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JOURNAL FOR A PROGRESSIVE ECONOMY

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SPECIAL EDITION

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INVESTMENT & INNOVATION

AT THE HEART OF EUROPEAN RECOVERY

Editors:
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and Peter Bofinger

PROGRESSIVE ECONOMY

www.progressiveeconomy.eu

The Progressive Economy Initiative was launched in 2012 and is supported by the Socialists and Democrats Group in the European Parliament.

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WHAT IS PROGRESSIVE ECONOMY?

Progressive Economy is an initiative launched in 2012 with a major objective: to generate a truly public and informed debate on **economic, social and environmental** policy at national, European and global levels and actively promote progressive thinking at academic and at political levels.

Initially a purely economic initiative, the scope has broadened to encompass the idea of sustainable development. We focus on the interplay between economic, social and environmental policies and how they work together in our progressive vision for Europe's economy.

Generating ideas

In order to achieve this we organise **internal workshops** exploring the key issues in these workstreams, bringing together leading progressive academics, experts and politicians, both in the European Parliament and in national capitals across Europe. Alongside this, we organise a number of **public conferences**, our largest being the **Annual Forum** that is attended by hundreds of people and webstreamed by thousands. We commission the **Independent Annual Growth Survey** to be carried out by renowned economic institutes. It gives our political group a sound and credible basis with which to discuss the Commission's Annual Growth Survey. We also produce the **Progressive Economy Journal** to promote and publicise progressive ideas, and have an active online presence through our website, Facebook and Twitter pages.

Scientific Board

Through our work we have built and continue to build a **parliamentary network** of progressive MEPs and national MPs across the Member States of the EU. Through this we aim to strengthen the political cooperation between European and national parliaments to deepen the democratic input into European economic, social and environmental governance.

Parliamentary network

Alongside our political network we have built a large **academic network**, led by our Scientific Board, which is co-chaired by Jean-Paul Fitoussi and Joseph Stiglitz. This network has expanded to include more academics with expertise in sustainability and social issues.

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FOREWORD

by the PRESIDENT of the S&D GROUP

As progressives, we believe that politics makes a difference. We strive to make life better for people all over Europe. Making things better demands a healthy economy. Europe is now taking timid steps towards economic recovery, but it is still lagging behind when it comes to investment and innovation. Without these two elements, there is no recovery. To create the right conditions for a healthy economy, we need an active state that is creating and shaping markets instead of just fixing market failures. That is why we need a constructive progressive politics for the future and not a dogmatic neoliberalism with a blind belief in the market.

At the 2016 Progressive Economy Forum – with keynote speaker Professor Mariana Mazzucato of the University of Sussex - we looked into the interaction between investment, innovation and growth, and the role played by the entrepreneurial state in promoting them. The idea of the entrepreneurial state is the state as a strategic actor that can shape and create markets via an innovation-driven economy. The growth we need today must meet key challenges such as climate change and the technological revolution. At the same time, it must be both socially inclusive and sustainable. It is a historic challenge, but as progressives we are naturally optimistic, facing the future with hope and a willingness to adapt our principles to changing times and for the common good.

The way forward in dealing with these challenges is to have a closer interaction between politicians and experts, so we become stronger in finding solutions for the future combining principles and policy.

This special edition of the Journal intends to present the range of opinions expressed at the Annual Forum and can hopefully be an inspiration for progressives, whether it is on a European, national or regional level. The challenges we are facing are the same and our responses should be interlinked and coherent.

Hoping to see you next year at the fourth Progressive Economy Annual Forum.

Gianni Pittella

Gianni Pittella MEP
President of the S&D Group in the European Parliament

EUROPE HAS TO ACT TOGETHER

Interview with Maria João Rodrigues

Europe is facing overlapping crises: financial, refugees and climate. At the same time, populists all over Europe are gaining momentum because of people's fear for the future and disappointment with the current handling of social inequalities and unemployment. Furthermore, people in the UK have voted to leave the EU. How can Europe respond to these crises? What should be our common solutions?

MJR: Europe can respond to these crises only by acting together. The European Border and Coast Guard is one example: Member States are pooling resources and sharing responsibility for protecting the external border and controlling population flows. The organisational structure must of course be European, not a patchwork of national guards. This should also make it possible to develop a proper European asylum system.

Another good example is the recent decision of the European Commission that Apple needs to repay to Ireland (and possibly to other Member States) €13 billion which should have been paid in taxes over the past decade. Through an opaque structure agreed with Ireland, Apple managed to avoid paying almost any taxes on the profits which it had made all over Europe. No individual Member State has been able to capture these tax payments on its own. It is only thanks to the European Commission, a common institution serving a common European interest, that this big social injustice is finally being corrected.

We should not be surprised that European citizens are frustrated about lack of control on the external border, about declining real incomes and about weakening of public services like healthcare or education for lack of budget. These problems have arisen, most of all, because Europe has not acted together enough. Individual countries are much too weak faced with the main problems which people worry about. Together we can manage.

This doesn't necessarily mean that the EU institutions should be in charge of every little thing, but Europe definitely does need common action and common instruments for major challenges like weak economic growth, social inequalities, climate change, security or global instability and the arrival of refugees.

"People making investment decisions should not look only at financial returns, but at the overall economic and social impact which they can create"

MARIA JOÃO RODRIGUES
MEP, S&D Group Vice-President in charge of economic and social policies

The relationship between investment and innovation is key to creating long-term growth. But what kind of investment is needed to create a more innovation-driven economy?

MJR: An innovative economy with a high-level of productivity requires all kinds of investment - not only in high-tech equipment at research labs, but also in good-quality education for all children from an early age. The state has a crucial role to play in shaping markets and providing public services without which an advanced economy could not function - including healthcare and social protection.

Many people fear that Europe and other advanced economies have entered an era of low growth or 'secular stagnation' and that it will be difficult to improve productivity much further, at least without much greater automation and rising social inequalities. These concerns are well-founded, but I think there is a path towards sustainable growth and broadly-shared prosperity. The key condition is that people making investment decisions should not look only (or even mainly) at financial returns, but at the overall economic and social impact which they can create by allocating money for a particular purpose.

Energy efficiency, for example, might not be a very profitable investment while energy prices are low, but it makes full sense for the planet and for our quality of life. Likewise, taxation of wealth for the purpose of better public education and renewal of run-down neighbourhoods is a very good use of money.

Many people in my generation currently worry about low interest rates and the fact that their pension pots have stopped growing. But low interest rates are completely natural in a slow-growing economy. Investment would be even scarcer if interest rates were higher.

What governments and the whole financial sector should be focused on is directing money to areas and purposes where they can make the greatest positive impact on the lives of present and future generations. The European Fund for Strategic Investments should be used in a more targeted way, with less strict requirements of financial return. The European Central Bank could also think about ways to direct newly printed money towards investments in sustainable development.

Maria João Rodrigues MEP, S&D Group Vice-President in charge of economic and social policies, was Minister of Employment in Portugal and has been a policy maker working in several posts in the European institutions since 2000, including in the leading teams of several Council Presidencies. The main outcomes she has been working for include the EU Strategy for growth and jobs, the Lisbon Strategy followed by the Europe 2020 Strategy, the EU agenda for globalization and the strategic partnerships with the USA, China, Russia, India and Brazil for a new growth model, the development of employment, education, innovation, research, regional and industrial policies, special EU initiatives: the new Erasmus for mobility, New Skills for New Jobs, the responses to the euro zone crisis and the final negotiation of the Lisbon Treaty.

In academic terms, she was professor of European economic policies in the European Studies Institute - Université Libre de Bruxelles and in the Lisbon University Institute. She was also the chair of the European Commission Advisory Board for socio-economic sciences. She is the author of more than one hundred publications.

We often think of the state and market in a very static way. But many progressives want the state to play a more active role in creating and shaping markets. Is it realistic for the state to be an efficient strategic actor, and under what conditions can market and state stimulate growth without being competitors? When we refer to a state as a strategic actor, shouldn't we refer to a supra-state such as the European Union?

MJR: The main condition for a well-calibrated involvement of the state in the economy is to maintain democracy. The vast majority of people do want public investment in all the necessary foundations of economic growth. They want fair, civilised, regulated markets without massive inequalities. Only a minority of economic liberals want the state to be weak and unable to invest and protect. These people want to protect inherited private advantage and to perpetuate inequalities. But a vast majority of people want broadly-shared prosperity with equal opportunities, and they do want the state to be active. So I do think it is realistic, as long as democracy is alive.

In many areas, it is indeed also more efficient for the EU to act, as with the big Investment Plan for Europe or in helping to tackle tax avoidance. That's why we need to build democracy also at the European level.

Many experts say we are in need of a bigger vision for Europe, and perhaps even more so after Brexit. Why is it important to have an overall narrative and how does it influence concrete policy making?

MJR: I think the basic "big vision" for Europe after Brexit can be quite simple, namely that we are stronger together and it is in our interest to act together. Detailed ideological battles about federalism or intergovernmentalism are not so useful. But most people can probably agree on "better Europe" which should work together for efficient and effective solutions to real-world challenges.

Beyond big visions, however, it is important to have a concrete plan for what needs to be done in practice. The European Parliament has agreed a post-Brexit roadmap in July and the Commission has built on it in the State of the Union speech and its 2017 work programme. On this basis, the EU27 can move ahead and tackle all big challenges. Of course this assumes that we won't get more and more national leaders in the EU27 actively trying to destroy the European project.

More and more leading economists are questioning the way we look at growth today, with a focus on growth in GDP. But do we need a different perspective on growth? And why? And what could a new type of growth look like? Isn't it just a way of changing perspective rather than changing politics in depth?

MJR: Definitely we need to go "beyond GDP" and integrate social and environmental considerations in economic policy-making much more seriously. The Europe 2020 Strategy is all about that, and so are the UN Sustainable Development Goals for 2030. In practice, though, one of the biggest challenges is to avoid these improvements getting blocked by national finance ministries and some short-sighted financial and industrial lobbyists. We have seen in the mid-2000s and early 2010s how the EU's sustainable development strategies were hollowed out when conservative forces imposed cost-cutting and deregulation in the name of competitiveness, based on a very narrow understanding of competitiveness.

To be sure, there are some enlightened finance ministers who understand the notion of sustainable development and the complexity of the investments necessary. The crucial challenge is to build, quite urgently and with the help of trade unions and civil society, a powerful progressive majority within parliaments, governments and European institutions, which will ensure that the sustainable development agenda is really put into practice. Another neoliberal backlash at this stage would mean a total disaster for the European project ■

THE ENTREPRENEURIAL STATE TOWARDS AN INVESTMENT AND INNOVATION-LED RECOVERY IN EUROPE

by Mariana Mazzucato

What makes the iPhone so smart? Was it only the individual genius of Steve Jobs and his team, and the visionary finance supplied from risk-loving venture capitalists? No. In my book, *The Entrepreneurial State: debunking public vs. private sector myths*,[1] I tell the missing part of that story through an analysis of the public funds, that allow the smart phone to do what it does so well with the Internet, touchscreen display, GPS, and the SIRI voice control—all funded by the tax payer!

The point is not to belittle the work of Jobs and his team, which was both essential and transformational. But to render more balanced the historiography of Apple and its founders, where not a word is mentioned of the *collective* effort behind Silicon Valley. The question is: who benefits from such a narrow description of the wealth creation process in the high tech sector today?

[1] http://marianamazzucato.com/the-entrepreneurial-state/

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"What the state has done in the few countries which have succeeded in producing innovation-led growth has been to create new markets"

This year has seen inequality rise up the political agenda—with the OECD documenting just this month how bad inequality is for growth. But the current debate is often focused only on redistribution. If policy-makers want to get serious about tackling inequality they need to radically rethink—not only areas like the wealth tax that Piketty is calling for—but even the received wisdom on how to generate value and wealth creation in the first place. When we have a narrow theory of who creates value and wealth, we allow a greater share of that value to be captured by a small group of actors who call themselves wealth creators.

This is our current predicament, and the reason why progressive parties on both sides of the Atlantic are struggling to provide a clear story of what has gone wrong in recent decades, and what to do about it. Let's start with some definitions: the market.

The path-breaking work of historian Karl Polanyi teaches us that talk of "state intervention" in "free markets" is a historical fallacy. In his epic 1944 book, *The Great Transformation*, Polanyi argued: "The road to free markets was opened and kept open by an enormous increase in continuous, centrally organised and controlled interventionism . . . Administrators had to be constantly on the watch to ensure the free working of the system."

Professor Mariana Mazzucato (PhD) holds the RM Phillips chair in the Economics of Innovation at SPRU in the University of Sussex. Her book *The Entrepreneurial State: debunking public vs. private sector myths* (Anthem 2013; US edition Public Affairs, 2015) was on the *2013 Books of the Year* list of the Financial Times. Professor Mazzucato is winner of the 2014 New Statesman SPERI Prize in Political Economy, the 2015 Hans-Matthöfer-Preis and in 2013 the New Republic called her one of the '3 most important thinkers about innovation'.

She advises policy makers around the world on innovation-led growth and is currently a member of the Scottish Government's Council of Economic Advisors; the World Economic Forum's Council on the Economics of Innovation and SITRA's (Finnish Innovation Fund) Advisory Panel. She is currently working on two major research projects funded by the European Commission's Horizon 2020 programme and on research commissioned by organisations including NASA, the European Space Agency and the Brazilian Ministry for Science and Technology.

She has a new co-edited book, *Rethinking Capitalism: Economics and Policy for Sustainable and Inclusive Growth* (Wiley Blackwell, July 2016), and is currently writing The Value of Everything, which will be published by Penguin's Allen Lane in Spring 2017.

The public sector's active role in shaping and creating markets is even more relevant in today's "knowledge economy". Traditional economic theory, which guides policy-making worldwide, justifies state intervention only to solve market failures. But what the state has done in the few countries which have succeeded in producing innovation-led growth has been to create new markets. Sectors such as the Internet, biotechnology, nanotechnology and the emerging green economy have depended on direct 'mission oriented' public investments, creating a new technological landscape—not only facilitating existing ones—with business following only after returns were clear in sight.

So why have we accepted such a biased story of the state's role, when as the story of Apple shows, it has done so much more than just "fix" market failures? What is the relationship between this false narrative of who the real risk-takers are and increasing inequality? Here are three areas we need to look at:

SOCIALISING RISKS AND REWARDS

The pretence that government only spends, regulates, administers and, at best "de-risks", or "fixes" market failures prevents us from seeing that it has been a lead risk taker and investor. As a result, government has socialised the risks but not the rewards. Some economists argue that the reward for the state comes through taxation. Indeed, this is – in theory – right. Innovation-led growth should lead to an increase in tax revenue. But not if the companies that benefit the most from innovations don't pay much tax compared to the income they generate—not only due to the infamous loopholes but also due to their continual lobbying for tax incentives and tax cuts—all in the name of innovation. Indeed, it is not a coincidence that it was the National Venture Capital Association which convinced the US government to reduce capital gains tax by 50 per cent in only five years in the late 1970s – an "innovation policy" later copied by Tony Blair's government. A policy that Warren Buffett himself has infamously admitted has had no effect on investment, but lots on inequality.

Similarly, in the name of promoting innovation, different types of tax "incentives" are constantly introduced – such as the "patent box" system, which allows companies to pay virtually no tax on profits generated from patented goods and services. By targeting the income generated from patents (state granted monopolies for 20 years), rather than the research that leads to them, such measures have little to no effect on innovation.

BUILDING MORE SYMBIOTIC INNOVATION ECOSYSTEMS

Sharing risks and rewards also requires making sure that private sector commitment on innovation increases. Of course business invests in R&D, but the emphasis is increasingly on the D, building on earlier public sector investment in R, as well as a reliance on small firms doing niche research, which is then reduced when they are acquired by larger firms.

Furthermore, as Bill Lazonick and I have argued in our recent work,[2] in areas as different as pharma, IT and energy, large companies are spending an increasing proportion of profits on share buybacks, to boost stock options, and executive pay. Indeed, Fortune 500 companies

have spent a record $3 trillion dollars in the last decade on share-buybacks—greatly outpacing R&D. Thus, a serious 'life-sciences' strategy should not only be about Government increasing its financing of pharma's knowledge base, but also be confident enough to ask big pharma to become less 'financialized' and invest more of its own profits in research and human resources to address skills shortages. And when countries ask

[2] http://icc.oxfordjournals.org/content/22/4/1093.abstract

Google, Apple and Amazon to pay more tax, this should not only be because they use public roads and infrastructure, but also because the very technologies that drive their record level profits, were tax payer funded.

We hear a lot about how new technology hurts those without the skills required by the modern economy, and that this is the key link between innovation and inequality. **But where do skills come from? They are the result of investment**. And today we have a massive crisis of investment. The skills problem is not unrelated to the corporate governance, and short-termism, problem.

A NEW DEAL . . . AND A MORE SERIOUS DEAL!

What we need to kick start investment is not only a new Keynesian deal, investing in areas like infrastructure, but also more serious "deals" between business and government that benefit both sides.

For example, how could the patent system better reflect the collective public-private contribution to innovations? In the US in 1980, the Bayh-Dole Act aimed to increase the commercialisation of science by allowing publicly-funded research to be patented. Lawmakers were rightly wary that this could lead to taxpayers stumping up twice: first for the research (the US National Institutes of Health spends $32bn a year), and then for high prices of drugs. So they suggested that government put a cap on the prices of drugs that were publicly funded. Yet the US government has never exercised this right.

We should also reform the tax system, to reward long run value creation, over value extraction, opening up the debate about risks and rewards: are there other tools that might offer a better deal for taxpayer-funded investments and innovations? This might come in the form of regaining a "golden share" of the patents; or retaining some equity in companies that receive early-stage financing from government; or giving businesses loans whose repayments are income-contingent, just as we do to students.

My point is not to argue for or against any one of these mechanisms, but to start a broader discussion which begins with the view of the state as market maker not only fixer. And a recognition of the massive risks that this involves: for every successful government investment in areas like the Internet there are failures, in areas like the Concorde. For every successful guaranteed loan to a company like Tesla there are many unsuccessful ones to companies like Solyndra—both having benefitted from half a billion dollars' worth of guaranteed loans from Obama. Some have argued that any direct non-tax based mechanisms for the state to reap back rewards for its risk taking are "problematic" and suggest that corporate taxes are sufficient. **This defence of the status quo, particularly in these times of austerity, seems unsustainable when what is at stake is the ability of business to capture a disproportionate share of value that was created collectively**. Indeed, precisely in a world of *big data*—so celebrated by the innovation enthusiasts—we can surely create better 'contracts' and deals between the public and private sectors, even if this means putting a dent in the profit-wage ratio that is rising at record levels (and no, profits are not related to managerial performance).

So how can we change the narrative of the left from one of 'redistribution' to one that champions value creation in which both risks and rewards are shared more equally? Let's first agree that the market is not a bogeyman forcing short-termism, but a result of interactions and choices made by different types of public and private actors. We need to stop talking about the public sector 'de-risking' and facilitating 'partnerships' and more about the kind of public *risk-taking* that led to all the general purpose technologies and great transformations of the past. A change of language from general 'partnerships' to more detailed commitment about the kind of partnerships that will lead to greater, not lower, private investment in long run areas such as R&D, and human capital formation.

Changing our understanding of how wealth is created, not only distributed, is the first step in refueling the government coffers which have not only funded innovation but also the public institutions in health, education and welfare that make this the kind of society I, for one, want to live in ■

EUROPE'S SUSTAINABLE and INCLUSIVE FUTURE

by Frans Timmermans

People increasingly fear for their future – their jobs, their status, whether their children will enjoy the same standard of living. Unemployment is still at unacceptable levels. After the irresponsibility and greed that led to the financial crisis, people have lost trust in the ability of the economy to deliver shared prosperity. Climate change and other environmental challenges appear daunting. And there is of course the uncomfortable truth: while a moderate recovery is under way, the prospects for long term growth are still too weak, and do not reach the required level for us to sustain our social model.

Our task in Europe is to demonstrate that we can build a better future for all, that prosperity can once again be achieved, sustained and fairly shared. To do that, we need to continue to take action to bridge the investment gap – one year into its existence, our Investment Plan for Europe is already delivering significant results and supporting efforts to boost jobs and growth. But beyond that, we need to bring about fundamental change in the way our economy works. Inclusive and sustainable growth is the way forward.

The EU has pushed hard for this to become the agenda at a global level, which is now reflected in the Sustainable Development Goals (SDGs); this is not the industrialised world telling developing countries what they have to do, but the whole world coming together and acting together. The Paris agreement is a historic opportunity for economic and societal transformation. Now the EU must lead by example whilst developing a competitive edge in the sustainable economy, where our future growth lies. This requires policy action through regulation, incentives, but also, and importantly, the mobilisation of society as a whole. In particular we need to engage young people to build this better, more sustainable future. For Europe it means, among other things, leading on renewable energy and building an Energy Union that provides the backdrop for the energy transition; setting the conditions for a low-carbon, resource-efficient economy. And importantly, this requires making a decisive shift to a circular economy, breaking away from the linear models of the past.

This is no small task: what we're talking about here is rethinking the way we design, source, produce, work and buy – nothing less. **We need to acknowledge that the 'take, make, use and throw away' approach has had its day: instead, we need to retain precious resources and fully exploit all the economic value within them, returning them into the product cycle whenever possible**. Boosting resource efficiency while reducing dependency

> **“The circular economy … is about reshaping the way our economy works to devise the kind of social model we want, namely one oriented towards collective well-being and a better quality of life.”**

FRANS
TIMMERMANS
First Vice-President of the European Commission

on scarce raw materials is good for competitiveness. The circular economy, at all stages in the cycle, from the design of products to recycling, is also a source of new business opportunities and job creation. But in a deeper sense, it is about reshaping the way our economy works to devise the kind of social model we want, namely one oriented towards collective well-being and a better quality of life; it contributes to putting the economy back at the service of society,
as opposed to the current situation where society suffers the damage created by a dysfunctional economy that wastes value instead of preserving it.

Making our economy sustainable also means making sure it is truly inclusive. The changes brought about by technological developments and digitisation have been described as a new industrial revolution. They have already profoundly transformed our lives, and their pace will likely accelerate in the coming years. Change on such a scale carries huge opportunities to be reaped, but also significant challenges for our economy and society, not least the risk that some are left behind. We need to embrace innovation and technological advances. **We will not create a more prosperous future for our children if we fall into the trap of only defending the past – this is a recipe for slow decline**. But harnessing the potential of these changes to make sure all members of society benefit and turning them into an opportunity to further social progress is up to us. This means acting forcefully to prevent and fight inequality and avoid the concentration of these benefits in the hands of just a few. To do that, it is vital to equip people with the right skills and invest in the potential of all members of society through lifelong education and learning.

Building a cohesive society based on solidarity starts at school. With the rise of pessimism and fear comes the temptation of scapegoating. Minorities are singled out and become a target. We must not let this happen. I passionately believe that the priority task for progressives today is to push for more investment in the education system, make sure schools are not organised along the line of ethnicity or social class but are places that reflect our societies and offer a chance to everybody to succeed, helping to rekindle the sense of tolerance, fraternity and togetherness that our communities so urgently need. This is also part of building a sustainable future ■

Frans Timmermans is the First Vice-President of the European Commission, in charge of Better Regulation, Inter-Institutional Relations, the Rule of Law and the Charter of Fundamental Rights. He also has horizontal responsibility for sustainable development.

Previously Commissioner Timmermans was a member of the Dutch Parliament representing Partij van de Arbeid (Dutch Labour Party) and has held various positions including Minister of Foreign Affairs and Minister of European Affairs.

Commissioner Timmermans studied postgraduate courses in European Law and French Literature at the University of Nancy and a degree in French language and literature at the Radboud University Nijmegen.

INVESTMENT AND INNOVATION FOR SUSTAINABLE DEVELOPMENT

Interview with Paul Magnette

Minister President Magnette was a speaker in the panel debate on **investment and innovation for sustainable development** at the Progressive Economy Forum. In this interview, Progressive Economy asked the Minister President to elaborate on some of the ideas he expressed at the Forum.

The regions play a fundamental role in creating growth. But we still see a lack of investment. Why is investment not coming through? What can be done at regional level to boost investment and attract investors?

PM: One of the reasons is the European Union's budgetary rules themselves. The Stability Pact is a strong obstacle to investment by the Member States. We have to abide by budgetary discipline, which up to a certain point is quite logical and understandable, but I have pleaded many times with the European Commission for a distinction between the expenses which are current expenses, on the one hand, and investments, on the other hand. Within the investments, those which are in line with Agenda 2020 and which are modernising our society, in terms of mobility, renewable energy, should be considered differently from other expenses, and Member States should be encouraged to make that kind of investment. I think everybody is asking for that today - the IMF, the OECD, the G20, **everybody is asking the EU to invest and the EU is preventing its Member States from investing**, which is quite a paradox.

EFSI is the core project at European level in creating a fruitful public-private partnership which can create investment and innovation. As Mayor and Regional President, do you think EFSI has the potential to make a real difference? Is the leverage ratio big enough? What else should be improved in the way EFSI works?

PM: It's interesting, but first of all it's a pity it is limited to or concentrated on private investment, because we would need to support public investment too if we want to modernise social housing and reduce the consumption of energy by the people who live in social housing, if we want to modernise schools etc. The EU should be a strong supporter of those kinds of things; it would help to fight climate change and modernise our society and support the economy at the same time. So such a focus on the private fund is a pity - it's a first limit. And second, the real money is very limited. They rely on the leverage effect, which exists up to a certain point, but they have less than 20 billion euros of real money - the rest is guarantees, leverage effect, that kind of thing. The European Central Bank is creating 1000 billion euros to support

growth in the EU. Instead of injecting that money in the bank system, we should create a new European fund with 1000 billion euros and use this fund to support real investment in the Member States.

What does the European Union need to change in order to promote investment and innovation? What can the EU do to be a strategic actor?

PM: Of course we have to support innovation, but not just innovation. I think **we should support everything that leads to ecological modernisation**, so we can support renewable energy, we can support mobility - trains, buses, all kinds of public mobility in the cities - we can help the cities become smart cities. Europe really needs to modernise its infrastructure - we spend so little in terms of public investment in infrastructure these days, compared to what we did in the 1970s or even the 1980s, so we really need to relaunch all that in line with the priorities of the Agenda 2020. Smart and sustainable growth can be supported by those investments.

What is the key to a comprehensive strategy between European, national and regional levels?

PM: It's not that complicated - we have lots of experience. We have the experience with the European and Regional Funds - the FEDER, the Cohesion Funds - we have a long tradition of these funds. The EU defines a number of priorities, then we have an operational programme, which is a contract between the region and the EU, and which defines the great axis of the strategy that we want to sustain. And then we have co-financing to make sure that Member States also invest from their own budget to support those objectives, and this is reviewed by the EU in the normal process. We have been doing that for so long that we have no excuse not to do it again.

The Minister President's participation in the Forum can be viewed on the Progressive Economy website:
http://www.progressiveeconomy.eu/content/annual-forum-2016-investment-and-innovation-heart ■

PAUL MAGNETTE

Minister-President of Wallonia, Mayor of Charleroi

Paul Magnette (PS Belgium) is the Minister-President of Wallonia since July 2014 and the current Mayor of Charleroi.

Previously Mr. Magnette was Minister for Health, Social Action and Equal Opportunity in the Walloon government and Minister for Climate and Energy in the Belgian federal government. From 2011 to 2014 he was Minister for Public Enterprises, Scientific Policy and Development Cooperation.

Mr. Magnette is a former political science professor at the Université Libre de Bruxelles.

CAN THE EUROPEAN PROJECT BE RE-BOOSTED?

by Louka T. Katseli

The European project is at a critical juncture. According to the most recent Eurobarometer,[1] 36% of Europeans are opposed "to an economic and monetary union with one single currency", while 31% "do not feel that they are citizens of the EU". Brexit is the most dramatic manifestation of a growing lack of trust in European institutions and their capacity to deliver observable benefits to the average European citizen. The rise of extreme political parties in many European countries is an additional indication of a deep-seated malaise permeating European societies that is associated with the

[1] European Commission, Standard Eurobarometer: Public opinion in the EU, July 2015.

“For investment and growth to resume, the European project needs to be rebranded around a new strategic vision of Europe as a provider of valuable public goods essential to the well-being of its citizens”

LOUKA
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de-legitimisation of political elites, traditional political parties and democratic institutions. This malaise is fed by the deterioration in living standards of large segments of the population and a growing lack of hope that conditions could improve in the foreseeable future.

Europe seems to find itself caught in a vicious circle: growth remains anaemic, investment is depressed, unemployment too high and income and wealth inequality are growing. At the same time, in many European countries, over-indebtedness, both in the public and private sector, accompanied by liquidity constraints, have caused a significant deterioration in business sector prospects. Last but not least, failures in governance, coupled with the absence of a well–articulated and credible roadmap for exiting the crisis, enhance economic uncertainty and political instability which, in turn, increase risk aversion, dissuading potential investors, most notably institutional investors, from channelling resources to new investment. Negative economic conditions in combination with political uncertainty have eroded consumer and business confidence as well as investment appetite, undermining the prospects of a sustainable upturn. As a consequence, in 2014, European gross fixed capital formation as a share of GDP was only 10% as opposed to 20% in North America and 41% in East Asia and the Pacific.[2] Similarly, European investment in R&D in 2015 accounted for only 21% of all global R&D investment, relative to 30% for North America and 40% for Asia.[3] The recent refugee crisis, the rise in terrorist attacks, geopolitical tensions and policy failures in managing these developments effectively at the European level have exacerbated further the prevailing social and political frustration felt by a large number of Europeans; insecure and alienated from their political representatives both at the national and European levels, Europeans are increasingly becoming Eurosceptic.

Breaking this vicious circle is a precondition for keeping the European project alive and the European Union together. This constitutes a major political challenge that can be addressed only through the implementation of a new strategic vision for Europe that rests on three pillars:

a) a new positive narrative

b) an effective and democratic governance structure and

c) a coordinated pro-growth policy mix that takes into account differentiated capacities and needs across member states.

[2] The World Bank, National Accounts Data (http://data.worldbank.org/indicator)
[3] Global R&D Funding Forecast, Industrial Research Institute, Winter 2016 (https://www.iriweb.org/sites/default/files/2016GlobalR%26DFundingForecast_2.pdf)

A NEW POSITIVE NARRATIVE FOR EUROPE

In response to the financial and economic crisis, the European Union has undertaken, since 2011, several important initiatives to mitigate the risks of future crises, to strengthen the solvency and supervision of the European financial sector and to provide incentives for a resumption of investment and growth. The creation of the European Stability Mechanism and of the Single Supervisory Mechanism[4] coupled with the introduction of the Single Resolution Mechanism, supported by the creation of a Single Resolution Fund, are important steps towards securing financial stability. The revision of the Growth and Stability Pact, the introduction of macroeconomic imbalance procedures,[5] the adoption of Outright Monetary Transactions and Quantitative Easing by the European Central Bank[6] and the promotion of the European Fund for Strategic Investments - the so called Juncker Plan[7] - have sought to provide powerful incentives for better coordination of policies and the promotion of investment activity.

No matter how welcome and important these initiatives are, they do not constitute a new positive narrative for Europe as they do not address convincingly and coherently some of the dominant preoccupations of the average European citizen, such as security and peace, employment, decent living standards, inequality and upward social mobility, including inter-generational mobility.

For the European project to survive, it needs to be associated and portrayed as a powerful model that can deliver important "regional public goods" that address the above preoccupations. Policy initiatives need to be presented and evaluated accordingly to mobilise support for the European project and shape expectations of consumers and business in a way that would enable general political support to be translated into sustainable commitment and long- term investment.

Markets are shaped by expectations and created by expected opportunities relative to risks and costs. So is investment activity. *For investment and growth to resume therefore, the European project needs to be rebranded around a new strategic vision of Europe as a provider of valuable public goods essential for the well-being of its citizens*. Such a new narrative requires a change of mind-set of political leaders and business elites from short-termism and crisis-management to timely, pro-active, coherent and strategic public policy making; it also requires appropriate changes in European governance to enhance effectiveness in decision making, transparency, accountability and democratic legitimacy. Last but not least, it requires the adoption of a pro-growth policy mix that is consistent with the proposed strategic vision and delivers the promised outcomes.

AN EFFECTIVE AND DEMOCRATIC EUROPEAN GOVERNANCE STRUCTURE

The management of the recent financial and refugee crises has highlighted the limits of the existing European governance structure in safeguarding policy effectiveness and democratic legitimacy. Lengthy and obscure intergovernmental processes, non-transparent negotiations and decisions at the Euro-group level, limited powers vested in the European Parliament, and an even more limited engagement of national parliaments in European affairs, are perceived to leave room for discretionary decision-making based on national interests and/or the relative bargaining power of individual member states. It is no coincidence that in the eyes of many Europeans, the "Germanization" of Europe appears to be a *fait accompli*. Attitudes and perceptions of course vary depending on national experiences. **In member states under a Financial Assistance Programme, the imposition of harsh austerity measures and the micromanagement of structural reform implementation directed and overseen by non-elected representatives of European institutions, the so-called Troika, have eroded further the legitimacy of European institutions and have weakened incentives for genuine ownership of needed reforms**.[8]

Thus, to be credible, the promotion of a new positive narrative for Europe needs to be accompanied by governance reforms that enhance transparency and democratic accountability. Making Eurogroup minutes public, electing a European finance and development minister accountable to the European Parliament, mobilising social partners in the design and implementation of policies, establishing an independent mechanism to monitor and evaluate European public policy effectiveness, curtailing the bureaucratization of European decision making processes, as well as implementing an effective communication strategy that links policy priorities to concrete outcomes, will go a long way towards re-establishing trust in and the credibility of the European project.[9]

[4] See: http://ec.europa.eu/finance/general-policy/banking-union/index_en.htm
[5] Regulation (EU) No 1176/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 November 2011 on the prevention and correction of macroeconomic imbalances
[6] ECB, "Technical features of Outright Monetary Transactions", 6 September 2012 (http://www.ecb.europa.eu/press/pr/date/2012/html/pr120906_1.en.html)

[7] See: European Investment Bank: http://www.eib.org/efsi/index.htm
[8] Louka Katseli (2016), "Lessons from the Greek Crisis", in Global Financial Systems: From Crisis to Sustainability, World Economic Forum, May (http://www3.weforum.org/docs/WEF_GAC16_Global_Fiscal_Systems_From_Crisis_to_Sustainability_report.pdf)
[9] Louka Katseli (2014), "CPD Anniversary Lecture 2014: Recent Fiscal and Labour Market Adjustment Experiences in Europe Lessons for the Low-Income Countries", Bangladesh.

A COORDINATED BUT FLEXIBLE POLICY MIX

Last but not least, the third pillar of a new strategic vision for re-boosting the European project is the pursuit of a coordinated but flexible pro-growth economic policy mix that takes into account existing differences in structural characteristics, institutional frameworks, governance capacities and cultural attributes across European member states.

European economic policy making is in need of a profound "regime switch", whereby priorities are rebalanced away from exclusive preoccupation with fiscal consolidation and financial stability towards the promotion of a sustainable economic, social and environmental transformation of the European economy.

Such a regime switch is feasible if it is driven by European investment, innovation and R&D policies that place the creation of value added and decent jobs at the centre of the European policy agenda. In a low-growth environment with disinflation, expansionary monetary policy alone cannot promote investment and growth. What is needed is the pursuit of active public and private investment and industrial policies supported by innovative financial instruments, regulatory reforms and investment in human and social capital to create incentives for sustainable technological and productive restructuring. Inserting additional flexibility in the Stability and Growth Pact by excluding, for example, public net investment appropriately defined from the relevant deficit targets, introducing different types of development bonds and guarantees for significant projects, developing suitable financial instruments to promote financial inclusion and venture capital, improving access of SMEs to financial resources, reducing non-performing loan exposure and combatting tax evasion and avoidance are important priorities for smarter and more inclusive growth. So is the timely adoption of proactive steps to address effectively external and internal over-indebtedness through timely debt-restructuring measures that would mitigate uncertainty, ensure solvency, enhance liquidity and spur investment.

At the same time, fiscal and incomes policies need to become consistent with such a new European policy agenda, taking into account the extent of national imbalances and the corresponding margins for manoeuvre that exist for individual member states. For example, the severity of austerity programmes pursued in member states under Financial Assistance Programmes, such as Greece, in conjunction with the weakening of social protection systems, have undermined rather than improved the sustainability of public finances and severely hampered investment activity, productivity growth and employment prospects.

CONCLUDING REMARKS

The three pillars of the proposed strategy for re-boosting the European project outlined above are interdependent. To address the concerns and priorities of European citizens, a coherent vision for Europe needs to be put together that is delivered by a new positive narrative, is made credible by appropriate governance reforms that ensure transparency, accountability and democratic legitimacy and is implemented by a policy mix that puts Europe into a sustainable development trajectory.

Designing and implementing such a strategic vision for Europe is an urgent priority to ensure that the European project remains alive and useful ■

AFTER BREXIT: A LIGHTHOUSE INITIATIVE FOR THE EURO AREA

by Peter Bofinger

1. LESSONS FROM BREXIT

Two lessons can be drawn from Brexit: First, it has created a high degree of uncertainty which increases the risks for the euro area.

This adds to an already rather difficult global outlook due to the situation in the emerging market economies, above all in China. With Chinese exports and imports on a declining trend for almost two years, the global economy has lost a major growth locomotive. If the Eurozone (EZ) falls back into a recession, the ECB would not be able to provide an additional significant monetary stimulus. This calls for a proactive fiscal policy approach in the EZ.

The Brexit shock also shows an obvious dissatisfaction of the average citizens with "Europe" in general and their overall living standards. Above all **there is no shared project which would make it possible to identify with "Europe"**. Thus, **in order to avoid further political erosion, a joint "lighthouse initiative" is needed to make the positive effects of Europe clearly and widely visible to Europe's citizens**.

2. PUBLIC EXPENDITURES FOR GROWTH AND SUSTAIN-ABLE DEVELOPMENT

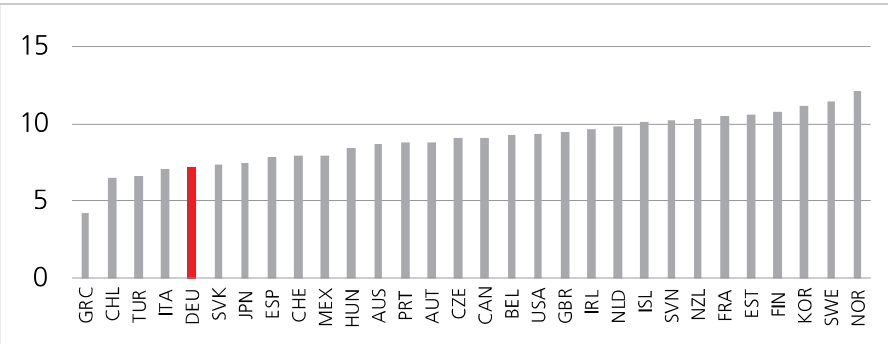
An obvious candidate for both purposes is a joint fiscal policy initiative for investment and innovation. In the era of digitalization, future-oriented investments should be understood in a comprehensive way which goes far beyond the traditional brick and mortar approach. An interesting concept was developed by Michael Thöne (2005). For Germany he tried to derive an indicator for "public expenditures for growth and sustainable development" (PEGS). This indicator includes expenditures on education, including childcare, on research, family support, active labour market policies, health care, protection of nature and the environment, subsidies for renewable energies and infrastructure investment. Unfortunately, his calculations were not updated and no attempts were made to apply them to other countries.

As a rough approximation for PEGS, the sum of public investment, public funding of business research and development, public education expenditures and public expenditures in childcare can be used (see **Figure 1**). They show the interesting result that Germany's future investments in this definition are very low. Only Italy, Turkey, Chile and Greece have a lower ratio. Thus, the rule of the Stability and Growth Pact and the Fiscal Compact can have the negative effect that countries which try to follow them in a stringent way neglect investments which are at least as important for future generations as a balanced budget.

Thus, the lighthouse initiative should be designed in such a comprehensive way. It should be based on the "golden rule" of public finance which allows the debt financing of government deficits if it is used for future-oriented investments. Accordingly, for the financing of these projects, member states should be allowed an exemption from the Stability and Growth Pact. The exemption can be justified by a sound economic principle: **With long-term government bond rates close to zero it is not very difficult to find public future-oriented expenditures which generate a much higher return**.

The annual size of the lighthouse initiative should be 1 % of the EZ GDP for a period of five years. This would be a total amount of 500 billion Euro. In contrast to the European Fund for Strategic Investments (EFSI), which receives public funds of only 21 billion Euro, this amount should be totally funded by governments. In order to avoid windfall gains, the member states would have to demonstrate that the funds are used to finance additional expenditures. This would require the projects to be checked and approved by the European Commission.

Figure 1. Future oriented public expenditures° (percent of GDP)



*Public investment+ Public funding of business research and development + Public education expenditures + Public expenditures in childcare.

Source: OECD Going for Growth 2016

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3. IMPACT ON PUBLIC FINANCES

For countries with high levels of government debt, any proposal that calls for additional deficits raises the question whether this could cause negative effects on fiscal sustainability and on financial markets. However, additional government expenditure must not necessarily increase the debt to GDP level. **The debt dynamics depend above all on the multiplier of public spending, the debt to GDP level and the revenue ratio, which determines the additional government revenues due to a higher GDP**. While there is an intensive debate on the actual size of spending multipliers, there is some agreement that

- multipliers are higher in recessions than in booms
- multipliers are much higher when monetary policy has reached the zero lower bound (ZLB) so that the stimulating impact of additional government spending is not compensated by higher interest rates.

Figure 2. Impact of 1% increase in government spending on debt levels of Eurozone countries

$$\Delta\left({}^{debt}/_{GDP}\right) * 100 \approx \overbrace{-1}^{\text{direct effect}} + \overbrace{\underbrace{multiplier * debt\ ratio}_{\text{denominator effect}} + \underbrace{multiplier * revenue\ ratio}_{\text{numerator effect (automatic stabilizers)}}}^{\text{mitigating effect}}$$

Source: Eyraud and Weber (2013)

As most EZ countries still have negative output gaps - the OECD estimates an output gap of -1,5 % for 2016 - the spending multipliers will be relatively high. In addition, one can expect that the ECB will not raise its interest rate for the next few years so that the ZLB will be maintained. A survey by Batini et al. (2014) shows that in the situation of the zero lower bound government spending multipliers range between 2.3 and 4.

As a simple exercise we calculate the impact of a 1 % increase in government spending on the debt levels of EZ member countries. This follows the simple formula which one can find in the paper by Eyraud and Weber (2013) (see **Figure 2**).

For the combined effects of a negative output gap and the ZLB we assume a relatively low multiplier of 2 and a revenue ratio of 0.3. **Table 1** shows that an increase in government spending of the size of 1 % of GDP would lead to a pronounced reduction of the debt to GDP ratio. The only exception is Estonia. But even for a multiplier of 1, for most countries an increase in the debt to GDP ratio can be avoided. For instance, in the case of Italy a multiplier of 0,6 would still avoid an increase in the debt to GDP ratio. Thus, in the current and foreseeable macroeconomic environment the lighthouse initiative would be at least self-financing.

As far as the effects of financial markets are concerned the lighthouse initiative should be implemented as soon as possible so that it can benefit from the stabilizing effects of the ECB's quantitative easing.

With its broad focus, the lighthouse initiative would make it possible to hire teachers and professors, doctors

> With the very low nominal and real interest for public borrowers it is the ideal time for a broadly-based public investment initiative for the euro area.

Table 1. Effects of an increase of government spending of the size of 1 % of GDP on the debt to GDP level assuming a multiplier of 2 and a revenue ratio of 0.3

Country	Debt to GDP ratio (2016)	Change in debt to GDP ratio with a multiplier of 2	Change in the debt to GDP ratio with a multiplier of 1
Belgium	106,4	-1,728	-0,364
Germany	68,6	-0,972	0,014
Estonia	9,6	0,208	0,604
Ireland	89,1	-1,382	-0,191
Greece	182,8	-3,256	-1,128
Spain	100,3	-1,606	-0,303
France	96,4	-1,528	-0,264
Italy	132,7	-2,254	-0,627
Cyprus	108,9	-1,778	-0,389
Latvia	39,8	-0,396	0,302
Lithuania	41,1	-0,422	0,289
Luxembourg	22,5	-0,05	0,475
Malta	60,9	-0,818	0,091
Netherlands	64,9	-0,898	0,051
Austria	84,9	-1,298	-0,149
Portugal	126	-2,12	-0,56
Slovenia	80,2	-1,204	-0,102
Slovakia	53,4	-0,668	0,166
Finland	65,2	-0,904	0,048

Source: Eurostat and own calculations

and nurses, to establish new facilities for child care, to support research in renewable energy and energy storage. This would make its effects widely visible and tangible. To avoid problems after the five year investment period, hiring in the public sector should ideally be made for positions which are currently taken by employees that will retire within the next five years. This would provide a specific boost for labour markets with high youth unemployment.

The initiative should be evaluated after four years. Depending on the outcome, the rules of the SGP could be changed in the direction of the Golden Rule.

4. THE IDEAL TIME FOR MORE PUBLIC INVESTMENT

The need for additional fiscal action at European level was obvious already before Brexit. Private and public investment in relation to GDP are at very low levels. At the same time, the annual increase in labour productivity has declined to about 0.5 % - much less than in the period 1997-2001 (1.3 %) and the period 2001-2006 (1.0 %).

As very low interest rates are unable to stimulate private investment, **only public investment is able to boost productivity in Europe**. In addition, the weak private investment activity implies that huge amounts of liquid private financial assets cannot find investors that are willing to pay attractive interest rates.

Thus, with the very low nominal and real interest for public borrowers it is the ideal time for a broadly-based public investment initiative for the euro area ■

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CALL FOR PAPERS 2016

INTRODUCTION

It was my pleasure at the Annual Forum to present the awards to the winners of the Progressive Economy Call for Papers 2016.

This was the culmination of the selection process which began with the launch of the Call for Papers in September 2015. This third edition of the Call for Papers focused on three research topics: **"Reforming the Economic and Monetary Union"**, **"The Labour Market and the Digital and Technological Revolution"** and **"Financial Instruments to Foster Sustainability"**. The members of the Progressive Economy Scientific Board were responsible for selecting the most promising abstracts received, and then for evaluating the full papers submitted.

The winners are as follows:

- In the category **Reforming the Economic and Monetary Union:**
"Why further integration is the wrong answer to the EMU's problems: the case for a decentralised fiscal stimulus"
by *Thomas Fazi* and *Guido Iodice*

Scientific Board members found it a thought provoking paper providing an excellent discussion, and praised its original and critical thinking.

- In the category **The Labour Market and the Digital and Technological Revolution:**
"The dynamics of profits and wages: technology, offshoring and demand"
by *Francesco Bogliacino, Dario Guarascio* and *Valeria Cirillo*

Scientific Board members praised it as an economic research with an academic approach, but with a solid conceptual framework critical analysis and an interesting potential for policy implications.

- In the category **Financial Instruments to Foster Sustainability:**
"Sustainability-oriented EU taxes: the example of a European carbon-based flight ticket tax"
by *Margit Schratzenstaller* and *Alexander Krenek*

Scientific Board members judged it to be extremely well written and well-structured, and praised its sound theoretical basis and thorough and innovative empirical analysis, building on huge data sets. They found the paper presented a far-reaching proposal for better environmental sustainability and linked it to financial governance issues.

The winners were invited to make brief presentations of their papers at the Forum. The full papers submitted under this year's Call for Papers can be found on the Progressive Economy website.

On the following pages you will find the winners' contributions, which the authors have adapted from their winning papers especially for publication in the Journal ■

Peter Bofinger
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Winners' contributions

WHY FURTHER INTEGRATION IS THE WRONG ANSWER TO THE EMU'S PROBLEMS:

THE CASE FOR A DECENTRALISED FISCAL STIMULUS

by Thomas Fazi and Guido Iodice

THOMAS FAZI

GUIDO IODICE

Thomas Fazi is a published author and award-winning journalist (focused on economics and European affairs). He has also translated into Italian the works of authors such as Christopher Hitchens, George Soros and Robert Reich. He is the author of the critically acclaimed *The Battle for Europe: How an Elite Hijacked a Continent - and How We Can Take It Back*, published by Pluto Press. His articles have appeared in *Il Sole 24 Ore* (online edition), *il manifesto, The Irish Times, VoxEU.org, Social Europe Journal, openDemocracy* and other printed and online publications. He collaborates with the Italian civil society network Sbilanciamoci! and is the editor of the Italian-language European affairs magazine Oneuro.

Guido Iodice is the founder of various prominent online magazines connected to the Italian left. He regularly writes about economics, European affairs and technology for a number of Italian publications. He is the author of *La battaglia contro l'Europa* (with Thomas Fazi) and the co-founder of the popular *Keynes blog* website (www.keynesblog.com).

The global financial crisis exposed the euro's original sin of depriving member states of their fiscal autonomy without transferring this spending power to a higher authority. This left member states utterly defenceless in the face of economic crises, as the 2008 booms-gone-bust would make amply clear. Yet, the crisis did not bring about, as one may have expected, a loosening of the budgetary constraints imposed on individual governments (thus allowing them to pursue counter-cyclical stimulus policies) or by moving towards a fully-fledged fiscal union (or at least a modicum of economic coordination between surplus and deficit countries). Instead, we got the worst of both worlds: further restrictions on the fiscal autonomy of member states and no increase in the fiscal capacity at the federal level in Europe. The result, predicted by many non-mainstream economists, has been a deeper and more prolonged crisis than that of the 1930s (resulting in all-out humanitarian crises in a number of countries). There are now a number of official proposals on the table – most notably the European Council's 2012 *Towards a Genuine EMU*, the European Commission's 2015 *Completing Europe's EMU* and several reports by the European Parliament – that propose to address this structural flaw by creating a fiscal and (ultimately) a political union (European Council 2012; European Commission 2015).

This would be a welcome development, were it not for the fact that the 'brave new eurozone' envisioned by these proposals falls very short of the kind of fiscal and political union advocated by progressive federalists (see, for example, Arestis and Sawyer 2012), and raises a number of worrying issues from both political and economic standpoints. Politically, it raises serious problems of accountability and democratic scrutiny and participation, since this proposed transfer of sovereignty does not foresee an analogous and proportionate transfer of democratic legitimacy, accountability and participation from the national to the supranational level (Fazi 2014). Economically, it does not foresee any real spending powers for this new supranational authority (which would require the ability of EMU itself to run budget deficits with the support of the ECB, fiscal transfers from richer to poorer countries, etc.), and is likely to revolve first and foremost around the creation of a European budget commissioner with the power to reject national budgets (Schäuble and Lamers 2014; Villeroy de Galhau and Weidmann 2016). It is not hard to see why such a development would be politically unsustainable, further exacerbating the union's centrifugal tendencies. At the same time, we have to acknowledge that the political conditions are not ripe for a move towards a fully-fledged fiscal and political union, along the lines advocated by progressive federalists. So – barring a break-up scenario – what options does that leave us within the context of the EMU?

A DECENTRALISED FISCAL STIMULUS

The only sensible solution in the short-to-medium term is to allow individual member states to adopt a more expansionary fiscal stance. It has been argued that this could be realised within the current institutional framework – for example by making optimal use of the 'flexibility' contained in the SGP or by reconsidering the Commission's method of cyclical adjustment – to obtain a eurozone-wide expansionary fiscal stance of two to three per cent of GDP (Truger 2015). While this would be a welcome improvement, we believe that for some countries it would be insufficient, given the extensive damage caused by years of fiscal austerity. We posit that a better way forward would be to adopt a balance sheet recession approach to the problem, as suggested most notably by Richard Koo (Koo 2012, 2014, 2016). This means understanding that a number of eurozone countries, especially those of the periphery, are in so-called balance sheet recession – a situation in which individuals and companies, following the burst of a debt-financed bubble, collectively focus on saving rather than spending, thus reducing aggregate demand – and should thus be allowed to pursue much more expansionary fiscal policies until private sector balance sheets are repaired. More specifically, it means that private-sector savings levels have to be taken into account when evaluating the 'optimal' fiscal stance of member states. According to 2015 flow of funds data, private-sector savings amounted to 10.8 per cent of GDP in Ireland, 7 per cent in Spain, 6.8 per cent in Portugal and 6.3 per cent in Italy (Koo 2016). This means that there are sufficient levels of excess (i.e., unborrowed) savings to support a fiscal expansion in the order of 6-8 per cent of GDP in most periphery countries. Unfortunately, the EMU's current budgetary rules – which prohibit governments from running sustained budget deficits of more than three per cent of GDP regardless of the size of private-sector savings – make no provision for this type of recession.

It is often argued that German taxpayers would never sanction a fiscal stimulus in periphery countries, but the existence of huge pools of private savings in those countries means that if those savings were to return to the domestic government bond markets, the ultimate cost to the German taxpayers would be zero. That said, periphery countries need to ensure that idle savings in these nations do not flow abroad but are invested in local government bonds. As argued by Richard Koo, this could be achieved

by 're-internalising' fiscal policy in the EMU: that is, by limiting the sale of government bonds to the citizens of each country (Koo 2012). A softer version of this plan would involve the introduction of different risk weights for local and foreign bonds (Koo 2016). The proposed new rule would allow individual governments to pursue autonomous fiscal policies within its constraint. In effect, governments could run larger deficits as long as they could persuade citizens to hold their debt.

Having established the criteria with which to determine the optimal fiscal stance for each member state (the private-sector savings level), we can now turn our attention to the optimal composition of the fiscal stimulus. We believe that the fiscal expansion (i.e., the percentage increase in the budget deficit vis-à-vis the current fiscal stance) pursued in the context of Koo's proposal should be entirely devoted to the financing of government investment. The reason for favouring government investment over social transfers is twofold: first, the former is associated with higher fiscal multiplier levels, to the point that 'investment may be self-financing for some economies', in the sense that the debt-to-GDP ratio may not rise as a result of investment (and may even decrease) (IMF 2014); second, government investment does not simply increase demand, but can also have positive supply-side effects. The IMF's findings are quite conclusive in this respect. Furthermore, it is interesting to note that Koo's criterion, precisely because it mobilises *idle savings*, does not run the risk of crowding out private investment but, on the contrary, has the potential to generate an opposite *crowding in* effect, by stimulating private investment, as even the IMF acknowledges. Another supply-side channel through which public investment can improve a country's economic performance is the reduction of the external deficit through a strategy of import substitution, via the development of local industries. Finally, an investment-led recovery, by allowing corporates to reduce their debt exposure, will also improve the financial stability of those countries that currently face the risk of severe banking crises as a result of the huge volume of non-performing loans (NPLs) held by local banks.

THE ROLE OF THE ECB: THE NEED FOR A NEW 'WHATEVER IT TAKES'

As is well known, in 2010, following the eruption of the Greek sovereign debt crisis, the interest rate differential (the so-called 'spread') between Germany and the periphery countries of the EMU started growing dramatically. Interest rates had, in fact, started to diverge already in 2008, in the immediate aftermath of the financial crisis, but became an existential threat to the survival of the eurozone only in 2010.
With the eruption of a periphery-wide sovereign debt crisis, capital started fleeing periphery countries, causing a sharp sell-off of periphery government bonds, even in countries that had not experienced a banking crisis, like Italy. Further, it has been noted that the ESM/EFSF bailout of periphery countries amounted effectively to 'a back-door bailout' of reckless German and French lending (Gore and Roy 2012). This begs the question: why has the eurozone *not* collapsed? Marc Lavoie explains the EMU's resilience with the fact that in a monetary union such as the EMU no country will ever find itself short of reserves, due to the functioning of the TARGET2 interbank payment system (which calculates debts between the EMU's central banks), which acted as an automatic stabiliser that prevented the implosion of the eurozone (Lavoie 2015). Yet, it did not – and could not – prevent the divergence in bond yields witnessed between 2011 and 2012. This is why, in mid-2012, the ECB announced its Outright Monetary Transactions (OMT) programme. By pledging to purchase government bonds on an unlimited basis, though under strong conditionality, effectively transforming the ECB into a quasi-lender of last resort, Draghi caused core/periphery bond yields to converge once again. Furthermore, following the activation of the ECB's quantitative easing (QE) programme,

peripheral government bonds, such as those issued by Italy and Spain, have been trading at record-low yields.

There is a significant exception to the (relative) calm on sovereign debt markets: Greece. Excluded from the QE programme and subject to a structural adjustment programme that is likely to fail (even on its own terms), the country is still judged by financial markets to be at risk of exiting the euro. This raises the doubt that the OMT and QE programmes, precisely because they are conceived as *emergency programmes*, may not be sufficient to guarantee the integrity of the EMU in case of a new shock. As Mario Draghi noted in a speech at the University of Helsinki, in 2014, the financial integrity of a monetary union rests on the equivalence of bank deposits in all member states. If a euro deposited in a Greek bank is judged less safe than that of a euro deposited in a German bank account, then monetary union ceases to exist in the eyes of the public. 'This in turn would undermine the fungibility of money', Draghi said (Draghi 2014). Thus, what is needed is an instrument that will conclusively and permanently reassure markets about the 'fungibility' of the euro. Government bonds play a crucial role in the EMU (as in any monetary system): they are both the 'raw material' through which the ECB issues the currency, as well as safe assets that banks require to function smoothly. Therefore, to ensure the stability of the financial system, the *government bonds of the euro area require the unconditional backing of the ECB*. Such backing is crucial also for the success of the decentralised fiscal stimulus proposed in this article, because member states need to be insulated from any doubts that financial markets may have concerning their solvency or euro membership. Ultimately, guaranteeing the sovereign debt of the euro area member states means guaranteeing the irrevocability of the euro itself.

In practical terms, the ECB would simply have to pledge to do 'whatever it takes' to keep the interest rate differential between member states below, say, 30 basis points. This would ensure that member states would be able to finance themselves at reasonable costs even after the tapering of the ECB's QE programme. The 'fiscal effect' of such a decision would be no different from that of the QE programme, and thus should not raise concerns of 'monetary financing' of government deficits. It could be argued that the ECB would be taking on a big risk – and mutualising it – by buying the bonds of potentially insolvent governments. This is irrelevant for two reasons. First, as with the OMT programme, it is likely that the ECB will not have to directly intervene in secondary bond markets to keep the spread within the predetermined boundary. Second, the ECB, quite simply, *cannot default*; as noted in a recent ECB paper:

"Central banks are protected from insolvency due to their ability to create money and can therefore operate with negative equity" (Bunea et al. 2016).

Jaime Caruana, general manager of the Bank for International Settlements, was even more explicit:

"Central banks are not commercial banks. They do not seek profits. Nor do they face the same financial constraints as private institutions. In practical terms, this means that most central banks could lose enough money to drive their equity negative, and still continue to function completely successfully" (Caruana 2013).

Ultimately, there is only one scenario in which the ECB could go broke: a collapse of the monetary union. On the contrary, **a decentralised fiscal stimulus would have a number of economic and political benefits: not only would it have an immediate macroeconomic impact (thus leading to increased debt sustainability), it would also engender a more positive attitude towards European institutions (which would no longer be seen simply as enforcers of watertight fiscal rules)**, thus slowly re-creating the conditions – in the longer run – for moving towards a true solidarity-based and democratic fiscal and political union ■

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THE DYNAMICS OF PROFITS AND WAGES:

TECHNOLOGY, OFFSHORING AND DEMAND

by Francesco Bogliacino, Dario Guarascio and Valeria Cirillo

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1. INTRODUCTION*

Over the last decades, economic inequalities have dramatically increased across both advanced and developing economies (Atkinson, 2015; Piketty, 2014). This evidence raises interest (again) in the dynamics of income distribution and its drivers (Franzini and Pianta, 2016). Looking back in time, classical economists such as Marx, Ricardo, or heterodox scholars such as Kalecki, regarded income distribution as the fundamental feature of capitalist economies, because distributive arrangements tend to reflect the interaction between the economy's main driving forces.

On the other hand, most of the explanations for the recent increase in inequality focus on what happened in the labour market, looking, in particular, at the role of trade and technology. The former is important because of globalization, which forces advanced economies to face competition from abundant unskilled labour countries and threatens workers with the risk of offshoring of their jobs. The latter matters because the nature of innovations may favour some skills over others, a phenomenon popularized as the *Skill Bias Technical Change* (SBTC hereafter).

However, trade *per se* is not a good explanation because, contrary to textbook predictions, inequality in the labour market increased both in the EU and the US and in unskilled labour abundant economies such as China. In addition, most of the increase in inequality occurred within industries, and cannot be associated with labour reallocation across sectors (Acemoglu, 2002). Similarly, the SBTC hypothesis is unsatisfactory because the main driver behind the increase in wage inequality turned out to be the set of labour market reforms that weakened workers' bargaining power (Fana et al., 2016) rather than a technology-related displacement of medium skilled workers (Bogliacino and Maestri, 2014; OECD, 2011).[1]

From an empirical perspective, most of the recent studies on inequalities have focused on personal rather than on functional distribution of income. This occurred despite a growing importance of functional distribution in explaining the change in inequality (OECD, 2008; 2011). The personal distribution concerns how income is distributed across households, while functional distribution addresses how production factors – i.e. capital and labour - are remunerated.

The aim of this work is to discuss the existing consensus, starting from the premise that functional distribution is perhaps the more relevant part of the story of inequalities. In our framework, technology and trade are two key forces shaping the dynamics of income distribution. However, their impact depends on the relative power of the parties (i.e. capital and labour) involved in the bargaining process. Conceptually, we identify a set of key structural drivers shaping income distribution:
i) the balance of power between capital and labour, linked to market structure and workers' unionization
ii) the dynamics of technological change affecting distribution through new products - leading to monopolistic rents shared between workers and capitalists according to their relative bargaining power - or new processes - making production more efficient but with the risk of destroying jobs and demand outpacing efficiency gains
iii) the degree of openness of the economy, ensuring external demand flows (exports) and allowing firms to offshore parts of production as well as to choose foreign rather than domestic suppliers iv) quality of institutions, size of the welfare state and workers' human capital endowment, all elements potentially smoothing the distributive set-up (Howell, 1999; Atkinson, 1999).

We develop a structural model founded on two primary building blocks and characterized by a sequential timing. Wages are negotiated before entering into production and take into account the constraints dictated by total employment, output decisions and available or expected rents (related innovation and organization of production). Profits are realized afterwards, depending, of course, on the surplus residual (in a Ricardian sense, i.e. after paying wages) and on demand level.

On the wage determination side, we are guided by Van Reenen's hypothesis (1996) regarding 'innovation rents' captured by workers (in a similar vein, see Dunne and Schmitz, 1995).[2] Innovative rents are defined in Schumpeterian terms, and they should be derived from the temporary monopoly associated with a new product (Schumpeter, 1942). Van Reenen (1996) identifies three fundamental reasons why workers have legitimate access to portions of innovation rents: i) the time lag between input, R&D activities and output of innovation; ii) the difference in time horizon between workers and shareholders, which is shorter for the former due to the diffusion of

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The full paper is available at: http://www.isigrowth.eu/2016/02/11/the-dynamics-of-profits-and-wages-technology-offshoring-and-demand/

[1] According to the SBTC theory, trade and technology could interact in affecting employment and wages: different machines may be more likely to replace certain occupations, negatively affecting those skills that have a comparative advantage in those tasks. In the most famous version of this theory, routine jobs tend to be offshored because of new technologies, and medium skills are those that suffer, generating a polarization in the labour market.

[2] Van Reenen's hypothesis is predicated on the efficiency wage theory (Akerloff and Yellen, 1990). According to this theory, a causal relationship can be traced between wage level and workers' on-the-job productivity. Employers are willing to pay wages above the market-clearing level in order to spur productivity growth; basically, worker productivity depends on wages received, implying higher wages provide stronger incentives for the worker to be productive. Furthermore, according to Shapiro and Stiglitz's model (1984), a wage increase is shown to decrease a worker's incentive to shirk. In other words, a wage increase boosts worker productivity and lowers direct monitoring expenses.

and a positive effect on wages.[3] The prevalence of one or another effect depends on the relative bargaining power of capital and labour, workers' skill endowment and technological characteristics of the firms and sectors involved (Pianta and Tancioni, 2008).

Concerning profits, we followed a standard Post-Keynesian approach. As a result, profits are driven by demand, which *realizes* outstanding surplus left after wage bargaining. Of course, there exists a heterogeneous impact exerted by domestic and foreign components of demand (Bogliacino and Pianta, 2013; Guarascio et al., 2015). Given the sequential structure put forth, profits are also determined by social conflict with labour, as well as by lagged internal investments capturing embodied technical change (Dosi, 1988).

We apply our framework to industry-level data for five European countries (Germany, France, Italy, Spain, and United Kingdom) over the period 1995-2010. Our database merges data from the Community Innovation Survey, OECD STAN and WIOD, thus allowing for the measurement of different sources of demand, technology and offshoring (more details on the adopted database are provided in the next section). The model is run relying on novel econometric techniques ensuring consistency in the estimation of our complex set of relationships. Moreover, the proposed approach allows feedbacks to be identified among the main variables – i.e. capital and labour remuneration – capturing both conflictual elements in the bargaining process as well as direct and indirect effects of technology and offshoring.

The article is organized as follows. In the next Section, we briefly illustrate the data and provide some descriptive evidence. In Section 3 the econometric strategy is presented and the results summarized. Finally, Section 4 concludes with some policy implications stemming from our findings.

temporary contracts; iii) the elements of randomness in the nature of innovation.

The second element, which affects the dynamics of wages, is offshoring. The latter can impact the dynamics of labour remuneration through three different channels. The first is a negative effect linked to the 'threat' faced by workers as employers have the opportunity of offshoring parts of production. Such a 'threat effect' is likely to reduce workers' bargaining power, exerting a negative impact on wages - particularly of low-skilled ones that are relatively more substitutable. The second refers to a positive relationship that can emerge, again, as a consequence of the offshoring of more labour-intensive (and low-skill intensive) parts of production. In this case, a change in the skill composition that favours high-skilled workers is likely to positively affect the dynamics of average wage – i.e. the so-called skill composition channel (Fosse and Maitra, 2012). Finally, offshoring can work as an organizational innovation – that is, the inflow of foreign intermediate inputs incorporating new technologies may encourage the adoption of more efficient work practices – pushing upward the wages of workers adequately endowed to benefit from such innovations (most likely medium and high skilled workers). Overall, offshoring can exert both a negative

[3] The available empirical evidence on the relationship between technological change, trade and inequalities is mixed. Some contributions show consistency of the prevailing theoretical hypothesis with data, such as Slaughter (2000), Geishecker and Görg (2008), Mion and Zhu (2013). Some articles suggest large employment losses among low-skilled workers (Amiti and Wei, 2004; Munch, 2010; Sheng and Yang, 2012); others claim that the effect on wages is negligible (Antràs et al. 2006). Finally, some papers identify a positive effect on high skill wages (Falk and Koebel, 2002: Burstein and Vogel, 2012).

2. DATA AND METHODOLOGY

The data used in this work are drawn from the Sectoral Innovation Database (SID) developed at the University of Urbino (Pianta et al., 2011). The SID combines different data sources using the sector as the unit of analysis - two-digit NACE classification for 20 manufacturing and 17 service sectors. For innovation variables, such as R&D expenditure, average firm size and expenditure on new machinery and equipment, data stem from four European Community Innovation Surveys—CIS 2 (1994-1996), CIS 3 (1998-2000), CIS 4 (2002-2004) and CIS 6 (2008-2010)—and subsequently matched to industry-level data from the WIOD Nace Rev. 1 database.[4]

For production and demand variables - that is, wages, profits and demand - we use data from the World Input Output Database (WIOD). All data have been converted into euros and constant prices. The country coverage of the database includes five major European countries (Germany, France, Italy, Spain, and United Kingdom) covering 71% of the entire EU's GDP. The selection of countries and sectors has been made to avoid limitations in data access (low number of firms in a given sector for a given country or because of the policies on data released by various National Statistical Institutes).

In the following we provide a descriptive picture of the main relationships investigated here. In **Figure 1**, we report two panels: on the left hand side, the dynamics

[4] In order to establish the requisite condition for comparability, innovation variables taken from CIS6 have been converted into Nace Rev.1 using the conversion matrix found in Perani and Cirillo (2015).

of wages by industries' R&D and offshoring intensity. On the right hand side, instead, the change in profits is analyzed, distinguishing industries according to their export intensity.[5]

As expected, **Figure 1** (LHS) shows a positive and statistically significant association between R&D and wage growth, and a negative (and statistically significant) one between the latter and offshoring intensity[6]. Moreover, a strong association between profits and export growth emerges.

The relation between wage dynamics and offshoring is displayed, in greater detail, in **Figure 2**. We compare the average wage growth - for above and below the median offshoring level - of low, medium and high skilled workers. High, medium and low skilled workers are defined according to educational attainment (ISCED categories). The evidence shown in **Figure 2** depicts the *negative* impact of offshoring on low skilled wages.

As can be seen from **Figure 2**, a more complicated picture emerges when workers are distinguished according to their skills. High skilled wages, in fact, display a positive correlation with offshoring intensity. Contrarily, offshoring is negatively associated with the change in low skilled wages, suggesting the presence of different channels at work, as we discussed in the Introduction. In the paper, we move beyond simple statistical analysis and we consider a number of frontier results in the econometric literature

[5] The average annual rate of change of wages is analyzed, separating those sectors with an above the median R&D intensity from those with a below the median intensity, and the same for offshoring. To define offshoring we use a standard indicator: the share of only imported intermediates in a given industry from the same industry (corresponding to diagonal terms of the import-use matrix).

[6] The significance is tested using the Wilcoxon rank sum test. The latter assumes as null hypothesis the equality of distribution of the variables under comparison (i.e. wage growth in high and low offshoring or high and low R&D sectors. Results and further details are in Bogliacino et al. (2016).

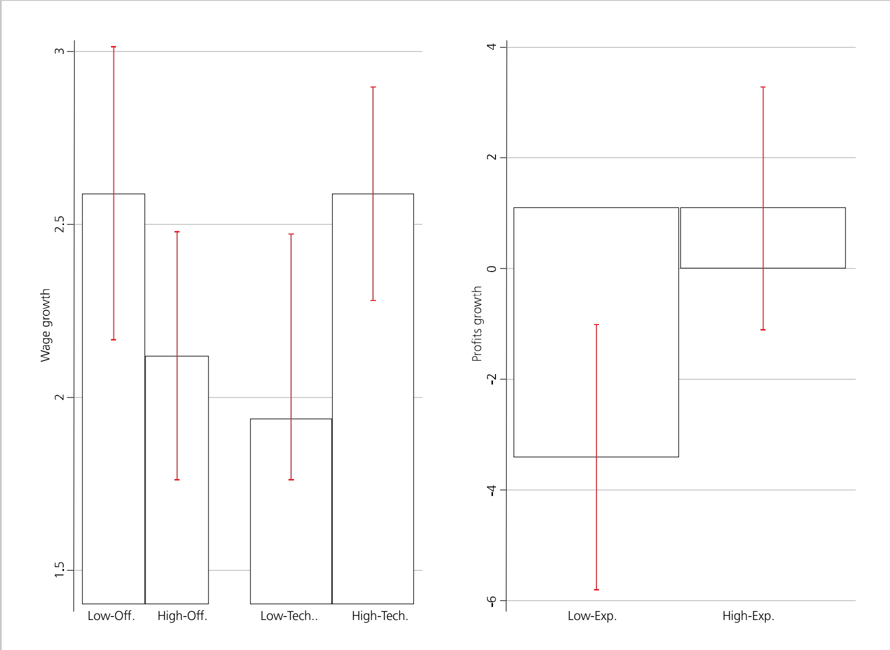
to identify the impact of technology and offshoring on wage growth and to quantify the role of demand in the growth of profits.[7] The next Section provides a synthetic description of the adopted methodology and a summary of the results.

3. ECONOMETRIC STRATEGY AND RESULTS

We estimate a two-step structural model where wages are obtained first, using as explanatories innovation, offshoring and variables capturing industry-specific economic and demand dynamics.[8] Afterwards, we estimate profits including wages stemming from the previous step – incorporating the effect exerted by technological and offshoring factors - beside demand components (domestic and exports) and internal investments.
Our empirical strategy relies on standard instrumental variables and the recently proposed heteroskedasticity-based instrumental variables approach (Lewbel, 2012). Identification is achieved with the use of regressors not correlated with the product of heteroskedastic errors. With this approach, atheoretical instruments can be generated, and proper statistical tests can be provided for both the heteroskedasticity requirement and the over-identifying restrictions.

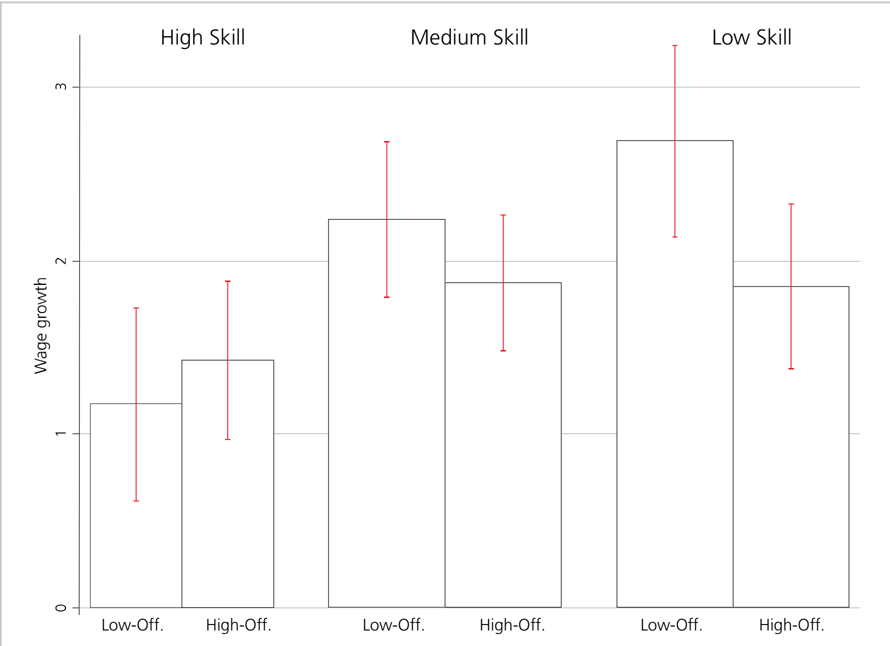
Table 1 reports a summary of the results of the structural model estimation. The latter are collapsed reporting key relations and main findings. The signs in brackets correspond to the direction of the relationships among variables as they emerged in the econometric model. The asterisks signal the significance of such relations.

Figure 1. Mean annual rate of change of wages by intensity of offshoring and R&D (1996-2000; 2000-2003; 2003-2007; 2007-2010)



Source: Sectoral Innovation Database (Pianta et al., 2011).

Figure 2. Mean annual rate of change of wages by intensity of offshoring and skill group (1996-2000; 2000-2003; 2003-2007; 2007-2010)



Source: Sectoral Innovation Database (Pianta et al., 2011). Low-Off. and High-Off. for high and low level of sectoral offshoring.

[7] For a detailed methodological description, the reader is invited to check section 3 of the original paper (Bogliacino et al., 2016).

[8] We estimate the structural model using a Three Stage Least Squares (3SLS). This technique allows estimation of a simultaneous system of equations, addressing at the same time all the endogeneity issues. A number of econometric tests carried out adopting the state-of-the-art techniques to account for allmethodological issues are reported in Bogliacino et al. (2016).

As shown by **Table 1** we can put forth some key evidence: (1) there is a contrasting impact of offshoring—pushing wages downward—and innovation—pushing wages upward; (2) the presence of a non-linear effect in the R&D-wages relation; (3) social conflict matters, as captured by the negative effect of wage growth on profits; (4) the fundamental role of demand, particularly exports, as a driver of profits.

The most noteworthy element is that, to the best of our knowledge, the analysis undertaken here is the first attempt to measure the simultaneous impact of innovation and offshoring on wages by skill, while still accounting for the wage-profits bargaining conflict.

The most important findings are:
a) consistent with the rent-sharing hypothesis formulated above, innovation spurs high- and medium-skilled wages, yet it is not correlated with low-skilled ones; b) high-skilled wages are found in relatively higher "offshoring intensive" industries, for they seem to benefit from the improved efficiency likely to be associated with production offshoring, while low-skilled wages tend to decrease in the same sectors, which points to the prevalence of a "threat effect" that hinders low-skilled workers' bargaining power (though this does not speak to the situation of medium-skill wages—see SBTC literature for more information); c) the interaction between R&D efforts and offshoring, which is not significant in all other specifications, has a negative and significant impact on low-skilled wages, thus confirming the downward pressure exerted by offshoring on these wages; d) the wages-profits relationship undergoes far-reaching changes when skills are taken into account, in the sense that once these differences are accounted for, the heterogeneity in bargaining power softens the clear cut *class clash* between capital and labour *tout court*.

4. CONCLUSIONS AND POLICY IMPLICATIONS

In this paper, we use a novel dataset at industry level, and we exploit some frontier econometric results to investigate structural determinants of distribution between wages and profits. Social conflicts, innovation, offshoring and demand emerge as key determinants of the theoretical relationship underpinning distribution.

According to the causal claims discussed above, a more strictly regulated labour market is meant to be beneficial to the economy. In particular, the need emerges for stronger protection of workers from dismissal, and to encourage firms' investment in human capital, diffusion of innovation and technological competitiveness strategies. This would result in a fairer distribution of innovation-related rents,

Table 1. Summary of the results – structural model estimations

Equations	R&D intensity	Offshoring	Interaction (R&D * offshoring)	Domestic demand	Exports	Wages per worked hour (%)	Wages (%) – High skilled	Wages (%) – Med skilled	Wages (%) – Low skilled
(1) Wages per worked hour (%)	(+)***	(-)*	(-)						
(2) Wages (%) – High skilled	(+)***	(-)*	(-)						
(3) Wages (%)– Medium skilled	(+)***	(-)*	(-)						
(4) Wages (%)– Low skilled	(+)***	(-)*	(-)						
(5) Profits (%)				(+)*	(+)***	(-)***	(+)***	(+)	(-)*

Note: full results are in Bogliacino et al. (2016). Row (1) refers to the 3SLS estimation of wages per worked hours and total profits; Rows 2-5 refer to the 3SLS estimation of wages per worked hour - distinguished in High, Medium and Low skilled - and total profits; the negative and significant impact of wages per worked hours on profits (Row 5) refers to the 3SLS estimation of wages not distinguished by skills and total profits. Asterisks report significance levels: *** p< 0.01, ** p<0.05; * p<0.1.

which can help in reducing inequalities. Moreover, the strengthening of trade unions can mitigate the pressures for offshoring of production and avoid negative effects on employment, wages and demand. Finally, a public intervention aimed at ensuring a sustained dynamic of demand turns out to be fundamental to stimulate profits expectations and, as a consequence, new investments.

Summing up, there is increasing theoretical and empirical evidence in favour of the hypothesis that centralized bargaining mechanisms and strong unions can be good for innovation and growth.
A complementary policy instrument could be related to the use of industrial policies. They can display their positive effects through two channels: i) a more equal income distribution - and higher wages - sustain domestic demand; ii) a cooperative environment within firms that encourages on-the-job skills upgrading, workers' cooperation, and the adoption of new technologies and innovations. The empirical studies stress how this positive association is particularly evident in Europe. In this light, labour market policies supporting less adversarial social relations and strengthening unions' bargaining positions may represent a key element within an overall policy for long-term sustainable growth ■

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SUSTAINABILITY-ORIENTED EU TAXES:

A EUROPEAN CARBON-BASED FLIGHT TICKET TAX[1]

by Alexander Krenek and Margit Schratzenstaller

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MOTIVATION

The aviation sector is a small but rapidly growing emitter of carbon emissions worldwide. Within the EU it contributes to about 3% of total greenhouse gas emissions. Recent forecasts predict a considerable expansion of EU related air traffic: CO2 emissions as well as the number of flights are expected to grow by 45% each between 2014 and 2035 (European Commission 2016). For years the UN body in charge of overseeing the aviation sector failed to produce a market-based mechanism which would internalise the cost of emitting CO2. Frustrated with this lack of progress, the EU eventually decided to include the aviation sector into the EU Emissions Trading System (ETS) (Keen, Parry and Strand 2013).

[1] The article is a shortened version of Krenek and Schratzenstaller (2016).

The ETS, however, which currently is clearly underperforming, will not be able to price CO_2 emissions from aviation adequately in the near and medium-term future. Given this background and the imperative to reduce CO_2 emissions drastically, it is remarkable that the existing under-taxation of the aviation sector has long been neglected in the public finance literature.

RATIONALE AND OPTIONS FOR TAXING THE AVIATION SECTOR

Aviation taxes are potentially powerful instruments to internalise the external costs of aviation and are thus capable of reducing demand effectively (Keen and Strand 2006). However, attempts to introduce aviation taxes can be expected to encounter a collective action problem leading to under-taxation (Jones, Keen and Strand 2012). First, unilateral determination of tax rates will result in inefficiently low tax rates due to the existence of cross-border externalities (as the bulk of emissions from aviation are caused by international activities, i.e. international flights). Moreover, unilateral action would reduce pressure on other countries to implement own policy measures as they can act as free-riders (Auerswald, Konrad and Thum 2011). Thus countries are stuck in a prisoner's dilemma. Every country would be better off with aviation taxes leading to a socially optimal level of air traffic. However, an individual country has incentives to defect and to lower or to not introduce aviation taxes in the first place to thus increase its market share in overall air services. Secondly, the mobility of tax subjects (passengers) and tax bases (fuel), respectively, bears the danger of harmful downward tax competition with the consequence of lowering the tax rate (further) below the optimal level.

These considerations speak in favour of introducing aviation taxes within an internationally coordinated move. The assignment of aviation taxes to the supranational level (e.g. to the EU) which then keeps the revenues collected to finance its own expenditures (e.g. the EU budget) seems the most appropriate option - given the cross-border nature of the negative externalities caused by air traffic, the revenues from their taxation are hardly attributable to a specific country.

There are various options to tax the aviation sector. Carbon-based taxes (i.e. taxes which are based on the social cost of CO_2 emitted per flight per passenger) as opposed to conventional tax designs have to be regarded as superior in terms of environmental effectiveness. Poorly designed conventional aviation taxes could, as demonstrated in Tol (2007), even have the perverse effect of increasing CO_2 emissions.

In principle a carbon-based fuel tax is the environmentally most effective among the various potential designs of taxes on air traffic: it may reduce the amount of fuel used and shift the fuel mix towards the use of less carbon-intensive fuels, and it induces airlines to choose more efficient engines (Keen and Strand 2006). It will also dampen demand for and supply of flights and maximise aircraft load.

A carbon-based flight ticket tax will not induce carriers to maximise aircraft load, to use less carbon-intensive fuel or to reduce fuel use. In contrast to a fuel tax, however, it does not offer carriers the possibility to disproportionally shift the tax burden to price-inelastic passenger segments. Moreover, given the current legal situation, a flight ticket tax has a much better chance of implementation compared to a tax on aviation fuel used in international air traffic which is outlawed by the Chicago Convention of 1944. A flight ticket tax if introduced at EU level would also face very limited tax avoidance issues in the form of passengers migrating to non-EU airports, whereas a fuel tax, even introduced at EU level, would still face the issues of fuel bunkering by carriers and planes tanking in non-EU countries. Altogether, this makes a flight ticket tax an attractive alternative to a fuel tax.

UNDER-TAXATION OF THE EUROPEAN AVIATION SECTOR

In the EU the aviation sector is structurally under-taxed, as is global aviation in general (Keen, Parry and Strand 2013). In addition to the failure of internalising the social cost of emitting CO_2 and other greenhouse gases, the aviation sector is indirectly subsidised via far-reaching VAT exemptions. According to the 6th EU VAT Directive, a zero value added tax (VAT) rate has to be applied to international flights; this applies to airlines' inputs (acquisition of aircrafts, fuel) as well as to their outputs (air tickets sold). In contrast to just exempting international flights from VAT, zero rating implies that airlines can deduct VAT paid for inputs, which could not be reclaimed under a tax exemption regime. Moreover, according to the Chicago Convention, the fuel used for international flights is exempted from the mineral oil tax worldwide. In the EU, the EU Energy Tax Directive of 2003 obliges Member States to exempt kerosene used for international flights from energy taxation. While there exists the option to levy a kerosene tax on international flights based on bilateral treaties, it is not made use of by any EU country.

Several European countries, however, have or had adopted some kind of conventionally designed (i.e non-carbon-based) ticket tax on international flights during the last few decades. Norway was a frontrunner when it introduced its tax on charter traffic as early as 1978 as one element of its pioneering efforts to "green" its tax system. Also the United Kingdom is an early adopter, levying its Air Passenger Duty since 1994. Several EU countries – France, Malta, Denmark, The Netherlands, and Ireland – followed between 1999 and 2009. Germany and Austria introduced their flight ticket taxes as late as 2011.

The group of European countries which eventually gave up their flight ticket taxes is almost as large as the group of countries still having them. While the Norwegian tax, which was abolished in

2002, had survived for almost a quarter of a century, the Maltese one was eliminated after only 7 years. Denmark and The Netherlands terminated their air ticket taxes almost immediately after introduction. Most recently Ireland gave up the Air Travel Tax which had been implemented in 2009, after having reduced it already in 2011. In Sweden (2006) and Belgium (2008) governments started initiatives to introduce air ticket taxes, but gave up their plans following fierce resistance by the airline and the tourism industry as well as other stakeholders, e.g. trade unions. In Iceland government plans announced in 2011 for a rather moderate tax on air passengers were rejected; as well as in Portugal in 2014.

Altogether, the (rather limited) experiences of European countries with the flight ticket tax appear to corroborate the theoretical prediction that due to tax competition aviation taxes cannot be implemented effectively on the national level. However, it should be pointed out that, while there is abundant theoretical and empirical work on the mechanisms and the potential outcome of international competition in the realm of direct taxation, and in particular with regard to the taxation of corporations, empirical analyses of international environmental tax competition, in general, and of competition based on aviation taxes, in particular, are practically non-existent. This might have to do with the fact that due to intense international competition and the obvious trade-off between economic and environmental aspects involved, aviation taxes could never gain ground in the first place so that there is little scope for downward competition. So rather than the race-to-the-bottom type of tax competition observed in the EU with regard to the taxation of corporations – which requires a significant initial level of taxation in the first place – **the current status quo regarding flight ticket taxes may be better characterised as "stuck at the bottom**" (Weibust 2009: 30).

A CARBON-BASED FLIGHT TICKET AS SUSTAINABILITY-ORIENTED EU TAX

In the EU aviation taxes have been suggested repeatedly by the European Commission in the discussion about taxes levied at the EU level as an option to reform the EU system of own resources financing the EU budget. This debate provides the background for our proposal for a carbon-based European flight ticket tax. There are many very well-known shortcomings of the current EU system of own resources, but one central flaw remains underexposed in the relevant literature: current revenue sources of the EU do not support central EU policies in general, and in particular they are in no way connected either to the Europe 2020 strategy aiming at making the EU a "smart, sustainable and inclusive economy" nor to the EU Sustainability Strategy (Schratzenstaller et al. 2016). EU taxes substituting at least part of current own resources may, if designed accordingly, enforce sustainability-orientation[2] of the current EU system of own resources and act as an effective instrument to close the existing sustainability gaps in tax regimes[3] within the EU. These sustainability gaps, which are elaborated in detail in Schratzenstaller et al. (2016), include the high and increasing weight of taxes on labour, the decreasing progressivity of tax systems and the diminishing importance of Pigovian taxes aiming at the internalisation of external costs, the intensifying company tax competition and problems of tax compliance and tax fraud especially with regard to mobile tax bases.

Replacing a part of the EU's current own resources by the revenues from a flight ticket tax may improve not only environmental sustainability but also the economic dimension of sustainability: it would allow Member States to decrease their contributions to the EU budget paid

[2] For the concept of sustainability and its dimensions see the literature reviews by Nerudová et al. (2016) and Dimitrova et al. (2013).

[3] For fundamental deliberations on and key features of sustainability-oriented taxation see Schratzenstaller (2016).

out of national budgets, so that they can cut other taxes harming employment and growth, in particular taxes on labour. Assigning a flight ticket tax to the EU as an own revenue source appears justified also due to the cross-border nature of CO_2 emissions from international flights.

REVENUE POTENTIAL AND EFFECTS OF A CARBON-BASED FLIGHT TICKET TAX ON THE AVIATION SECTOR

The first problem to be solved when introducing a Pigovian tax is to identify the marginal social cost associated with the taxed activity, as a prerequisite to be able to fix a tax rate which can bring about the social optimum (Pigou 1954). Since the beginning of the 1990s, a large body of empirical estimations of the social cost of carbon has emerged. Considering recent studies on the social cost of carbon we can conclude that a price accepted by a majority of researchers concerned with the topic may be within the range of 25 € to 35 €. We apply three alternative carbon prices for our estimations: 25 € (low-tax scenario), 30 € (medium-tax scenario) and 35 € (high-tax scenario) per tonne of CO_2 emissions. However, it may plausibly be assumed that the carbon prices we use for our estimations are under-estimated, as they are based on rather high discount rates and do not adequately reflect risk aversion to extreme climate change (Nordhaus 2011, van den Bergh and Botzen 2014). Moreover, the social costs incurred by other greenhouse gas emissions caused by air transport, which also reach considerable levels, are neglected in our proposal. Therefore, the tax rates we suggest are probably too low to bring about a social optimum.

If taxing the aviation sector is to increase environmental sustainability it is vital that the tax instruments applied are carbon-based. This is why we propose a ticket tax individually calculated for every flight ticket according to the carbon footprint per person for a given flight and a tax rate reflecting the associated social cost. In order to capture the whole EU-related air passenger traffic every departure from an airport situated within the borders of the EU, but only arrivals from non-EU countries should be subjected to the tax.

The calculation method we apply to obtain potential revenues from a carbon-based flight ticket tax in the EU is straightforward. In a first step we created a new data set, which is based on Eurostat air passenger and route data for 2014, assigning to every EU related route its distinct carbon footprint by using the ICAO methodology, which takes into account distance, type of aircraft and load factors.

In a second step the impact of the suggested tax rates on 2014 flight prices is identified. In a third step we apply the pan-national demand elasticities for three different categories of flight routes provided by IATA (2007) to simulate the decrease in demand resulting from a tax-induced price increase. Based on these data, total tax revenues per route are estimated and added up in order to obtain the total EU revenue potential. Depending on the tax rate (25, 30 or 35 € per tonne CO2), potential total EU revenues would amount to € 3.9 billion, € 4.6 billion, and € 5.4 billion.

Our results also indicate that if a tax rate of 35 €/tonne CO_2 had been implemented for the year 2014 on top of all existing fees and taxes, passenger numbers compared to the year 2013 would not have risen by 4% but would have remained constant.

Most certainly this snapshot only allows limited conclusions about the long-term impact of a flight ticket tax in the suggested design. However, with all due caution two tentative conclusions come to light: First, the suggested tax design will be able to significantly dampen the massive annual EU related air passenger growth, but in order to decrease CO_2 emissions in the long run and to create a level playing field for all means of transport within the EU it will be essential to also subject air travel to VAT. Secondly, our results imply that the tax rates applied in our estimations of potential revenues from a carbon-based flight ticket tax would *ceteris paribus* guarantee stable revenues for the EU budget.

CONCLUSIONS AND OUTLOOK

Due to the cross-border nature of externalities caused by international aviation, it appears most appropriate to use revenues from taxing these externalities to finance parts of the EU budget. This is especially convincing as only through a common and internationally coordinated approach will a social optimum of air traffic be possible in the future. A carbon-based flight

ticket tax, which takes into account the individual carbon footprint per passenger per route, is the most efficient and (with regard to its chances of implementation) realistic market-based mechanism to internalise the social cost of emitting CO_2 into the atmosphere: particularly considering that the EU ETS has not and will not deliver in the near or medium-term future.

The issue of taxing the European aviation sector effectively can also be discussed in the context of improving the system of own resources of the EU. Most of the problems related to the system of own resources are well known, but one major deficit is hardly discussed: through its form and structure the system of own resources does not contribute to key EU aims and strategies such as "moving towards a smart, inclusive and sustainable economy".

Implementing the proposed tax design and using the estimated € 5 billion to reduce GNI contributions of Member States so that they are able to reduce taxes on labour would contribute to closing two sustainability gaps in EU taxation: namely a declining weight of Pigovian taxes and a heavy tax burden on labour. Overall, regardless of its limited revenue potential, an EU carbon-based flight ticket tax may be considered a prime example of a sustainability-oriented innovation in European tax regimes ■

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13:45-14:05 **AWARD OF THE WINNERS OF THE CALL FOR PAPERS 2016** presented by **Peter Bofinger**

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15:15-16:00 **THE ENTREPRENEURIAL STATE: SOCIALIZING RISKS AND REWARDS - KEYNOTE AND Q&A** with **Mariana Mazzucato**, Member of the Progressive Economy Scientific Board and holder of the RM Phillips chair in the Economics of Innovation at the Science Policy Research Unit in the University of Sussex

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