploying fiscal support unnecessarily now appears smaller than the risk associated with inaction (Boone and Buti 2019). In the absence of a euro area budget for stabilisation, fiscal stabilisation requires a more coordinated response.

For the member states with fiscal space, using it actively and pre-emptively would allow not only a fiscal stimulus to be provided, but also the public capital stock to be refreshed and modernised, thereby boosting potential growth. Member states with high public debt should enact prudent policies that put their debt credibly on a sustainable downward path. But they should also prioritise investment and improve the quality of taxation and expenditure.

Intertemporal coherence is also important. A targeted package of fiscal and structural policies must at the same time contribute to the transition to an environmentally and socially sustainable and productive economy. Physical investment undertaken today must contribute to the ecological transition.

The buildings, transport and energy infrastructure built today, for example, will still be in use in 2050 – a date by which the European economy should be fully de-carbonised.

Likewise, today's policy decisions concerning education, digitalisation and research will shape the fairness, technological edge and growth potential of the economy over the coming decades. The economic setback makes it no easier to deliver such a package. But at the same time, very low or negative financing costs provide an opportunity to bring forward projects with a high social, environmental and economic return. This window of opportunity should be used now. ■

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This article was originally published on VoxEU.org

A digital euro to save EMU

Relaunching the euro as digital central bank currency could help reduce the debt of the euro states and end the sovereign-bank doom loop, Thomas Mayer argues

The desire to avoid credit and investment boom-bust cycles has led some to advocate replacing money creation through bank credit extension with direct money issuance by the central bank or a private entity, or linking money to an existing asset.

This column, part of the Vox debate on euro area reform, argues that relaunching the euro as digital central bank currency could help reduce the debt of the euro states and end the sovereign-bank doom loop. It would also create a formidable competitor for other global digital currencies likely to emerge in the intermediate future.

Since the financial crisis of 2007-08, the role of our monetary order for the emergence of credit and investment cycles has received renewed attention. Based on the work of Knut Wicksell, Ludwig von Mises, and Friedrich von Hayek, an increasing number of financial analysts and economists have identified the creation of money through credit extension by commercial banks under the guidance of central banks as a source of economic instability[1].

When a central bank manages interest rates in the credit markets below the 'natural rate' (at which money savings and investments are in equilibrium), more money is created through credit extension for new investment while money savings are discouraged.

A credit and investment boom ensues, during which investment temporarily exceeds saving. When capacity constraints put a brake on the investment expansion, prices rise, prompting the central bank to induce an increase in credit market rates. Higher interest rates discourage new investment and render some investment undertaken at lower rates economically unviable. As bank loans need to be written off and new investment drops, the boom turns into bust.

Credit and investment boom-bust cycles would of course be avoided if the central bank could stabilise the credit market rate at the level of the natural rate. But as this rate is unobservable, the central bank engages in a process of trial and error to find the correct level for the credit market rate, inducing boom-bust cycles in the process[2].

As a consequence, a number of economists and analysts have proposed replacing money creation through bank credit extension with direct money issuance by the central bank or a private entity, or linking money to an existing asset[3].

But has the unthinkable not become reality with the speed of thought during the global crisis and the euro crisis?

Since the beginning of the euro area crisis in 2010, it has been become clear that the original architecture of European Economic and Monetary Union was unstable. Numerous reforms have been implemented, but political disunity has prevented completion of EMU. Contrary to popular belief, EMU is still only a cash union, because only the banknotes issued by the ECB (and the coins issued by the member states alongside) are of the same credit quality in all the member states of the euro area.

Bank deposits, on the other hand, differ according to the quality of the loans with which they were created and – in particular – according to the financial capacity of the states to protect these deposits in the event of bankruptcy of banks. A uniform European deposit insurance scheme (EDIS) is to be created in order to ensure the uniform quality of bank deposit money, but political resistance to the pooling of bank risks has so far prevented this.

For the same reason, the creation of a 'safe asset' in the form of a government bond without default risk, urgently demanded by financial market participants, has remained elusive.

History has shown again and again that monetary union in the credit money system needs political union as its guarantor. But political union seems more distant today than at the time of the launch of EMU more than two decades ago. Even if we succeed in completing EMU by creating a political union against all odds, we would have established the euro as credit money with all the problems mentioned above.

Against this background, and in view of the challenges and opportunities of digitalisation in the financial sector, I propose to relaunch the euro as digital central bank money. My proposal draws on all three of the above-mentioned ideas for monetary reform: the 100% money concept of the Chicago Plan; the crypto money technique pioneered by Nakamoto; and the asset backing of money suggested by economists of the Austrian school.

A more detailed comparison of the various ideas for monetary reform and exposition of how they change the balance sheets of money issuing entities and commercial banks is given in Mayer (2018). I believe that a digital euro offers four important advantages: (1) a safe European common currency without the need to create political union; (2) a monetary order less prone to investment boom-bust cycles; (3) an end to the sovereign-bank doom loop; and (4) the establishment of the euro as a key international currency.

Introducing the secure deposit

The first step towards the euro as digital central bank money would be to create a euro bank deposit which is fully backed with central bank money. The ECB could create the central bank money necessary for covering the deposit by purchasing government bonds (as proposed in the Chicago Plan)[4]. Thus, a secure deposit and asset as safe as banknotes would be created without any form of state backing needed[5].

In a second step, the secure euro deposit could be consolidated on the ECB's balance sheet and set up as digital central bank money that can be transferred peer-to-peer using distributed ledger (ie. blockchain) technology. Thus, the euro would become an 'asset token', backed solely by government bonds.

Embedded in the token could be a 'smart contract' stipulating the nature of its backing and rules for the creation of new tokens (see below). The smart contract would be tantamount to a digital watermark identifying the token as a valid euro. Entities tasked with proofing transfers of tokens in the blockchain (ie. 'nodes') would only validate a transfer if the token under review were created according to the rules laid down in the smart contract.

A token found in a proof of a transaction not to have been created according to the rules embedded in the smart contract would be treated as counterfeit money. Only the ECB – not the commercial banks as in the credit money system – would be responsible for issuing digital euro tokens. For users accustomed to paper money, the ECB could of course exchange digital euros at parity into bank notes.

A rules-based increase in the money supply

The future increase in the money supply would take the form of additional purchases of government bonds by the ECB. Purchases would have to be decided by the ECB Governing Council independently of political influence and from a long-term perspective.

For instance, in the spirit of Milton Friedman's 'k-percent rule', growth of the digital euro money supply could be geared to the expected long-term growth rate of real GDP (the growth potential of the euro area economy)[6]. Contrary to conventional wisdom and in line with the experience in Japan, I do not see inflation expectations of zero as a problem, but a small rate of depreciation of money could be added to the money growth rule if actual developments proved me wrong.

Instead of through bank lending, money supply would be expanded by increasing ECB holdings of government bonds. To avoid money creation for fiscal policy purposes (as proposed by modern monetary theory), governments would be obliged to distribute the money they receive from the bond sales directly to their citizens as a 'money dividend'.

Any government violating this obligation (stipulated in the smart contract embedded in the euro) would engage in distributing counterfeit money, automatically no longer qualify for bond sales to the ECB, and hence not receive new money for distribution to its citizens.

Banks as intermediators

Commercial banks would now have to broker their customers' savings deposits in the form of digital euros to investors, and interest rates would be determined by the demand for funds for investment purposes and the supply of money savings in the credit market.

Banks would resemble an investment fund whose assets are protected against first loss by an equity cushion. Savers could choose the bank that suits them according to their preferences for returns and first-loss protection. The central bank would no longer manipulate interest rates to control banks' credit money creation.

Commercial banks could of course continue to create private debt money through lending, but there would be no state guarantee for conversion at parity into digital euros. Money would no longer be an instrument for discretionary economic policy. But in view of the new impotence of monetary policy, this would hardly matter.

An end to the sovereign–bank doom loop

Since government debt would be used for backing money with an asset, digitalisation of the euro offers the possibility to reduce the debt of the euro states and end the sovereign-bank doom loop.

Recall that the central bank buys government bonds to create the central bank money for the secure deposit, which can be transferred peer-to-peer in the blockchain. Thus, bonds on the central bank's balance sheet to back the outstanding (digital) central bank money are permanently taken out of the market. At the end of 2018, euro area government debt amounted to €9.9 trillion, or 85% of GDP. Sight deposits amounted to €7.1 trillion.

In order to back sight deposits with reserve money, the ECB could acquire €7.1 trillion government bonds against reserve money in total (ie. some €5 trillion in addition to its existing holdings) and keep these bonds on its balance sheet. Since the stock of bonds is permanently required as cover for the money stock, repayment would be suspended.

Moreover, as interest income from the bonds would be returned to governments anyway, coupons could be reset to zero. With a zero coupon and infinite maturity the bonds would cease to count as government debt. Hence, outstanding market debt of euro area governments would fall to €2.8 trillion, or 24.3% of GDP.

Digitalisation could be combined with a 'New Deal for the euro': the fiscally conservative countries in the North with lower debt levels would agree to the one-off monetisation of old debt on the balance sheet of the ECB for the creation of the secure deposit.

In return, the more highly indebted countries in the South would accept that after the one-off monetisation of their old debts, a renewed monetisation of national debts would be impossible. Thus, the ECB would buy government bonds in amounts to reduce the debt ratio of each EMU country to the same level of 24.3% of GDP (in my example, based on end-2018 data).

The more indebted Southern countries would receive a larger amount of debt relief than the fiscally conservative Northern countries with lower debt levels. For instance, to bring the debt ratio for all countries to 24.3% of GDP, the debt ratio of Germany would be reduced by 37.6% of GDP, while the reduction for France and Italy would amount to 74.1% and 100.5% of GDP, respectively. But as all euro member countries would benefit from new room for prudent fiscal policy, the Northern countries could afford to be generous.

With the rules for establishing the digital euro and augmenting the money supply embedded in the smart contract of the asset token, it would be impossible for governments to force the ECB to monetise future debt. Governments in payment difficulties could of course issue their own fiscal money (as has been contemplated by the governments of Greece and Italy at various points in time). But any money issued in breach of the contract and called euro would simply be counterfeit money (like issuing counterfeit central bank notes).

The euro as an international currency

Europeans use American platform companies to communicate and shop on the internet. They use the US dollar for a large part of their international payments. They may in future have to use a cryptocurrency managed predominantly by American platform companies with global reach when they want to pay with digital money; there is hardly a European company suitable to join the association created by Facebook to issue and manage Libra, the envisaged private cryptocurrency capable of attracting a global community of users.

Or they may have to use a digital currency issued on behalf of the Chinese government, as China has announced to develop a digital currency which it may well roll out on a global scale. A digital euro would significantly reduce Europe's dependence on the US dollar as a means for international payments and create a formidable competitor for other global digital currencies likely to emerge in the intermediate future[7]. All global users would benefit when several currencies compete for their favour.

Conclusion

I am fully aware that my proposal will be regarded as provocative by many economists and central bankers. Many will argue that there will be no more room for discretionary monetary policy. But have we not exhausted this room already? Others will argue that digitalisation of money will create new financial risks. But is not the existence of the present financial system already at risk?

A third (presumably mostly academic) group of economists will argue that I am reviving old-fashioned theories completely out of synch with the present state of macroeconomic theory. But has this theory not failed us in the global financial crisis? And a fourth group (presumably mostly employed by governments and central banks) will argue that my proposal is politically unthinkable.

But has the unthinkable not become reality with the speed of thought during the global crisis and the euro crisis? If the past decade has taught economists anything, in my view it is that we should keep an open mind and should not take established wisdom for granted. It is in this spirit that I would welcome a critical discussion of this proposal by fellow economists. ■

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Endnotes

1. For a comprehensive exposition of the theory, see Huerta de Soto (2012) and Mayer (2018).

2. The search for the 'correct' rate is described in the Taylor Rule, which explains actual central bank policy relatively well.

3. An early proposal for direct money issuance by the central bank was the Chicago Plan of 1933, explained in Fisher (1935). A more recent project of direct money issuance by a private entity is Bitcoin, described in Nakamoto (2008). For a proposal to back money fully with gold see, for example, Huerta de Soto (2012).

4. When the central bank wants to buy a bond, it pays a commercial bank central bank money in its account to create a deposit, with which the commercial bank can buy the bond in the market. When the bond has been bought and delivered to the central bank, the latter has a claim in the form of the bond and a liability in the form of central bank money. The commercial bank has a claim in the form of central bank money and a liability in the form of deposit money. Thus, the *latter can now be fully backed with central bank money. The previous bond holder has exchanged his bond against a bank deposit.*

5. Note that this looks similar but is different from the idea of 'narrow banking'. There, banks are supposed to invest existing deposits in safe and liquid assets. Nothing is said about how these deposits come into existence (eg. Acharya 2003). Here, we are concerned with the way safe deposits can be created in the first place.

6. This would differ from the concept of Nakamoto (2008), where the Bitcoin money supply has a ceiling.

7. Mark Carney, governor of the Bank of England, has recently proposed digital central bank currencies as competitors to the US dollar (Carney 2019).

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This article was originally published on VoxEU.org

A call for Europe

Critics of the European idea are gaining ground. Sabine Lautenschläger considers the successes of the European project and says future challenges can only be met by working together

"I am a German and will remain a German, but I have always been a European too and have felt as such."

These are the words spoken by Konrad Adenauer in 1946, when reconciling Europe and securing peace were paramount. National arrogance and isolationism had culminated in two world wars – two world wars which had wreaked death, misery and chaos on Europe.

Adenauer's conviction had a profound influence on many people, including my parents. His core belief that *"we're Europeans first and Germans second"* is still a great inspiration to me today. For those who lived through the Second World War, a strong Europe, a united Europe, represented the future and the path to lasting peace.

But today some people harbour doubts about the European idea. Nationalism and populism are flaring up again and parties that are critical of the European project, or even reject it outright, are gaining ground in many countries. This is an alarming development.

We must not forget the lessons from our history. Borders and walls within Europe have never created security. A united Europe has bestowed peace and prosperity to each member state and its people – the German people included. And the future challenges facing each and every one of us can only be met by working together in Europe.

Scepticism towards the advantages of Europe

And yet Europe is increasingly subject to criticism. Public scepticism towards Europe has grown: in 2007 some 57% of the EU population said they trusted the EU, but this share has now fallen to 44%[1]. At the same time, Eurosceptic parties have almost doubled their share of votes over the past ten years[2].

One explanation is that people feel unsettled, not only in the face of advancing globalisation and structural changes but also because of increasing migration.

Far-reaching changes, fear and a sense of disorientation often cause people to reject what's new and retreat to what is familiar. And this withdrawal becomes menacing if people no longer want to exchange views and opinions and applaud seemingly simple answers as ultimate wisdom.

The major challenges we face, such as globalisation, structural change and migration, are unsettling people and causing many to feel a sense of fear and disorientation

It becomes dangerous if, owing to social media and the filter bubbles affecting what we see online, we merely find confirmation of our own beliefs[3]. And such withdrawal becomes particularly dangerous if people lose empathy and the inherent willingness to take other people's viewpoints and values seriously.

All of this leads to rejection and exclusion in our society. When people feel that their voices are no longer being heard and that they are no longer represented, populists find it easy to undermine the system and propagate simple solutions. The populists' success is based on the perception that they are seriously addressing people's concerns by proposing radical solutions. This is how they spread their new nationalism.

Some Eurosceptic parties are pushing for a retreat from Europe, a withdrawal behind national borders. All too often, regaining national sovereignty is seen as an opportunity to acquire more freedom of action and security in the face of global developments. This suggests that we can preserve our prosperity by sealing ourselves off.

This notion and the retreat to nationalist thinking is wrong. Because it fails to recognise the many benefits that Europe has brought us.

Europe has brought peace

With the European Union we have found a way of resolving conflict that has ushered in the longest period of continuous peace in the history of Europe. The EU has transformed a continent of war into a continent of peace. We should not take this for granted – and the award of the Nobel Peace Prize to the EU reminds us not to do so.

Europe has brought freedom

Human rights, democracy and the rule of law are prerequisites for EU membership. Let's not forget that in 1957, only 12 of the current member states were democracies, compared with 28 now.

Europe has provided an unprecedented degree of freedom of movement. Thanks to the EU, European citizens enjoy border-free travel and are free to study and work within the EU, creating inestimable development opportunities for everyone. And the consequences can be felt in everyday life.

17 million people and 1.4 million commuters live or work in another member state, approximately equivalent to the entire population of the Netherlands. And every year we cross one of the internal borders within the Schengen area an almost inconceivable 1.27 billion times[4].

Europe has brought prosperity

Some 25 years of the Single Market have generated real growth for more than 500 million consumers. Average per capita income in the EU has risen by half over this period. This last point, more prosperity across Europe, is one I must address separately. Because the economic benefits of Europe are often a point of contention in Germany.

Hardly any other economy has profited from the Single Market as much as Germany. Were it not for an open Europe and the creation of the Single Market, the robust economic growth of the post-war era would have levelled off over time.

The free movement of goods, in other words, the abolishment of customs barriers and other obstacles, has created a large European market which promotes trade and growth.

Likewise, the freedom of services has enabled people to offer their services in all EU countries. And the free movement of capital and payments created the conditions for the euro and a common financial market. Free movement of goods, capital and payments and freedom of services have allowed Europe to grow more closely together, have advanced the German economy and have brought prosperity to us all.

German firms last year exported goods to the value of almost €780 billion to other EU member states. Without trade barriers, without exchange rate risk. That accounts for almost two-thirds of all German exports. The Single Market creates and secures high-quality jobs in Germany.

According to the Bertelsmann Foundation, the Single Market contributes €37 billion a year to German real GDP growth. That represents additional income of €450 per person and year[5].

We also owe these advantages to the euro, as the bulk of trade is invoiced in euro. The euro cements the Single Market; our common currency prevents exchange rate fluctuations and competitive devaluations between the member states. The euro has thus provided stability and prosperity. Without the euro, open markets in Europe would not have lasted long.

And all this has not only benefited enterprises, but first and foremost consumers too. The inflation rate has been stable for many years. For the euro it has averaged 1.7% since its introduction, compared with 2.8% for the D-Mark. I have now spoken about the past advantages of a united Europe. Let's now take a look at the future. Here, too, I am convinced that all of us, Germany too, will be able to master the challenges of the future in a united Europe.

The advantages of Europe for future challenges

All countries in Europe face major, predominantly global, challenges, such as increasing worldwide competition, climate change and technological progress.

Global competition

No country, Germany included, can turn its back on globalisation if it wishes to secure future prosperity and distribute it evenly. And we need the EU in order to retain our capacity to act and to shape global developments.

The economic weight of Europe's member states has drastically declined over the past decades. Looking at the aggregate economic performance of EU countries, the EU's share in global economic output has fallen from around a third in the 1980s to a sixth today. Germany's share has more than halved over the same period and now stands at around 3%.

And individual European countries will continue to lose their significance in the world, for one because our birth rate is far lower than that of other countries. More than 500 million people now live in the EU, representing 8% of the world's population. In 2050, this share will have declined to just 5%[6]. The German population will then make up no more than 0.8% of people in the world.

In such an interconnected world, individual countries will therefore find it increasingly difficult to uphold their prosperity and social security provisions.

Globalisation reduces the capacity of individual countries to levy corporate taxes and finance their social security systems. Free movement of capital allows enterprises to use differences between tax systems to their advantage and to distribute both profits and intangible assets across different countries. This leads to corporate tax bases being eroded. The OECD estimates that the global revenue shortfall owing to tax avoidance amounts to between 4% and 10% of corporate income tax receipts[7].

Moreover, globally active companies can threaten to cut jobs and move production to other countries. Countries are thus tempted to use lower labour and social security standards to their competitive advantage and enter into a race to the bottom, making it harder for them to defend their social standards.

By pulling together, countries in Europe are in a better position to withstand global developments. As a whole, Europe is still large and economically significant enough to tax corporate profits and put an end to social dumping. The EU is a market that firms can hardly do without.

Power lies in numbers. That is especially true for trade. The EU is the most tightly integrated economic region in the world. Two-thirds of EU trade takes place with other member states. And around 50% of cross-border financial holdings in the euro area are from other euro area countries. That is true for Germany too. In practical terms, this means, for example, that Germany exports more goods to France than to China.

So it's not surprising that turning away from Europe could have disastrous consequences for our prosperity. One study shows that, for example, new trade restrictions in Europe could reduce Germany's economic output by 8%[8].

In their external trade, too, countries that go it alone only stand to lose. No country has the heft required to make itself heard in international trade talks and significantly influence trade conditions. And no national economy is large enough to set the common standards for globally integrated value chains. Neither is Germany: our share in global trade is only half the size of that of the EU.

Moreover, Germany's significance for world trade is set to dwindle further in future. The European Commission predicts that, over the next 10 to 15 years, 90% of global growth will be generated outside of Europe. But in Germany especially, employment relies heavily on open markets and international trade: nigh on 30% of German jobs depend directly or indirectly on exports, and this is true for as many as every second job in industry[9].

If we are to profit from this international growth, we need open markets and a strong voice in international trade talks. Only the EU can offer us these.

The EU improves the ability of all member states to control outcomes. By acting together, we can attain objectives that we would have been unable to reach alone. For the EU is the main trading partner for 80 countries worldwide. And with the combined weight of EU member states in global value chains, European firms can set their standards throughout the world[10].

Climate change

Joint action in Europe is also needed to overcome a completely different challenge facing all countries, namely climate change. People in this country are serious about tackling climate change. But countries cannot win the struggle against climate change on their own: pollution does not respect borders.

Think of, say, pollution entering the Rhine or the Danube and potentially affecting another country further downstream. Or the acid rain caused by UK coal-fired power plants in the 1980s which harmed the forests and lakes of Scandinavia.

Climate change is a global phenomenon that poses complex coordination issues for national governments and affects many areas of life, including the economy. Allow me to concentrate on some of the economic consequences of climate change. That in itself will reveal the immensity of the challenges which we can only successfully overcome together.

For one, climate change affects competitiveness in the Single Market. As trade in goods and services expands, it's important to ensure a level playing field. However, individual countries may implement environmental measures that distort competition.

That can happen if, for example, production standards are lowered in a bid to achieve cost advantages. Amid international competition, such practices can lead to environmental dumping – with detrimental consequences not only for the Single Market but also for the environment. So countries have to work together to stop this dangerous dynamic.

Even the direct effects of climate change alone may have an enormous impact on the economy. Rising temperatures and shifting precipitation patterns may depress earnings in different economic sectors such as agriculture, energy, tourism or construction.

And that may also affect the financial system. If companies have serious difficulty in repaying their loans or disbursing dividends, banks and their creditors and investors will in turn suffer damages too.

Moreover, environmental and climate protection measures may have extensive economic consequences. The bans on diesel cars and the fall-out from the emissions scandal, for example, not only triggered a decline in car manufacturers' share prices, but also in the prices for used diesel cars. And handling the trend towards electromobility is testing the German automobile industry's future viability to the limit.

All of this shows the extent to which climate change and environmental measures can affect economic activity, assets and jobs.

Europe offers a unique opportunity to combat climate change and so reduce the potential damage to the economy. Europe can provide well-coordinated instruments and clear, reliable regulation, such as the Europe-wide carbon floor price. The European emissions trading scheme with fixed caps on emissions is the first and largest of its kind worldwide.

As one of the three largest economic blocs in the world, Europe can be at the vanguard of the fight against climate change. Europe has long campaigned internationally for strong and binding targets. For one, the EU built up a broad alliance of industrial and developing countries with ambitious targets, which significantly contributed to the success of the Paris Conference. Moreover, the EU was the first large economic region to present its planned contribution to the agreement as early as in March 2015.

And Europe can ensure that the financial market helps attain climate targets. It has now become clear that market participants are failing to take the social costs of their activities for the environment fully into account, leading to a lack of sustainable finance.

This arises, for example, when market participants base their investment decisions on excessively short time horizons and fail to factor in environmental risks. Because they would otherwise, from a risk perspective, steadily shift the focus of their investment to green and sustainable assets and so contribute to the attainment of the climate targets. Europe can give impetus and set up the right framework[11].

Central banks such as the European Central Bank can also help to fight climate change. First, the ECB can contribute to the development of tools and methods that can be used to identify, quantify and mitigate climate-related risks in the financial system.

Second, the ECB can use its investment portfolio to help fight climate change. For example, sustainability criteria are already taken into account in our portfolios that are not held for monetary policy purposes. We have also bought green bonds under our asset purchase programme. But we have to make sure that we are not creating market distortions, of course – we have to remain market-neutral. This means that the ECB can only buy a limited amount of the green bonds available on the market.

Third, the ECB – together with other leading central banks – can examine the potential effects of climate change on the conduct of monetary policy. We are still in the early stages of our research into whether and how climate change affects the transmission channels of monetary policy and could lead to bigger and more persistent shocks that could have consequences for price stability, among other things.

Fourth, forward-looking banking supervision can urge banks to ensure that they have an overview of the climate-related risks on their balance sheets, and that they do so on a continual basis and with reference to stress scenarios. This is the approach that European banking supervision is taking.

Payments

I have talked about the major challenges facing Europe. But there are also areas which are less prominent and not quite so fundamental, but which are still important in our interconnected world.

Payments are one such example. Safe, reliable and efficient payment systems are a vital part of a well-functioning and integrated economy.

Technological progress and changing payment habits have fundamentally altered the payment system and thrown up new challenges. End users now expect to be able to transfer money around the world in real time and at low cost.

But existing payment systems are fragmented along national lines. The German Girocard scheme and the French Carte Bancaire, for example, are both used by large numbers of end users in their domestic markets, but they exist in parallel and separately from one another.

Many payment service providers retreat behind national boundaries on account of national interests and preferences. And customers can see this. If they want to make cross-border payments in Europe with ease, they frequently rely on global players such as VISA, Mastercard and PayPal. And the big tech companies also offer payment solutions with pan-European reach. This is easier for them, since their global customer base allows them to achieve the desired network effects.

At the moment there are only a handful of large payment service providers offering pan-European payment services. New payment methods are being developed, such as Facebook's planned digital currency, Libra, and its underlying payment system.

According to current plans, users across the globe should be able to make payments not in euro or US dollars, but in Libra. We will need to carefully monitor how this will affect competition, because a lack of competition can impair the efficiency and quality of services in the long term, to the detriment of consumers.

Irrespective of how the payments landscape evolves over the coming years, it is essential that users of the various payment systems can be confident that all payment solutions, old and new alike, are safe and efficient.

To ensure that we have a safe, efficient and modern European payment system in the long term, though, we will need to work together at the European level. National solutions on their own don't have the necessary weight to achieve sufficient scale and network effects.

What a future-oriented European payment system needs most of all are efficient, future-oriented, pan-European market initiatives. The Eurosystem would welcome such initiatives and would likely support them, within the limits of its mandate.

A European payment system which has cross-border reach, supports modern payment methods and is accessible to all could set global standards. And it would also foster integration in Europe.

It would allow people across Europe to make transactions cheaply and safely, and this would enhance the benefits of the Single Market, making it more efficient, more innovative and better able to support growth and prosperity in all EU countries. An integrated market would thus increase the benefits of Europe for all countries.

A plea for more European integration

Creating optimum conditions for the Single Market and the euro is also in Germany's interest. And optimum conditions include not just the type of robust payment system I have just been talking about, but also the lasting stabilisation and deepening of Economic and Monetary Union.

This topic has many different aspects, but I would like to focus today on one key question: how can we advance the banking union project? Euro area firms still obtain most of their funding through banks. A robust banking sector is thus vital for a healthy European economy and a stable single currency. We need a banking sector that is able to offer services to customers across Europe. And we need a market in which banks can compete on a level playing field.

And the banking union – a single framework for the supervision and resolution of banks in the euro area – has already come a long way. All euro area banks are now supervised according to the same high standards. And the single mechanism for resolution ensures that cross-border bank resolutions can be carried out without damaging either the economy or financial stability.

But the banking union is still lacking an important component: a European deposit insurance scheme. For there to be an integrated banking sector and a true banking union, depositors in all countries must have the same level of confidence in their banks. People must be able to have confidence that their money is equally safe wherever it is deposited.

In the long run this can only be done through a European deposit insurance scheme. A shared scheme would make Economic and Monetary Union more robust. It would allow financial resources to be pooled between countries and to be used to tackle severe shocks and systemic financial crises that go beyond the capacity of individual countries.

But it is difficult to reach agreement on this degree of joint liability. If we are to move forward on this, I believe that the journey would need to include three steps.

First, all members of a shared deposit insurance scheme would need to continue to do everything they can to further reduce risks in their banks. Stable banks are, after all, the best form of protection for deposits.

Second, the shared insurance should be introduced gradually, and in such a way that individual countries would provide a minimum level of funding to cover national deposits.

Third, it is critical that banks' contributions to the deposit insurance scheme are risk-based – in other words, that the contribution of each bank is based on the institution's default risk and the amounts involved.

These three features of a shared deposit insurance scheme would strengthen the individual responsibility of member states, banks and shareholders and further incentivise risk-based behaviour. And this would ultimately be to the benefit of the EU and all its member countries.

Finding a common way in Europe

I can't say it often enough: Europe is our shared opportunity. Europe is our opportunity to act together where we face global challenges. After all, no country – Germany included – can by itself meaningfully shape the trading system, the battle against climate change or technological progress. More Europe is therefore the way forward in such an interconnected world.

But don't get me wrong – this is not an appeal for Europe to regulate all aspects of our lives. The EU brings together the shared features of the 28 member states, but also their many differences. Successful cooperation requires us to work on the basis of shared values, objectives and cooperation principles, of course.

We need to observe the principles of subsidiarity and proportionality that have always governed the EU's powers. These principles help us to ensure that cultural diversity and national identities are recognised and respected.

In other words, that we are *"united in diversity."* This is an approach that has proved its worth and we should continue to build on it in the future, ensuring that political decisions are made as close to the public as possible.

And despite all the benefits and the motto *"united in diversity",* there is growing scepticism about Europe. One of the frequent complaints is that the EU always operates on the basis of rigid legal principles, making it seem often technocratic and somehow remote.

This criticism applies to all European institutions and we shouldn't just brush it aside. I firmly believe that the time has come for us to redefine the way in which we work and, in particular, the way in which we communicate. And this applies to the European Central Bank too. The ECB needs to address all citizens, not just an expert audience – without ever becoming political, of course - but only in order to bring facts and explanations to economic issues.

"Do good and talk about it" – in simple and accessible language – should be the motto here. The people of Europe need to be given much more information about what the EU and its institutions are doing on their behalf – and that information should be coming not just from the EU institutions themselves but most of all from national governments and institutions.

Only then will we be able to tackle people's fear and disorientation. Only then will we be able to counter the growing polarisation among the people of Europe.

So we should not be communicating through complex facts, coefficients and rules. This only reinforces the impression that the EU is an arrogant elite that already knows all the answers. We will also need to work fundamentally on our understanding of politics and our culture of debate.

Communication between the public and institutions needs to involve a great deal of commitment and to flow in both directions. The people need to be included so that we can regain their trust and convince them that the EU works for them and takes their concerns seriously[12].

A concept that has worked well in a number of countries is that of deliberative democracy. It essentially involves allowing the public to play a greater role in political decision-making processes.

Ireland provides an instructive example of how this can work. In Ireland 99 randomly selected members of the public are brought together to discuss and deliberate on various issues, such as global warming, the challenges arising from demographic change or the law on abortion. The topic of abortion, for example, was for many years a very controversial topic in Ireland, and one that polarised society.

And so, before a referendum on abortion was held, a citizens' assembly was brought together to discuss the issue. The results of the conversations were published in a report and debated in Parliament. And while public reaction had initially been divided on the matter, the result of the referendum ultimately largely reflected the outcome of the citizens' assembly, which supported the right to abortion.

Many participants reported that the citizens' assembly had brought logic and structure to the discussion and allowed important facts to emerge. It had also shifted what had initially been a very emotional debate to a more rational plane and helped people to understand complex issues. In the end, the referendum did not lead to a massive divide in society, as had initially been thought. It was instead a process that gave rise to a clear result and social consensus.

A similar kind of model for exchanging views and participating in political discussions on European matters could also serve Europe well. Citizens' assemblies could be a helpful way of bringing together citizens in a given country to talk about European issues. The example of Ireland shows that citizens' assemblies are particularly effective when they discuss a concrete topic.

But it could also be helpful to have European citizens' assemblies, which would allow citizens of different countries to exchange ideas. It is particularly important that, within Europe, we develop additional methods and tools which establish shared values that transcend national borders and cultural differences and give rise to a sense of shared objectives.

Assemblies like these could also strengthen the dialogue between the people and the EU institutions. EU politicians and civil servants would be better able to understand the concerns of citizens, and thus better able to represent them. And the EU would be brought closer to the people and enjoy greater trust.

All of this requires hard work, commitment and perseverance, since diversity can slow down the decision-making process. Yes, discussions at the European level take longer than those at the corresponding national level. After all, the many different interests and approaches that often have their roots in national traditions need to be thoroughly discussed and compromises found.

And even if it does take longer, we all stand to gain from closer cooperation within Europe.

We need two things here. First, the determination to hold constructive discussions to establish shared values and objectives. And second, the ability to push through our values and objectives in a globalised world. I believe that Europe can offer both of these things.

Conclusion

Europe's achievements are significant. Never before in the history of our continent have we lived together in such peace for so long, and never before have we enjoyed such freedom. Europe has brought us considerable prosperity, and this has benefited all countries, including Germany. None of this should be taken for granted. And yet, Europe faces criticism.

The major challenges we face, such as globalisation, structural change and migration, are unsettling people and causing many to feel a sense of fear and disorientation. It is then often easier to think in national terms and to ignore the problems to a certain degree. And populists are exploiting this situation to spread a new kind of nationalism – a withdrawal from Europe. I believe that this national way of thinking is dangerous.

And that's because the global challenges affect all countries. At a time when all European countries are seeing their influence wane in the world, we need to hold together if we want to uphold our values and interests in the world.

As Konrad Adenauer once said, *"No European nation is able to protect itself militarily or develop economically on its own. If one wanted today to uphold the traditional concepts of nationalism, this would be a task for Europe."*

And this is why we need a return to Europe, a process of politicisation which encourages people across Europe to find their way back to a common path. We need to work on loosening entrenched debates, understanding differences of opinion and arriving at compromises.

Only by doing so will we be able to ensure that the people of Europe stand by an EU that is internally united and externally strong. Germany needs to play its role in Europe. This is not just in the interests of Europe, it is in the interests of Germany too. ■

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This article is based on a speech delivered at lecture series "Mein Europa", Heinrich-Heine University, Düsseldorf, 30 October 2019

World Commerce Review is pleased to announce that Atradius has been awarded the Best Credit Insurance Provider 2020.

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A giants' advance

Nirupama Soundararajan asks if the $5 trillion economy target is meaningful, and argues that India's growth should be in alignment with the SDG goals

In July 2019, during the Budget Speech, the Finance Minister stated confidently that India would become a USD 5 trillion economy by 2025. In FY 2019 the size of the Indian economy, in nominal terms, was pegged at USD 2.7 trillion.

A basic back of the envelope calculation will reveal that, in nominal terms, a USD 5 trillion target would not have been insurmountable had India's gross domestic product (GDP) continued to grow at 6-7 per cent.

However, India's growth rate for the second quarter has slowed down to 4.5 per cent. This only means that the USD 5 trillion target would maybe take slightly longer to reach.

Before India addresses the how of reaching this target, it is important to take a step back and examine if this is a meaningful target to pursue. Nominal GDP measures output at current prices, while real GDP measures output at constant prices.

This is why economists are always more concerned with real GDP. For India to become a USD 5 trillion economy, in real terms, growth rates will have to be as high as 9-10 per cent. Even then, India will reach the five trillion mark only by 2030. If India must chase a target, then this should be it.

The significance of being a five trillion economy, even in nominal terms, is not quite clear. For one, it allows India to enter an elite club of countries. India's economy today is about the same size of the United Kingdom. The United States of America and China are the only two economies to have economies significantly larger than five trillion.

To become the third largest economy in the world is a commendable achievement, but is that a sufficient achievement; clearly, the answer is no.

There are three pertinent data points that merit attention. First, India's GDP per capita is USD 2,306[1], a rank of 142 amongst 189 countries.

Second, India has had the most success in reducing extreme poverty the fastest. By 2022, the percentage of extreme poor to total population in India is expected to be only 3 per cent[2].

Third, over the last decade, as per the United Nations Development Program (UNDP) Multidimensional Index for 2019, India was able to reduce the number of people in poverty by half. In 2005-06, there were 640 million people in multidimensional poverty, which came down to approximately 350 million in 2016-17[3]. India is well on her way to meet the United Nation's first Sustainable Development Goal (SDG) target of no poverty by 2030.

India must move away from what have been considered as traditional growth engines and focus on what will drive growth for the next decade

Interestingly, India's USD 5 trillion (real economy) aspiration will also loosely coincide with the SDG targets laid down for 2030. Even the India government has laid out that Ease of Doing Business (EoDB) and ease of living (EoL) as twin goals. The Prime Minister of India had also mentioned at a meeting with Indian industry in November 2018 that the ultimate aim of easing business practices is to ensure ease of living for citizens[4].

If improvement in EoDB is not carried out in tandem with improvements in EoL, then meaningful growth may not be achieved. Not only will India have to find new ways of stimulating growth, but also find ways of doing so that have a positive impact on the ordinary citizen.

India's economy has been fueled by the services sector. The 'normal' economic growth journey in one in which economies move from being agricultural to industrial and eventually to largely services. India's journey was different, in that it has leapfrogged from being primarily agrarian to a services economy.

As a result, the manufacturing sector, even those that were once upon a time globally competitive, have lost their sheen are woefully underperforming. Even so, India has always hoped that a fillip to the manufacturing sector is what will truly provide India that additional two per cent growth that could have taken India's GDP growth rate from 7 per cent to 9 per cent, or even a double digit growth rate. To say the least, this has been a disappointing ambition.

India needs a shift in strategy to stimulate growth. The current slowdown has become somewhat of a temporary impediment to the USD 5 trillion target. To achieve this target, India must adopt a two-step approach. Step one would be bring India's growth rate from its current 4.5 per cent to at least a respectable 6.5 per cent. Step two would be to identify sectors that would help boost growth further to an 8.5-9 per cent, an addition of another 2 per cent growth.

As step one, for India to go back to previous levels of growth, India must focus on reforms in the financial sector. While some may argue that the cause of the slowdown in cyclical, the truth is that investments have slowed down, and this is because credit offtake has slowed down.

In 2018, the Infrastructure Leasing & Finance Services (IL&FS) Limited, one of India's premier long term infrastructure lending companies, defaulted on payments, which only compounded to the existing weakness in the financial system due to mounting non-performing assets (NPAs) in the banking sector. It was the non-banking financial companies (NBFCs) that managed to keep the credit flow alive, especially to the smaller companies, since bank credit had slowed down.

However, the default of IL&FS did created enough panic in the market that all refinancing lines to NBFCs, which were also provided by banks, also closed. The contagion of IL&FS spread and affected one of the largest NBFCs – DHFL, a housing finance company, so much so that they had to file for insolvency recently.

The crisis in the financial sector is not just about inadequate regulations, but that of trust. When deposit taking entities file for insolvency, it affects the retail sentiment. Almost too quickly in succession to DHFL came the failure of Punjab and Maharashtra Cooperative (PMC) Bank that led to a further deterioration in trust.

When retail investors and the industry lose trust in the financial sector, and the financial sector considers every lending proposition to be particularly risky (once bitten twice shy), the economy is bound to slow down.

India must work on setting the financial sector in order and on recreating an ecosystem of trust for recovery to begin in any meaningful manner. Step one in itself is a formidable task, but one that can be persevered through with targeted policy measures and regular communication.

Even as India inches upwards to reach earlier growth rates, policymakers will have to identify new sectors that can push growth. While employment in agriculture has gone down steadily over the past five years from 46.6 per cent in 2013 to 43.8 per cent in 2018[5], it still accounts for a large portion of India's total employment.

Even so, agriculture contributes the least to India's GDP and still remains heavily dependent on the vagaries of the monsoons. Even though successive governments have done their best to bring in reforms to step up agriculture's contribution to the economy, they have not been particularly successful.

However, because a large population is still dependent on agriculture, the government must focus on maintaining the current contribution. Hopefully, technology may reduce the number of people dependent on agriculture, while hopefully driving up farmer income and agricultural contribution.

The biggest change that is required for agriculture is a change in perception. Agriculture has always been viewed as a laggard sector. Agriculture must be treated as a business, like any other sector. This may yield better results.

India is no longer globally competitive in the manufacturing sector. It is probably time for us to accept that India may never gain ground on that front again. Even though it is the second highest contributor to India's growth, the rate of contribution has fallen.

India will have to step away from mainstream manufacturing sectors and focus on those that will unleash value, and construction is one such sector. It contributes nearly 8 per cent of India's GDP and employs nearly 50 million people. Construction can be divided into three segments - residential, commercial and infrastructure. The infrastructure segment is further divided into public and industrial construction.

Public infrastructure includes roads, railways, airports, irrigation, waterways, hospitals, schools and ports. Industrial construction mainly consists of oil and gas refineries, power sector, telecommunications and other industrial assets.

Given the slowdown in credit, constructing industrial infrastructure or even airports and roads may be challenge, due to long gestation periods and sometimes even regulatory uncertainty, but what presents an opportunity is for India to focus on constructing public infrastructure that are schools and hospitals.

These kind do not have as long a gestation period as infrastructure projects, returns would appear sooner, and they are in line with the SDG requirements as well. Construction also has strong interlinkages to core sectors such as steel and cement and will indirectly help the latter sectors grow, even if at only a reasonable rate.

Traditional sectors that have driven the services sector for India, like information technology, have plateaued. The champion sector for services will be tourism. India has been underestimating the contribution that the tourism sector can make to the country's economy, to employment, and to growth.

Along with the construction sector, it also employs close to 8 million people across the value chain. Like the World Bank's Ease of Doing Business indicators, there also exists a Travel and Tourism Competitive Index (TTCI), in which India is ranked 40 out of 136 countries. Ironically, for specific indicators such as tourism infrastructure, and for prioritizing tourism as an important sector, India ranks 110 and 104 respectively.

This indicates how India seems to have overlooked tourism as an economically viable sector. This must be set right immediately!

For what reasons may be, the USD 5 trillion seems to be an important milestone. It would be even more meaningful if it were in terms of real GDP rather than nominal. It would also be ideal if India's growth trajectory is in alignment with the SDG goals. Only when ease of doing business and ease of living come together will there be meaningful growth. India must shun what has been considered as 'normal' growth trajectory, and embrace the fact that India will be a service led economy.

Manufacturing sectors per se may not be globally competitive, but if the right service sectors are provided effective policy stimulus, the interlinkages, and domestic demand alone will ensure that core manufacturing sectors do well. For this, India must move away from what have been considered as traditional growth engines and focus on what will drive growth for the next decade. ■

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Backing the future

World Commerce Review sat down with Simon Gray to discuss the role of the British Virgin Islands in keeping the wheels of global trade and investment turning

Simon Gray, the Head of Business Development and Marketing at BVI Finance

What advantages are provided by the British Virgin Islands as an offshore finance centre?

The BVI is one of the world's leading centres for the incorporation of companies, particularly those created to facilitate cross-border trade, investment and business.

Ranked as the top offshore centre in the world for the eighth consecutive year according to the latest *Vistra 2020* report, the BVI provides a number of benefits as a *"tried-and-tested service at a time of economic uncertainty."*

At a macro level, a 2017 report by Capital Economics, entitled *'Creating Value: The BVI's Global Contribution'*, found that BVI-mediated investment contributes over US$15 billion in tax annually to governments around the world and supports two million jobs.

On-island, we operate in a politically and economically stable environment under a highly respected legal system rooted in English common law. We have expert practitioners from around the world, including New York, Hong Kong, London and the Caribbean, as well as a wider network of international expertise and we meet or exceed all the highest global standards.

How do you create an environment where entrepreneurship is supported and more new, smaller businesses are choosing to call the BVI home?

It is expected that by 2030 the global middle class will reach 5.3 billion people and the key to this growth will be the ability to cultivate start-up and entrepreneurial cultures and allow them to flourish around the world. International Financial Centres (IFCs) will be key to this growth by enabling even the smallest businesses to set up secure and robust business structures offshore to help entrepreneurs run nimble businesses without fear of tripping over onerous business rules.

In order to cater to this growing market, the BVI has continued to develop innovative products to meet the changing needs of clients. For example, the BVI Micro Business Company, a product recently approved by the BVI Government, has been designed for micro businesses of no more than six shareholders, with fewer than 10 employees and revenue and assets not exceeding US$ 2 million in order to help boost smaller businesses.

The BVI recently introduced the Beneficial Ownership Secure Search system. How has this helped in combating illicit financial activity?

Following the Exchange of Notes between the Government of the Virgin Islands and the Government of the United Kingdom on the sharing of beneficial ownership information, the BVI introduced its innovative digital platform, the Beneficial Ownership Secure Search System (BOSSs) in 2017.

The system enables direct access by relevant authorities to verified beneficial ownership information on corporate entities incorporated in the jurisdiction and has thus far helped the BVI's Financial Investigation Agency respond to almost 250 requests for beneficial ownership information from UK law enforcement authorities.

The gold standard system is designed to directly meet the beneficial ownership requirements of the Financial Action Task Force (FATF), the global standard setter in this area. As such, under BVI law information maintained on the register must be accurate, adequate, current and accessible in a timely manner, making it one of the most advanced platforms in the world as recognized by UK and US law enforcement.

It is also worth noting that the BVI is ahead of the UK with regards to providing beneficial ownership information as the UK's Companies House register does not require verification of information, a core requirement of the FATF.

The OECD is tackling tax avoidance and tax evasion. How pleased are you that the OECD recognizes the regulatory framework the BVI has put in place, and how does this demonstrate the BVIs place in the global economy?

We are of course delighted that the OECD recognizes the work the BVI has done in our efforts to tackle financial crime given we have always prioritized meeting all global standards in this respect.

For instance, the BVI was an early adopter of the OECD's Common Reporting Standard (CRS) which requires the exchange of information on an automatic basis with a number of jurisdictions for tax purposes.

We are also a member of the Inclusive Framework on BEPS led by the OECD's Global Forum on Transparency and the Exchange of Information for Tax Purposes bringing together over 100 countries and jurisdictions to collaborate on the implementation of the OECD/G20 Base Erosion and Profit Shifting (BEPS) Package. In addition, the BVI is rated as largely compliant by the OECD Global Forum.

Outside of the OECD, the BVI has also worked closely with the UK and a number of other international bodies for a number of years to tackle problems of tax evasion and illegal use of the global financial system.

As such, we are an active participant in a number of international initiatives including the Financial Stability Board, IOSCO, the global standard setter for the securities sector, and the Egmont Group of Financial Intelligence Units, often exceeding global standards across the board.

The digitalisation of finance and the growth of alternative financial instruments like crypto-assets is continuing apace, with smaller financial centres able to move quickly in fintech regulation. What opportunities do you see for the BVI?

Fintech is a very exciting space for the BVI and we see huge potential within the crypto assets market in particular.

A key element of our efforts to support fintech innovation in the BVI is the 'wait and see' approach to regulation that has been adopted by the BVI Government, the Financial Services Commission (FSC) and BVI Finance.

The BVI has a long, successful history of not responding rashly when a new product or asset is introduced on-island. Instead, we choose to work alongside the private sector and financial services professionals in order to develop rules that work for them and help them to flourish, rather than stifling progression with unnecessary delays and roadblocks.

An example of this innovative thinking can be seen in the FSC's development of its regulatory sandbox which enables businesses to test innovative products in a safe environment using a bespoke, focused supervisory framework whilst protecting market participants.

In 2018 the BVI was ranked one of the leading jurisdictions for ICOs and a recent report found that one in six crypto hedge funds are domiciled in the BVI. We believe that the combination of our supportive regulatory framework, as well as the quality of the infrastructure and service providers we are home to, will help cement our position in this important market going forward.

Recent FinTech initiatives included the BVI sponsoring its *Think differently – the Great Digital Disruption and the new internet economy* event in Singapore and in the BVI in 2018 and most recently in late 2019 its BVI Government sponsored event *BVI Digital Economy – a New Driver for Development* with the BVI Premier, the Honourable Andrew Fahie, using the theme of *Backing the Future*.

The BVI's core advantages, including its highly respected legal system based on English common law, internationally compliant regulations and tax neutrality make it a particularly attractive jurisdiction

How and why is the BVI such an important financial hub for developing economies in Africa and LatAm?

IFCs such as the BVI play a crucial role in addressing the need for developing nations, such as Africa and Latin America, to mobilise finance to facilitate economic development and meet sustainable development goals.

A recent report by the Overseas Development Institute (ODI) estimated that IFCs galvanized an additional $1.6 trillion worth of finance to developing countries between 2007 and 2014. The report also found that IFCs boosted developing countries' GDP by $400 billion and tax revenues by $100 billion during the same period.

The BVI helps facilitate this investment as a safe, secure intermediary through which investors are able to channel their funds. All investments made via the BVI are subject to the legal jurisdictions of established international contract law frameworks, including the UK and US, covering contracting, dispute resolution and collateral arrangements.

The jurisdiction also provides a provide a neutral location for funds to be amalgamated from multiple sources before being collectively invested. The diversification and tranching of pooled funds reduce the risk to more acceptable levels for international private investors.

Finally, IFCs are able to better direct investment into the areas that require the most support within developing economies – usually infrastructure and financial services.

For instance, the ODI report found that as a result of offshore intermediation between 2007 and 2014, financial services sectors in developing nations had received an additional $600 billion of extra investment while infrastructure sectors had received some $1 trillion.

BVI Business Companies are used by several major international development banks, including the World Bank's International Finance Corporation and the European Bank for Reconstruction and Development, to help fund projects around the world.

What is the benefit of setting up an investment fund in the BVI as opposed to doing so in an onshore jurisdiction?

The popularity of BVI funds is testament to both the ease and cost-effectiveness of establishing business in the jurisdiction, as well as the quality of our legislative, regulatory and judicial framework.

As investors seek increasingly sophisticated financial instruments to help manage their assets, we are seeing growing interest in our 'incubator' funds which allow clients to attract and pool a small amount of investment and manage it through their own fund.

A fund holder can invite as many as 20 investors, each of whom must make a minimum initial investment of US$20,000. The fund cannot, however, exceed a cap of US$20 million of the aggregate value of its investments with this combination often cited as the 20-20-20 criteria.

Such funds do not require the same level of administrative expertise that a large investment fund does, therefore enabling investors to set up and run a cost-efficient licensed fund that allows them to withdraw on demand.

The BVI also provides a supportive business environment for hedge fund start-up managers who can be held up by institutional investors looking for a three-year track record before they will consider investing or alternative sources of funding expecting at least 12-18 months of experience.

By using a BVI 'incubator' fund or an approved fund, a new manager can get established without having to appoint local directors or functionaries, although an approved fund will still need an administrator, as well as there being no requirement for a local auditor sign off on the fund's accounts, therefore speeding up the entire process significantly.

New regulations require fund managers to have an increased presence in the BVI, but with expert on-island support to help navigate the jurisdiction's regulations and rules, start-up funds will find a conducive trading environment for all.

What's more, while a start-up hedge fund may be looking for millions in investment, they must also keep outgoings low, making the BVI's low start-up and ongoing fees a welcome boost.

Finally, for managers looking to develop a fresh approach to investing, they are able to set up their funds in the BVI with significant flexibility. Directors or shareholders can amend the constitutional documents of a BVI fund, providing a degree of flexibility for restructuring. It is also worth noting that BVI funds have no regulatory restrictions on investment policies or on performance and other fee arrangements.

How is BVI taking part in China's global expansion plans and Belt & Road initiative?

The BVI has had a long and successful relationship with Asia for the last three decades as a leading facilitator of cross-border trade and investment. This relationship is expected to continue to flourish over the coming years as the BVI plays a key role in the progression of China's Belt & Road Initiative as a mediator for international joint ventures and co-funded infrastructure projects across Asia, Africa and Europe.

The BVI's core advantages, including its highly respected legal system based on English common law, internationally compliant regulations and tax neutrality, make it a particularly attractive jurisdiction for pooling global capital and investing in markets where legal barriers or political risks might otherwise deter investment.

What's more, the BVI is capable of cutting through the complexity of different industries, arranging structures in areas such as oil and natural gas, petrochemicals, metals, manufacturing and electronics, to help create a bespoke partnership or joint venture agreements that provide a transparent, mutually beneficial solution for all stakeholders.

By 2030, China will be the biggest economy in the world, but in order to effectively execute its Belt & Road Initiative it will require the use of specialist international finance centres, such as the BVI, to provide the skill needed to achieve success on a truly global scale. ■

ABOUT THE AUTHOR

Simon and the BVI Finance team lead the efforts of the BVI in promoting the territory's international business and financial services both locally and overseas. Simon is a senior financial services professional with a strong international background with experience of Europe, the Middle East, North America, Asia, Africa and Latin America and an established track record of success.

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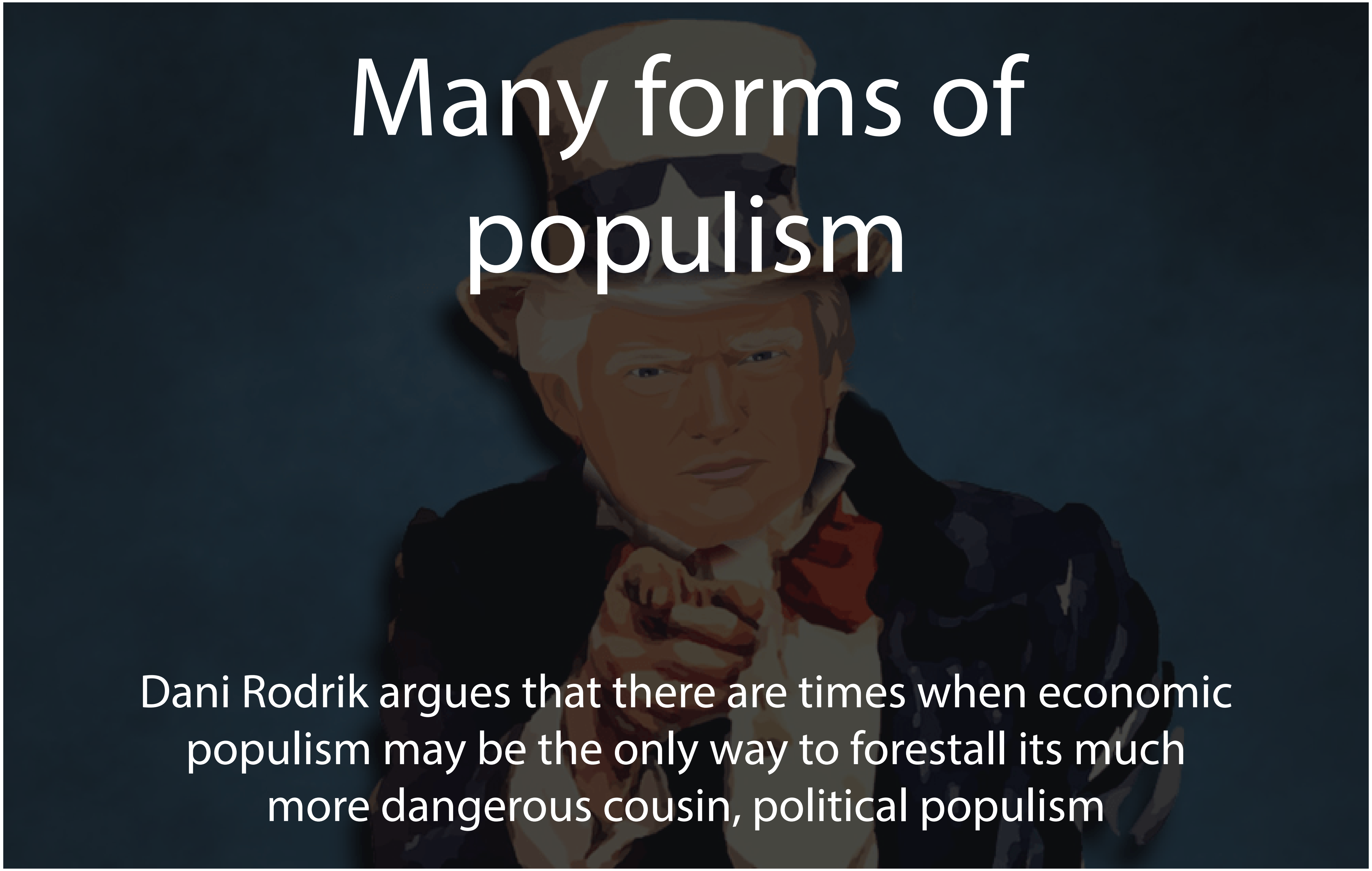
Many forms of populism
Dani Rodrik argues that there are times when economic populism may be the only way to forestall its much more dangerous cousin, political populism

There are essentially two schools of thought on the roots of populism, one that focuses on culture and another that focuses on economics. This column, part of a VoxEU debate, examines the drivers from each of these perspectives. It also argues that there are times when economic populism may be the only way to forestall its much more dangerous cousin, political populism.

The distinctive trait of populism is that it claims to represent and speak for 'the people', which is assumed to be unified by a common interest. This common interest, the 'popular will', is in turn set against the 'enemies of the people' - minorities and foreigners (in the case of right-wing populists) or financial elites (in the case of left-wing populists).

Since they claim to represent 'the people' at large, populists abhor restraints on the political executive. They see limits on their exercise of power as necessarily undermining the popular will.

What drives populism?

There are essentially two schools of thought on the drivers of populism, one that focuses on culture and another that focuses on economics. The cultural perspective sees Trump, Brexit, and the rise of right-wing nativist political parties in continental Europe as the consequence of a deepening rift in values between social conservatives and social liberals, with the former having thrown their support behind xenophobic, ethno-nationalist, authoritarian politicians. The economic perspective sees populism as the result of economic anxieties and insecurities, themselves due in turn to financial crises, austerity, and globalisation.

Some versions of the cultural argument are problematic. For example, many commentators in the US have focused on the racist appeal of Donald Trump. But racism in some form or another has been an enduring feature of US society and cannot tell us, on its own, why Trump as proved so popular. A constant cannot explain a change.

Other accounts are more sophisticated. The most thorough and ambitious version of the cultural backlash argument has been put forth by Pippa Norris and Ronald Inglehart (2019). They argue that authoritarian populism is the consequence of a long-term generational shift in values.

As younger generations have become richer, more educated, and more secure, they have adopted 'post-materialist' values that emphasise secularism, personal freedoms and autonomy, and diversity at the expense of religiosity,

As younger generations have become richer, more educated, and more secure, they have adopted 'post-materialist' values that emphasise secularism, personal freedoms and autonomy, and diversity at the expense of religiosity, traditional family structures, and conformity traditional family structures, and conformity. Older generations have become alienated - effectively becoming 'strangers in their own land'. While the traditionalists are now numerically the smaller group, they vote in greater numbers and are more active in politics.

A similar argument has been made recently by Will Wilkinson (2019), focusing on the role of urbanisation in particular. He argues that urbanisation serves as a process of spatial sorting that divides society in terms of not just economic fortunes but also cultural values. It creates thriving, multicultural, high-density areas where socially liberal values predominate. And it leaves behind rural areas and smaller urban centres that are increasingly uniform in terms of social conservatism and aversion to diversity.

On the other side of the argument, economists have produced a number of studies that link political support for populists to economic shocks. In what is perhaps the most famous among these, Autor *et al*. (2017) have shown that votes for Trump in the 2016 presidential election across US communities were strongly correlated with the magnitude of adverse China trade shocks. The greater the loss of jobs due to the rise in imports from China, the higher the support for Trump, everything else being constant.

In fact, the China trade shock may have been directly responsible for Donald Trump's electoral victory in 2016. Their estimates imply that had import penetration been 50% lower than the actual rate over the 2002-2014 period, a Democrat instead of a Republican presidential candidate would have been elected in the critical states of Michigan, Wisconsin, and Pennsylvania, making Hilary Clinton the winner of the election.

Other empirical studies have produced similar results for Western Europe. Higher penetration of Chinese imports have been found to be implicated in the support for Brexit in Britain (Colantone and Stanig 2017a) and the rise of radical right and nationalist parties in continental Europe (Colantone and Stanig 2017a). Austerity (Becker *et* *al*. 2017) and broader measures of economic insecurity (Guiso *et al*. 2017) have been shown to have played a statistically significant role as well. And in Sweden, increased labour market insecurity has been linked empirically to the rise of the far-right Sweden Democrats (Dal Bó *et al*. 2018).

The cultural and economic argument may seem in tension, if not downright inconsistent, with each other. But reading somewhat behind the lines, one can discern an emerging convergence of some kind. Since the cultural trends - such as post-materialism and urbanisation-promoted values - are of a long-term nature, they do not fully account for the timing of the populist backlash. (Norris and Inglehart posit a tipping point where socially conservative groups have become a minority but still have disproportionate political power.)

Indeed, those who advocate for the primacy of cultural explanations do not in fact dismiss the role of economic shocks. They allow that these shocks aggravated and exacerbated cultural divisions, giving authoritarian populists the added push they needed.

For example, economic shocks have greatly intensified urbanisation-led cultural sorting. For their part, economic determinists do recognise that economic shocks act not on a blank slate, but on pre-existing societal divisions along sociocultural lines.

What are the implications of the rise of populism?

I pointed out above that populists abhor restraints on the executive. In politics, this is a dangerous approach that allows a majority to ride roughshod over the rights of minorities. Without separation of powers, an independent judiciary, or free media - institutions which all populist autocrats detest - democracy degenerates into the tyranny of those who happen to be currently in power.

Elections become a sham: in the absence of the rule of law and basic civil liberties, populist regimes can prolong their rule by manipulating the media and the judiciary at will. Hence the damage that 'political populism' can do is limitless.

But there is another kind of populism, 'economic populism', which we have to keep distinct, and the effects of which can be sometimes positive. Economic populists too reject restraints on the conduct of policy - but now in the economic domain. Autonomous regulatory agencies, independent central banks, and external constraints (such as global trade rules) narrow their policy options and hence need to be overcome.

Whether this is a good or bad thing depends on context, and in particular on whose interests those restraints serve. One can imagine regimes that are populist in economic terms but not politically, and vice versa (see Table 1).

Table 1. A taxonomy of regimes

		Restraints on economic policy	
		No	Yes
Political restraints	No	(1) Personal autocracy (Erdoğan)	(2) Authoritarian technocracy (Pinochet)
	Yes	(3) Populist democracy (Sanders)	(4) Liberal technocracy (EU)

Source: Rodrik (2018a)

Economists dislike populism because the term evokes irresponsible, unsustainable policies that often end in disaster and hurt the most the ordinary people they purportedly aim to help. Macroeconomic populism in Latin America is the chief example of this.

They tend to prefer rules, or delegation to autonomous technocratic agencies, because of the tendency of short-term interests to dominate when economic policy is in the hands of politicians. The time-inconsistency of some policies (such as monetary policy) provides the intellectual justification for this stance.

But such restraints on economic policy need not always be desirable. Often commitment to rules or delegation serves to advance the interests of narrower groups, and to cement their temporary advantage for the longer run. Imagine, for example, that a democratic malfunction or random shock enables a minority to grab hold of power.

This allows them to pursue their favoured policies, until they are replaced. In addition, they might be able to bind future majorities by undertaking commitments that restrain what subsequent governments can do. In such cases, the results are primarily redistributive rather than efficiency-enhancing. Were a future government to find a way of relaxing restraints of this second kind, society would benefit.

Part of today's populist backlash is rooted in the belief, perhaps not entirely unjustified, that restraints imposed on economic policy in recent decades have been precisely of the second kind.

Take monetary policy, for example. Independent central banks have played a useful role in bringing inflation down in the 1980s and 1990s. But in a low inflation environment, their exclusive focus on price stability tends to impart a deflationary bias to economic policy. Or consider global trade rules.

One can make the argument that the agenda of international trade agreements has increasingly been shaped by special interests - multinational corporations, financial institutions, pharmaceutical and high-tech companies (Rodrik 2018b). The result has been global disciplines that disproportionately benefit capital at the expense of labour.

Similarly, while international investor tribunals (as part of investor-state dispute settlement, or ISDS) can be in principle beneficial to both foreign firms and host governments, in practice they have increasingly turned into a redistributive vehicle. They allow foreign investors to effectively pressure governments not to adopt policies that affect their profits adversely, regardless of the public interest.

In Europe, the emphasis on economic integration - removing transaction costs of cross-border transactions - has encouraged rule-making that takes place at considerable distance from democratic deliberation at the national level.

EU-wide regulations, fiscal rules, and a common monetary policy imply policy is increasingly made in Brussels and Frankfurt while politics remains in the national capitals (to use political scientist Vivien Schmidt's evocative distinction).

The system serves skilled professionals and internationally oriented companies well, but many others feel excluded. Complaints about the region's democratic deficit, and the recent populist backlash, are rooted in this style of technocratic policymaking, insulated from politics.

In many of these instances, relaxing the constraints on economic policy and returning policy autonomy to elected governments may well be desirable. This is especially true in times such as these, when much conventional wisdom has been upended by political development and political populism is on the rise. Exceptional times require the freedom to experiment in economic policy.

Franklin D Roosevelt and his New Deal provide an apt historical example. FDR famously called for *"bold, persistent experimentation"* in 1932, arguing that correcting the faults of the prevailing economic system required enthusiasm, imagination, and courage to tamper with established arrangements. But to experiment he needed to do away with many of the shackles on economic policy.

In 1933, he took the US off the Gold Standard, which had been a major (external) constraint on monetary policy. This allowed the dollar to depreciate and US interest rates to come down. Output received an immediate boost. Many of FDR's signal economic initiatives were dressed in explicitly populist garb. The 1935 Revenue Act, which introduced a tax on wealth, was known as the 'soak the rich' tax.

The Social Security Act, providing for financial support to the elderly and the unemployed, was in part a response to the popularity of a plan advanced by a physician named Francis Townsend to provide all elderly Americans with a stipend. In a 1936 address to the Democratic convention, FDR riled against what he called the 'economic royalists' - the corporations, financiers, and industrialists who he said had monopolised the economy at the expense of ordinary people.

FDR's challenge was to both tame and redirect the populist passions the Great Depression had inflamed. Huey Long, a demagogue and the authoritarian governor of Louisiana, was one vocal nemesis, calling for a radical redistribution of wealth in the country. Another was the fascistic Father Charles Coughlin, with tens of millions of followers on the radio. His economic reforms, FDR explained, were needed not only to serve people better, but also for the *"survival of democracy."*

We now know that FDR was right. It was impossible to save either the economy or democracy without significantly relaxing the prevailing harnesses on economic policy. There are times when economic populism may be the only way to forestall its much more dangerous cousin, political populism. ■

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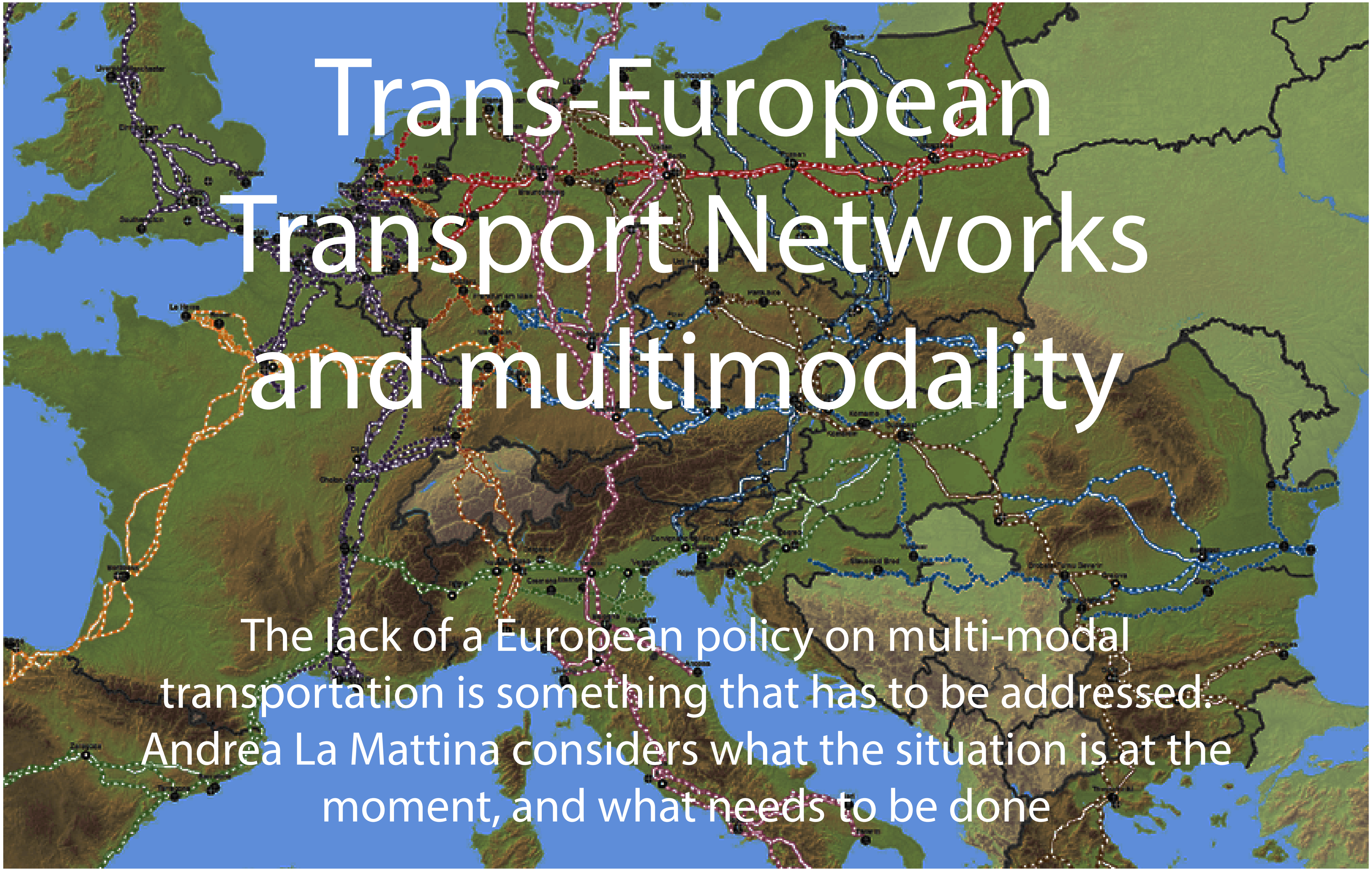
Author's note: this column based on a Project Syndicate article (Rodrik 2019) and a paper in AEA Papers & Proceedings (Rodrik 2018a). This column is a lead commentary in the VoxEU Debate on Populism and was originally published on VoxEU.org



Trans-European Transport Networks and multimodality

The lack of a European policy on multi-modal transportation is something that has to be addressed. Andrea La Mattina considers what the situation is at the moment, and what needs to be done

In the current economic context, international maritime transport appears with more frequency as a mere phase of a multimodal transport. The concept of 'multimodality' refers to a kind of transport which is performed by the combination of two or more means of transport (ie. by sea and road or by air and rail, etc…) on the basis of a single contract covering the transfer of the goods from the place of shipment until the final delivery destination under the responsibility of a single carrier (the so-called multimodal transport operator-MTO).

In this perspective the sea ports are no more the final points for maritime transports, but they assume the proper role of logistics hubs necessary to facilitate the integration by and between the various means of transport.

Bearing in mind what above, the EU (and before the EEC) has implemented various projects in order to contribute to the development of the multimodal transport inside the member states.

In 1992 the PACT – Pilot Action for Combined Transport - was implemented, when in 2001 one of the key points of the White Paper regarding the European transport policy was 'linking up the modes of transport'; and finally between 2003 and 2013 were launched the Marco Polo Programs.

Furthermore, the EU Regulation n. 1315/2013 makes reference to the 'core network' (which includes only the key infrastructures of the EU) as *"the backbone of the development of a sustainable multimodal transport network"* which *"should stimulate the development of the entire comprehensive network;"* therefore, removing the main technical and administrative barriers to multimodal transport is considered as a priority by the European legislator.

Notwithstanding its clear centrality in the development of the international and EU transports, multimodal transport is not specifically regulated by any international convention, the United Nations Convention on

International Multimodal Transport of Goods (undersigned in Geneva on 24 May 1980) never having entered into effect.

In this situation, the courts have attempted to determine the legal regime which is applicable to multimodal transport (especially to multimodal maritime transport), in some cases extending the international maritime transport rules currently in force to all (or to part) of the phases of such kind of transport.

... it would have been better to have a complete regulation of multimodal transport and I hope that one day it would be possible to have a truly 'uniform' system of international transport

In particular, where the maritime segment of the carriage was the 'prevailing route', the Hague-Visby Rules have often been applied to the entire multimodal transport (and, therefore, even to the non-maritime phases of such multimodal transport); on the contrary, in other cases the decisions are based on the so-called 'network liability system', thereby splitting the liability regime of the multimodal carrier and affirming that such a regime varies on the basis of the place where the damage to the goods occurs. In these cases, the Hague-Visby Rules have only been applied if the damage is caused during the maritime phase of a certain multimodal transport.

Both of these trends represent positivism and criticism. On the one hand, the application of the Hague-Visby Rules to multimodal transport irrespective of the localization of the damage to the goods eliminates all doubts concerning the discipline of 'non-localized' damages (meaning those damages that arise from an unknown route), but it does not seem at all convincing, because (a) it represents a 'strain' for the application of the Hague-Visby Rules, which does not take into consideration routes which are different to the maritime one and (b) it leaves sufficient room for many doubtful aspects with reference to the notion of 'prevailing route'.

On the other hand, recourse to the 'network liability system' does not create compatibility problems with the application of the international 'unimodal' conventions and, in particular, with the Hague-Visby Rules, but it does create uncertainty concerning the applicable regime of responsibility which is unpredictable before the damage occurs and which may not be determined at all in the case of 'non-localized' damage. Such uncertainty may not only increase litigation, but may also result in increased insurance costs connected with multimodal transport.

In light of such uncertainties, the Supreme Court of the United States in the Kirby case inaugurated what has been defined as a 'conceptual approach' affirming that a multimodal transport contract that includes a 'substantial' maritime route and a 'shorter', but not necessarily 'incidental', land route has a maritime nature (unless it results in the different will of the parties to such a contract).

Therefore - independently from the identification of the place where eventual damage to the goods occurs – such a multimodal transport contract has to be regulated by the US Carriage of Good by Sea Act (ie. the Federal legislation on maritime transport where the 1924 Brussels Convention on bill of lading has been implemented).

In the case in question the Supreme Court (i) completely overrides the 'network liability system' (that - as was said by the Court - may cause 'confusion and inefficiency'), as it is not relevant in determining where the damage to the goods occurred, and (ii) grants more certainty and predictability to the conclusions of the case-law trend indicated above, making it unnecessary to measure with 'a ruler' which is the 'prevailing' route of a certain multimodal maritime transport in order to determine its applicable legal regime and giving substantial emphasis to the relevant 'surrounding circumstances' of the case.

In the same perspective, in the Kawasaki case, the Supreme Court has affirmed that a through bill of lading issued abroad by an ocean carrier can apply also to the domestic, inland portion of a multimodal transport (providing both for sea and rail carriages), with the consequence that not only the ocean carriage but also the inland carriage will be governed by the US Carriage of Goods by Sea Act.

On the basis of what above we cannot ignore the situation of uncertainty that characterizes the rules which are applicable to multimodal transport due to the absence of an unequivocal case law. Only a specific regulatory intervention that is desired by most parties, and that has resulted in interest in the UNCITRAL, would solve the problem.

In this perspective, the drafters of the Rotterdam Rules (ie. the convention on transport of goods by sea undersigned in 2009, but not yet entered into force) have intended to specify the extension, in certain cases, of the application of such regulation to forms of multimodal transport (door-to-door) that include a maritime route.

In an extreme synthesis, the new convention elaborated on behalf of the UNCITRAL does not have the aim of regulating multimodal transportation tout court, but - under certain conditions and in the presence of certain circumstances - only to extend its scope of application in relation to the land and/or air and/or internal waterways route (if any) and/or subsequent to maritime transport.

Therefore, the Rotterdam Rules are a little less of a 'true' multimodal convention (such as the 1980 Geneva Convention) but a little more of a convention on maritime transport: correctly, in fact, a 'multimodal maritime approach' has been referred to.

As has therefore been observed, the 1924 Brussels Convention, in its original formulation, was a 'tackle-to-tackle' convention, the Hague-Visby Rules and the Hamburg Rules were 'port-to-port' conventions, and, finally, the Rotterdam Rules will become a 'door-to-door' convention, even if they merely concern 'wet' multimodal transports (ie. multimodal maritime transports).

In reality, as already observed above, the text in question is not really a 'door to door' convention because the scope of application of the Rotterdam Rules is limited both under the 'subjective' profile as well as the 'objective' one.

Rotterdam Rules do not regulate any kind of multimodal transport, but – subject to certain conditions - they extend their scope of application to non-maritime routes involving 'wet' multimodal transport. In other words, the Rotterdam Rules do not provide a 'uniform' regime of responsibility concerning the multimodal carrier, but – by applying a sort of 'network liability system' - they try to fill the gaps left open by the 'unimodal' conventions currently in force and, in particular, by the Hague-Visby Rules.

In this sense, the Rotterdam Rules, firstly, extend the definition of a 'contract of carriage' relevant to its proper scope of application and affirm in Art. 1.1 that such a contract shall provide for carriage by sea and may provide for carriage by other methods of transport in addition to the sea carriage; also the combined provisions of Art. 5 (entitled 'General scope of application') and Art. 12 (entitled 'Period of responsibility of the carrier') provide that the period of responsibility of the carrier includes the moment from the receipt of the goods until the moment of the delivery of the same goods to the consignee, and that the responsibility of the carrier is not necessarily limited to the phase when the goods are placed on the ship.

Furthermore, from Art. 5 of the Rotterdam Rules it is clear that the places of the receipt/delivery of the goods may eventually not coincide with the ports of loading/unloading.

But – as it has been said above - the scope of application of the Rotterdam Rules is limited both under the 'subjective' profile as well as the 'objective' one.

Under the 'subjective' profile the scope is limited because the Rotterdam Rules, once in force, will only be applied (a) to the 'contractual' maritime carrier - and this (subject to the 'objective' limits mentioned further on) with reference to the services he provides, directly or indirectly, on the maritime route as well as on the land or air or internal waterways route - and (b) to the so-called 'maritime performing parties', meaning those individuals who are charged by the same contractual carrier to execute – 'during the period between the arrival of the goods at the port of loading of a ship and their departure from the port of discharge of a ship' (Art. 17) – 'any of the carrier obligations under a contract of carriage with respect to the receipt, loading, handling, stowage, carriage, care, unloading or delivery of the goods' (Art. 1.6.a). In other words, the Rotterdam Rules - as implicitly stated in Art. 4.1.a - may not be applied towards 'non-maritime carriers', unless they operate 'exclusively within a port area' (Art. 1.7).

The Rotterdam Rules are also limited under the 'objective' profile as they do not provide a uniform regime for all the phases of a multimodal transport, - but, by adopting the so-called 'network liability system'- only in the case of losses or damage to the goods that are verified exclusively on one route.

As a matter of fact, Art. 26 determines the application of the 'international instrument' to such phases (not also the state legislation) specifically shaped for the relevant non-maritime route if the interested party would have stipulated a separate transportation contract and if such an instrument imperatively stipulated ('either at all or to the detriment of the shipper') the provisions that concern the responsibility of the carrier, the limitation of liability and a time bar.

Hence, from an 'objective' point of view, the Rotterdam Rules may only be applied with regard to non-maritime routes if: (a) damage to the goods occurs exclusively on a non-maritime route or the damage is not localized (meaning that the route of the transport where the damage occurs is unknown) and (b) there is no mandatory uniform regime of the non-maritime route concerning the responsibility of the carrier, the limitation of liability and a time bar, or, even though there may be such a regime, it does not clash with the corresponding provisions of the new Convention.

The rationale of these limits of application resides in the will to avoid conflict between the Rotterdam Rules (in the part where it extends its proper scope of application to the non-maritime route) and the 'unimodal' conventions which regulate land, train, air and internal waterway transportation.

Of course, it would have been better to have a complete regulation of multimodal transport and I hope that one day it would be possible to have a truly 'uniform' system of international transport, common to all phases of carriage and regulated by a sole convention in lieu of several 'unimodal' instruments. But at present that way is far to have concrete chances to be implemented as it has been demonstrated by the complete failure of the 1980 Geneva Convention on International Multimodal Transport of Goods.

Bearing in mind what above, although they are not revolutionary, the Rotterdam Rules should be looked as the first international instrument which provides a regime concerning the liability of the sea carrier which specifically takes into consideration the development of the sea transport into a 'multimodal perspective'.

Of course, their entry into force (if any) should contribute to create a more predictable legal background in this relevant field of the international trade. ■

Andrea La Mattina is senior counsel and member of Shipping and Transport Focus Team at BonelliErede

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Anti-money laundering and combating the financing of terrorism

AML and CFT are high on the agenda of policymakers at both European and global levels. Yves Mersch considers recent initiatives and the role of the ECB

Introduction

A number of high-profile cases of the alleged systematic use of banks for money laundering have been reported over the last two years, along with reports of investigations and other follow-up measures being taken by national authorities. This has put anti-money laundering (AML) and combating the financing of terrorism (CFT). The European Commission, EU legislators and other authorities all rightly agree that misuse of the financial system cannot be tolerated. They have started to strengthen the EU's AML/CFT framework, and further changes are in the pipeline.

So let us take a closer look at three things. First, what are the objectives of combating money laundering and terrorist financing? Second, what is it that the ECB can – and cannot – do in this area? And third, how might the European AML/CFT framework develop in the future?

Objectives of combating money laundering and terrorist financing

The EU's current AML/CFT framework largely follows the international standards established by the Financial Action Task Force. The framework has two main objectives. The first is to protect society from crime. And the second is to protect the stability and integrity of the European financial system.

EU legislators recognise that money laundering, terrorist financing and organised crime are significant problems that are damaging the integrity, stability and reputation of the financial sector and threatening the Internal Market and the internal security of the Union.

They also acknowledge that acts of terrorism are one of the most serious violations of the universal values of human dignity, freedom, equality and solidarity, and of the enjoyment of human rights and fundamental freedoms on which the Union is founded.

Efforts to combat money laundering and terrorist financing concern two areas of EU law: the establishment and functioning of the Internal Market and judicial cooperation in criminal matters. These two areas differ in the level of harmonisation which can be pursued under the current Treaties.

Even though the AML/CFT framework has been harmonised to a significant extent at the EU level, it remains strongly connected to the national legal frameworks, particularly to the criminal law of individual member states and the crimes defined therein, which differ considerably.

The battle can only be won through cooperation. All authorities involved need to cooperate – both within and across national borders

More precisely, both the AML Directive and the Directive on combating money laundering by criminal law contain minimum lists of the predicate offences to money laundering; that is, the types of underlying criminal activity which generate the property that need to be laundered. These lists highlight the link to the national laws of member states.

First, they rely on national criminal law by referring to offences that can be punished with deprivation of liberty for a maximum of more than one year. And second, they do not define the actual content of the individual predicate offences; this again is regulated by national law.

Effectively combating money laundering and terrorist financing requires a coordinated approach from legislators, AML/CFT supervisors, law enforcement authorities, judicial authorities, financial intelligence agencies, banks and other financial institutions, and many others.

Information sharing between all these bodies has often been insufficient, particularly across borders. That being said, we must always be mindful of the rule of law and protect people's fundamental rights. Public allegations of a bank being involved in money laundering or terrorist financing could lead to serious financial difficulties, or even cause the bank to fail, even if the allegations are later found to be exaggerated or completely unjustified.

What the ECB can (and cannot) do to fight money laundering

Now what is the role of the ECB? It is important to clarify that our mandate is purely prudential. In 2013, supervisory tasks were conferred on the ECB on the basis of Article 127(6) of the Treaty on the Functioning of the European Union (TFEU).

This Article limits the tasks that can be conferred on the ECB to those that concern policies that relate to the prudential supervision of credit institutions and other financial institutions – with the exception of insurance undertakings.

This provision, in turn, was duly reflected in the SSM Regulation which further limited the scope to banks only. There, the legislator explicitly confirmed, in recital 28, that the task of AML/CFT supervision remained with the national authorities.

That said, there is still a role for prudential supervisors to contribute to combating money laundering and terrorist financing. This is reflected in recital 29 of the SSM Regulation, which states that *"the ECB should cooperate, as appropriate, fully with the national authorities which are competent to ensure a high level of consumer protection and the fight against money laundering."*

Indeed, prudential supervisors might come across information that could help to uncover money laundering or terrorist financing. For instance, they may obtain insights into the quality of a banks' general internal governance, with potential implications for the functioning of the bank's AML/CFT measures. Our supervisors might detect information of this sort during an on-site inspection, and they can share it with the competent authorities.

At the same time, the prudential supervisor can use the insights gained by AML/CFT supervisors and reflect the AML/CFT-related concerns in its prudential tasks. It does so, for instance, when it grants authorisations to credit institutions; when it assess whether bank managers are fit and proper for their job; when it assesses acquisitions of qualifying holdings; and when it engages in ongoing supervision and the Supervisory Review and Evaluation Process (the so-called SREP).

The job of AML/CFT supervisors, on the other hand, is to monitor and enforce the compliance of credit institutions and other obliged entities with the AML/CFT requirements that are set out in the applicable laws. We must therefore acknowledge that the two sets of supervisors play very different roles, and synergies are limited.

In order to improve cooperation between both sets of supervisors, the latest amendment to the AML Directive required the ECB to sign an agreement setting out the practical modalities for exchanging information with the AML/CFT supervisors of credit and financial institutions within the European Economic Area.

This agreement was signed in January this year. And ever since, the ECB has been exchanging information under this framework. Our initial experience has shown that it is particularly important to put in place robust formal procedures and exchange information in secure ways only when there is strong justification for doing so and based on well-defined relevance criteria.

All this is necessary to ensure the rights of the supervised banks are protected. There is a narrow line between enabling the appropriate flow of information and ensuring the confidentiality of this information.

Aside from the ad hoc exchange of information, the ECB's approach requires receiving assessments from AML/CFT supervisory authorities at least once a year to support its annual SREP, which is its main off-site supervision tool. In exchange, the ECB shares relevant excerpts of SREP decision letters with AML/CFT supervisors on an annual basis.

Going into more detail, the ECB has also developed an approach to identify and reflect AML/CFT concerns in prudential supervision.

First, as a primary information source, we factor the assessments from AML/CFT supervisory authorities into our prudential SREP assessment. We are also looking into possible prudential warning signals that would complement the assessments received from the AML/CFT supervisors by using our available supervisory data to highlight patterns that might indicate wrongdoing.

And second, we take the necessary action when required. This could range from sharing our concerns with the AML/CFT authorities to imposing supervisory measures to address prudential concerns. We could, for instance, require a bank to strengthen its general governance arrangements or reassess its board members and key function holders. We could even withdraw a bank's licence as a last resort.

Through performing these supervisory tasks, we can, to a certain degree, indirectly contribute to the goals of the Single Market.

And there's more. Following on from the most recent enhancements to EU law, such as CRD V and the AML Action Plan, we are working together with the European Commission and the European Banking Authority, which is tasked with developing technical standards and guidelines to enhance and complement the amended regulatory framework.

At the same time, we have actively contributed to the revision of the guidelines on the sound management of AML/CFT-related risks within the AML Expert Group of the Basel Committee on Banking Supervision.

How to strengthen the EU's institutional setup

While much has already been done, weaknesses in the European AML/CFT framework still represent a risk to the integrity and resilience of the European banking sector. The current supervisory fragmentation and differences in supervisory practices in the area of AML/CFT can severely undermine the integrity and stability of EU banks and thereby the ECB's supervisory effectiveness, particularly in a cross-border context.

The steps taken so far might not be enough to effectively prevent money laundering and terrorist financing in the banking sector. Thus, further steps might be considered by the political authorities to make the AML/CFT framework more effective, particularly for cross-border activities.

We therefore welcome the ongoing discussion on what steps to take, and we stand ready to provide support in our areas of competence. However, the ECB cannot take over the role of an AML/CFT supervisor; this is ruled out by the Treaty. Furthermore, there are also only limited synergies between prudential supervision and AML/CFT supervision.

From our perspective, a strategy to strengthen the EU AML/CFT framework could comprise at least two elements.

First, a further harmonisation of the AML/CFT rulebook could address possible divergences and shortcomings in the way the rulebook was transposed in different member states. It could also strengthen enforcement of AML/CFT compliance through AML/CFT supervisors by providing clear regulatory guidance and harmonised, stronger supervisory powers.

This could be achieved by transforming the AML Directive into an EU regulation, which would have the potential of defining a harmonised anti-money laundering framework that is directly applicable throughout the European Union. To be effective, the scope of a future regulation should be as broad and encompassing as the legal base would allow, also with a view to moving towards a more rule-based approach, while fully respecting the legal constraints and the remaining variety of national institutional setups[1], particularly in the area of criminal law and justice systems[2].

Second, supervisory fragmentation should also be addressed, especially in relation to coordination and cooperation procedures. This could be achieved by charging an EU body or a new authority with AML/CFT tasks.

This EU body or authority should be independent to allow it to act decisively in addressing ML/TF risks. It could detail a single AML/CFT rulebook via technical standards and/or guidelines, coordinate its implementation and ensure strict and harmonised AML/CFT supervisory practices in the EU and across member states, leveraging on the experience and expertise of national supervisors.

The EU AML/CFT body should make sure that accurate and timely assessments on possible irregularities and ML/TF risks are proactively provided to prudential supervisors, including the ECB in its supervisory role[3], so these risks can be factored into their prudential assessments.

Finally, if supported by co-legislators and primary law, the EU AML/CFT authority could be equipped with direct AML/CFT supervisory powers.

Conclusion

Anti-money laundering and combating the financing of terrorism are challenging endeavours. First, they involve several areas of law at both the EU level and national levels. Changes that lead to an efficient distribution of competences might imply the transfer of sovereignty from national to EU level within the existing Treaty framework.

Second, several types of authority play a role, including AML/CFT authorities and prudential supervisors. There is a broad heterogeneity of institutional setups among member states, involving judicial authorities limited to cooperation and implementation, as well as surveillance authorities attached either to the executive or judicial branch, and their interaction with prudential supervisors.

In other words, we need to reflect on the most effective way to manage the institutional and functional fragmentation in this area given its inherent cross-border nature.

All of this makes combating money laundering and terrorist financing complicated from both a legal and a practical point of view. The battle can only be won through cooperation. All authorities involved need to cooperate – both within and across national borders.

So I welcome the ongoing debates about a review of the regulatory framework and the possibility of establishing an EU AML/CFT body. Within the limits of its mandate, the ECB will continue to contribute to this debate.

Important as this debate is, let's not forget the responsibilities that supervised entities already have: to put in place and maintain internal systems and controls to ensure that they properly manage the risks to which they are exposed. ■

Yves Mersch is a Member of the Executive Board of the European Central Bank and Vice-Chair of the Supervisory Board of the ECB

Endnotes

1. For example, national setups of financial intelligence units.

2. Such as in the case of predicate offences for money laundering where, in line with Article 83(1) TFEU, the European Parliament and the Council only may, by means of directives, establish minimum rules concerning the definition of criminal offences and sanctions.

3. Information should be provided by the EU AML/CFT body to the coordination function in the SSM for SSM related AML/CFT tasks, acting as central point of contact

This article is based on a speech delivered by at the Colloque de l'AEDBF-Europe, Paris, 15 November 2019

Business aviation is moving toward an exciting and sustainable future

Global business aviation is evolving rapidly. Ed Bolen urges readers to see the transformation at an NBAA event

This is a very exciting time for the National Business Aviation Association (NBAA) and, indeed, the global business aviation community. More than ever before, we're seeing a number of emerging and growing trends in our community in such areas as supersonic transport, electronic propulsion and autonomous flight, along with an unprecedented level of innovation and excitement driving us forward to a bright and promising future.

For example, over the past few years we've seen a new transportation segment emerge alongside more traditional business aircraft and rotorcraft seen at NBAA-sponsored events. Urban air mobility (UAM) aims to revolutionize travel across large metroplexes, utilizing optionally piloted and even fully autonomous electric vertical takeoff and landing (eVTOL) vehicles to transport on-demand passengers and cargo.

This may seem within the realm of science fiction, but anyone who's ever dreamed of traveling above congested city streets may soon have their dreams realized, and possibly much sooner than they may think. In fact, many of these efforts were apparent throughout the recently concluded 2019 edition of NBAA's Business Aviation Convention & Exhibition (NBAA-BACE), which took place from October 22-24 in Las Vegas, NV.

The show placed new modes of transport, including UAM vehicles and unmanned aircraft systems (UAS), front and center in the all-new UAS/UAM Innovation Display Area. Several education sessions also addressed both the promise and challenges of implementing UAM, including the need for an advanced air traffic control infrastructure able to safely integrate UAM across urban airspace.

These hybrid gas-electric and, ultimately, fully electric designs offer the promise of safe and efficient travel within metropolitan areas around the globe, and even to the airport for longer-distance trips. NBAA also expects these designs to ultimately complement traditional business aviation aircraft that are also moving toward more efficient operations and reducing our industry's already-low carbon footprint.

Sustainability is key to industry's future

The issue of environmental sustainability is a dominant theme not only in headlines around the globe, but also in the boardrooms and flight departments of companies using business aviation to improve their efficiency and competitiveness. That said, it's important to note these companies – along with aircraft and engine manufacturers, fuel providers and other stakeholders – have long sought to improve their own environmental footprint, and the efficiency of their products and operations.

... over the past few years we've seen a new transportation segment emerge alongside more traditional business aircraft and rotorcraft seen at NBAA-sponsored events. Urban air mobility (UAM) aims to revolutionize travel across large metroplexes

You may even be surprised to learn our industry's commitment to sustainability actually began more than 10 years ago, when business aircraft operators represented by the International Business Aviation Council joined with aircraft manufacturers and service providers to announce the Business Aviation Commitment on Climate Change, an aggressive program to continually reduce the industry's carbon footprint.

One of the most promising avenues toward fulfilling that commitment with today's business aircraft is through the use of sustainable aviation fuels (SAF) derived from renewable feed stocks that can reduce aviation's carbon lifecycle emissions by up to 80 percent.

Our industry's united support for SAF was first codified last year, as a coalition of international business aviation organizations joined government officials in Geneva to redouble their focus on advancing the development and adoption of SAF.

At the heart of this initiative is the *Business Aviation Guide to the Use of Sustainable Aviation Fuels* (SAF), a resource focused on raising awareness that such fuels for business aviation are safe, approved and available now; that SAF offer myriad benefits, including those in support of the sustainability of business aviation, corporate responsibility and reduced emissions; and that such fuels are derived from several sustainable, renewable resources, and are therefore an environmental *"win-win."*

With the *Guide* spurring industrywide interest in sustainable aviation fuels, the next step in raising awareness and promoting education of its benefits came in January 2019, as IBAC joined with NBAA and a coalition of other industry groups to sponsor the first-ever SAF demonstration day at Van Nuys Airport (VNY) in Southern California to prove the fuels' viability and safety.

During the daylong *Business Jets Fuel Green: A Step Toward Sustainability* event, VNY's four fixed-based operators fueled aircraft throughout the day with SAF from suppliers World Fuel Services and Avfuel. Local officials expressed their support for this industrywide, all-voluntary, private investment in research and innovation, and numerous demonstration flights were conducted by business aircraft powered by SAF.

This impressive demonstration at Van Nuys paved the way toward the first European SAF demonstration day in May 2019, held at Tag Farnborough London Airport ahead of EBACE2019. A variety of business aircraft fueled up on SAF at Farnborough and other airports throughout Europe and the US for demonstration flights showcasing this fuel's viability.

These efforts culminated at 2019 NBAA-BACE with around two dozen aircraft fueling with SAF enroute to the show. Local civic and business leaders issued a proclamation recognizing the business aviation community's long-standing commitment to sustainability, with an estimated 150,000 gallons of SAF pumped into aircraft at Henderson Airport.

To further sustainability, NBAA joined with the General Aviation Manufacturers Association and other industry stakeholders to announce a new Business Aviation Global Sustainability Summit in Washington, DC in March 2020. A panel of industry leaders, in an 'I Want My SAF' forum, offered perspectives about increasing SAF availability and usage before a standing-room only audience.

Experience this excitement at future NBAA events

It's evident that our industry is embracing change across several fronts, and 2019 NBAA-BACE reflected this exciting time with the most exhilarating convention I believe NBAA has ever hosted. I also expect this energy and inspiration to carry forward to our upcoming events in the coming year.

Shanghai, China will host the Asian Business Aviation Conference & Exhibition from April 21-23, with the European Business Aviation Convention & Exhibition taking place in Geneva, Switzerland from May 26-28. The 2020 edition of NBAA-BACE, the largest event in the world dedicated to the business aviation industry, comes to Orlando, FL from October 6-8.

Our global business aviation community is in the midst of an unprecedented and thrilling transformation before our eyes, as new aircraft, technologies and practices take hold, showcasing the innovation and sustainability of our industry. I encourage readers of *World Commerce Review* to see what this promising future holds, and experience this evolution firsthand, at an NBAA event in 2020. ■

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

Flexible future

Peter Lorange says that introducing greater flexibility and agility into executive education are essential ingredients in building a secure future for management education

Higher education in business and management has functioned in more or less the same way since it was first introduced as an appropriate subject for study. But things are perhaps about to change and there are at least five reasons why:

- The needs of executives/students are changing. Many are now being made redundant due to emerging technological advances, including artificial intelligence, and consequently, the size of the population that requires re-educating is mushrooming.

- The present executive/student typically requires more flexibility than business schools have been able to offer in the past. Today's executive/students bluntly resist spending weeks, or even months, on business school campuses.

- Cost pressures on the educational sector are becoming more intense. Thus, it has become imperative to find less expensive ways to employ faculty or to make use of schools' campuses.

- Of critical importance is the fact that the emerging technology supports change. Today, studying at home via distance learning is a preferred option compared to classroom-based study, much of which tends to be sadly uninspiring.

  The emerging technology allows for remote, deep, interactive learning such as online flashcards, case studies, and quizzes, chatbots with professors and helps assistants, instant grading and so on.

- Finally, related to the point above, education, like many other goods and services, has witnessed increased pressure to 'adapt to the times'.

As students use technology more and more in their personal and professional lives, their attention spans decrease and they demand more interactivity and speed in learning.

So education, just as retailing or other service offerings, has to keep evolving in line with its consumers.

There seems to be a growing realisation that there are many other forms of preparation for a successful career than the typical business school offering

Background

Student enrolment is going down. This is particularly of MBA programmes but it also seems to be the case more generally. What are the reasons? Let me point out just three:

- There seems to be a growing realisation that there are many other forms of preparation for a successful career than the typical business school offering.

  For example, the study of engineering and the sciences seems to be on the rise. Perhaps the providers of these, as well as other disciplinary areas, are making it easier to combine study with practical apprenticeships in real companies.

- As well as this shift in student preferences, there is also the issue of an aging population in many developed societies. The number of student applicants is simply no longer growing. This fall in applications and the lack of growth in business schools may be driven by several other problems, of which the following seem particularly acute:

  Tuition fees are perhaps now so high that a 'limit of tolerance' has been reached. In other words, studying at a business school is becoming too expensive.

  The programme curriculum often seems to be too inflexible, making it difficult to effectively combine study with a career. Employers might find that the student is expected to be away from his or her place of work far too often to make this feasible.

- There seems to be a trend towards 'learning on the job' and a focus on specific job-related achievements.

Many employers or companies in developed countries seem more focused on hiring top talent that has already proved itself 'on the ground' rather than "in the classroom" through degrees or academic achievements.

In other words, today a candidate for an interview is often asked 'what have you done or achieved?' rather than 'what (or where) did you study?'

Potential solutions

A more effective concept for a business school degree programme is clearly necessary. This might encompass:

- A minimum period of time an executive student should spend at a school, which could be quite low, say, one week during a given period. Employers would be key decision-makers in terms of what is realistically acceptable in the context of their business.

- A considerable amount of self-study of diverse cutting-edge expert reports, typically built on the offerings, competences, and research of a range of leading experts drawn from several business schools. Increasingly, the variety seems to be key.

  There is typically no simple answer to cutting-edge dilemmas. Different experts from different schools may see things differently and this diversity will become increasingly important.

  It is vital to take advantage of virtual learning and digital knowledge transfer as well as digital communities. Modern distance learning is now generally of very high quality and today's students are comfortable studying independently.

- There should also be face-to-face learning experiences, to complement the distance learning element of a programme. These will typically take place in workshop settings on campus or in a hotel with a focus on discussions of cutting-edge dilemmas.

  The class leader will take on a role that is perhaps more analogous to a conductor of an orchestra rather than the traditional professorial approach of one-way learning.

  These workshops will typically not be limited to the usual 45-minute format of regular classes. It would be helpful to run these workshops over weekends to avoid conflicts with students' day-to-day jobs.

- The key here is the efficiency of the offering. This business school of the future will be more efficient because it will be able to provide more practical, tangible and relevant deliverables.

The 'school'

As mentioned above, the cost structure of many business schools seems out of hand. While it is important to strive for quality, this does not imply that it should be quite so expensive. Some fundamental questions might have to be raised.

A thoughtful programme of outsourcing, drawing on resources only when needed, might have to be put in place. Let me raise some questions relating to particular 'sacred cows', which are increasingly being accepted by schools as problematic:

- Staffing levels tend to mushroom. Why are so many members of staff needed? Why not take advantage of outsourcing opportunities?

Another question, which is perhaps even more fundamental, might focus on what tasks these additional staff are performing. Are they essential? Are the tasks effectively performed? Are the staff being well enough managed? And, most critically of all, is all of this a core part of a typical business school's raison d'être?

- Why employ full-time professors? Most professors have relatively modest workloads. Their contractual requirements in terms of teaching might typically be fulfilled over a relatively short period of time of a school year. So how is the rest of their time being spent?

The conventional answer is on research. But is this, in fact, the case? What is their actual research output? And is it of reasonable quality? Is time being spent on revenue-generating external activities instead, such as on teaching elsewhere and/or consulting? Or is a professor's typical workload simply accepted as an 'easy life'?

Considerable efficiency benefits and cost savings might be incurred by more flexible full-time contracts. Thereby dropping a centuries-old convention of faculty tenure, a historical hangover to safeguard intellectual freedom. Is this still valid?

Why maintain an expensive campus with extensive buildings and grounds? As noted, distance learning will increasingly be expected to take over from the existing campus-based model, implying that conventional classrooms will be much less in demand.

Face-to-face workshops will typically take place in smaller seminar rooms, around circular tables on 'flat' floors with a relatively limited capacity of, say, 30 students at most, a far cry from conventional lecture halls. Airport hotels might perhaps be better suited to meet these needs.

They certainly often offer easier access than many conventional campuses. So the bottom line is: why do we need a conventional school campus at all? The result of all of this streamlining might be a considerable cost saving, without a reduction in quality.

We are seeing new entrants becoming active in markets that have traditionally been the domain of business schools–consultants, special providers, expert entrepreneurs. These new actors do, of course, take advantage of the types of cost savings suggested.

By paring down staff numbers, reducing the professorial time commitment and avoiding expensive commitments to campus buildings, education itself will be able to match the wider societal trends and bring executive education more in line with today's business world realities.

Pedagogy

Pedagogy is clearly changing and we highlight some further contributing factors:

- Learning from what might be regarded as 'cutting edge' seems key. There is an overwhelming accumulation of knowledge these days. Research will, of course, continue to push the limits of knowledge. But, increasingly, the best insights and practice might also come from business. Senior business executives, including leading-edge consultants, may be at the vanguard of new knowledge and they should be brought on board the lecturing team. They should be part of an emerging pedagogy.

- A typical student will, of course, have his or her own ideas about 'how things are' as a result of their experiences in their day-to-day work. These experiences will represent important elements for reflection, complementing their learning through self-study and/or in workshops. This blend of experience and new insights will result in new learning, new 'ah-ha's'. Modern pedagogy is based on this.

- Writing down one's analysis of a particular real-world business dilemma and submitting this for grading, typically in the form of a relatively short, succinct paper, may be an essential part of the 'new' pedagogy.

  Setting down one's thoughts on paper demands the key skill of precision, a requirement that is generally lacking in much of students' academic experiences today. Such a paper will represent the application or the proof of the knowledge a student has acquired.

Conclusions

We see a dramatically evolving reality for the 'business school of the future', including revised offerings, new roles, and configurations (cost-effective and better) and a more powerful pedagogy. The business school sector has traditionally been rather conservative. This is clearly expected to change! ■

ABOUT THE AUTHOR

Peter Lorange, the author of over 20 books and 100 articles, was President of IMD, Lausanne, for 15 years until 2008 and then founded the Lorange Institute, an innovative business school outside Zurich. This was subsequently sold to CEIBS (in 2016). He is now the Chairman of Lorange Network, an example of what might be a business school of the future. Dr Lorange has also been President of BI (the Norwegian School of Business) and has taught at MIT (Sloan School) and at Wharton. He received his doctorate from Harvard Business School and holds six honorary doctorates

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This article was originally published in EFMD Global Focus, Issue 3 Volume 13 www.globalfocusmagazine.com

Create a modern culture to attract and retain talent

Establishing a dynamic and creative culture is essential to attract and retain talent. John Hazelton says don't wait to do this, there is no time – act now!

In today's modern workplace establishing a dynamic and creative culture is more important than ever to attract and retain talent. Over the last few years the explosion of technology has delivered a paradigm shift changing the workplace forever.

The digital age has transformed behaviours and communications, and the younger generations needs and wants at work are radically different to what the workplace has ever seen before. Businesses need to act now to ensure they have a strong and positive culture that communicates their vision and values to attract the Millennials and Gen Z.

Digital skills gap

Attracting and retaining talent in the tech space is challenging and will be even more difficult going forward. The UK has a digital skills gap, estimated to cost the economy £63 billion a year. We will need to fill more than 750,000 new digital jobs by 2020 and train approximately 2.3 million people in digital skills (Recruitment and Employment Confederation).

The digital skills gap is a major challenge to the UK and one solution to plugging the gap is to set a modern culture in your workplace to attract and retain talent. Setting and establishing a new improved culture means letting go of traditional mindsets and recruitment processes, and approaching it with an open mind to discover new ways of working and re-shaping the workforce.

Collaborating and sharing

The younger demographic are used to communicating by conference video calls, sending instant messages over social media platforms to groups of people, and sharing and working on live documents at the same time. They want to collaborate with each other when and wherever they are, on whatever device they can. They are the generation of sharing, therefore at work they want to share knowledge and ideas in an open environment that isn't restricted by barriers and red tape.

They are not scared to speak their mind, and are not intimidated by senior managers as they believe in a more flatter open management structure rather than a traditional hierarchy. Along with the infiltration of technology and big data the silos that separated departments are diminishing and revealing a more transparent way of working and sharing.

A culture does not just appear naturally, you have to set it, live and breathe it on a daily basis. It is ongoing and will evolve just as your business does

Get flexible

It is important for the younger demographic to work with companies with a strong culture and set of values, and ethics they believe in. They want to be trusted from the offset and given autonomy to do their jobs; working on exciting and important projects that make a difference.

They are not scared to try new methods and discover new services and propositions, but at the same time they must be given the freedom and flexibility to so.

The expectation is that increasingly the younger demographic want to work from any location and also have flexible hours outside the traditional office hours. They are not familiar with the having to be seen in the office culture and expect managers to trust them to work remotely within reasonable hours that fit with their lifestyle.

They have been given bad press and called the 'spoilt, snowflake generation' but this is far from true. They have just been bought up with digital technology and the internet, and are used to communicating and working in a different way than all of the previous generations.

From the top

Implementing a new or improved culture is as important as your business strategy, your culture underpins everything you do. Culture is the heart of your people and is responsible for creating a happy workforce – if your employees are happy then they will be more productive. They will be more likely to stay and word will get out that your company is a great place to work at, enabling you to attract top talent.

A culture does not just appear naturally, you have to set it, live and breathe it on a daily basis. It is ongoing and will evolve just as your business does. You need to develop a strong mission statement and values that are important to your business.

This is the first step to building a culture as your values will reflect your company identify - who you are, what is important to you, what makes you different, why are you a great company to work for, what do you give back etc.

This must be communicated by the CEO or Managing Director and the senior management team to champion your culture so it becomes part of the business's fabric.

Happy employees = happy business

If you don't get culture right you risk ending up with miserable workforce and you will lose the talent you have recruited. Your reputation will follow you limiting your recruitment pool as no one will want to work for you.

However, if you create a strong, dynamic and creative culture in your company employees will be happy to work for you and enjoy their jobs. This will result in a strong team dynamic where employees will work together more effectively. This will be reflected in your retention levels and an increase in productivity and efficiencies.

Your happy employees will then become advocates of your brand, and you will find that more talent will want to work with you because your strong culture precedes you. Many companies forget about employee brand and just focus on customer branding but it is your people that make your business – don't forget it!

In this competitive market of finding top talent having a strong employee brand puts you ahead of the competition when talent are deciding who they want to work for. Especially if your values and objectives parallel theirs. Gallup (2018) recently discovered that strong company cultures attract the top 20% of candidates.

It's all about the trust

Trusting and letting go of control is a big element in creating an open and flexible culture where employees are given autonomy to do their jobs. This can be difficult for managers especially for those who are not from the younger demographic, as they are use to adhering to strict processes and policies, and working in an hierarchal structure.

Now, it is time to let go and trust your employees, after all they are adults and not children and should be more than capable of doing their jobs. You recruited them so empower them by providing remote and flexible working that fits with their personal life, demonstrating that you trust them. Give them challenging and interesting projects to work on. Trust after all should be given and not earned.

Employees thrive on results based environment and people require clear expectations of what is expected of them. Everyone needs clear direction of where they need to get to and how they will get there. By providing clarity you bring energy to the company to succeed.

Learning from your mistakes

The workplace shouldn't be an environment where staff are scared to fail and make mistakes, the best creative ideas and improvements are made from learning from our failures. Businesses need to cultivate a culture by adopting a 'growth mindset' so employees are open to feedback, place high value on learning and grow ideas as a business without the fear of failing.

Employees should be given the autonomy to do their jobs completely with managers stepping aside to let them make mistakes and learn from them. This environment creates a transparent and sharing culture where creativity will flourish, similar to that of a start up company who are agile and dynamic. The challenge is for the established businesses to act the same, if they don't they will lose out.

Recruiting for culture

Companies should be mindful of recruiting people with similar values and ethics of your company to ensure that the culture is not affected and the chemistry remains. If you just hire for skills then you maybe threatening the culture that you have cultivated. You can also develop people's skills but it is more difficult to change their values and ethics.

This can be approached in the recruitment process by using tailored questions appropriately. Companies must be aware when using the cultural fit in the recruitment process to still be aware of employing a diverse mix of people from different ages, ethic and educational backgrounds.

Don't wait – act now

Building a company culture is an evolutionary journey that you need to support to ensure it becomes the heart and the soul of the company. If you want to recruit and retain top talent then it is essential, so start viewing the workplace with a new lenses and be open and flexible to a new improved workplace by establishing a modern culture. Don't wait to do this, there is no time – act now! ■

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