

The Global Outlook
Short Term Pressures
vs *Structural Transformations and Reform*

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Introduction

Ettore Francesco Sequi

Leonardo da Vinci's wheel is the image chosen to represent the *Colloquia*. Leonardo quite effectively described the role of science – also in connection with diplomacy – when he wrote that “those who want to practice without science can be compared to helmsmen that navigate without a compass or helm: they are never sure where they are heading”.¹

The wheel is one of the most iconic drawings by Leonardo da Vinci, along with the Vitruvian man. This is also relevant with regard to the interaction between science and diplomacy, as it reminds us of the central place occupied by the human being in governing scientific progress, as well as the harmonic connection between man and nature.

According to a definition by the UK Royal Society, science diplomacy, as a concept, spans from informing foreign policy objectives with scientific advice (science in diplomacy), to facilitating international science cooperation (diplomacy for science), to using science cooperation to improve international relations between countries, regions or organizations (science for diplomacy).

The most defining challenges in the 21st century have a scientific dimension. And they require global solutions.

Nowadays, we are struggling to cope with the consequences of a double shock. Our economies and societies were already hit by the pandemic, when they had to face the most serious political, military and humanitarian crisis in Europe since World War II. The unprovoked and unjustifiable war of aggression by Russia against Ukraine has changed the geopolitical, strategic and security framework. This double crisis is shedding a light on the vulnerabilities of our globalized economies, against the backdrop of

¹ Leonardo da Vinci, *Libro di pittura*, circa 1540 (Leonardo's manuscript on painting, Vat. Urb. lat. 1270): “Quelli che s'innamorano della pratica senza la scienza, sono come i nocchieri che entrano in naviglio senza timone o bussola, che mai hanno certezza dove si vadano”.

pre-existing mega trends such as climate change, the green and digital transition, and mass migration.

In the West, we have put in place a firm, cohesive and effective response to the war, in close coordination with allies and partners. The Organisation for Economic Co-operation and Development (OECD) itself has promptly condemned in the strongest possible terms the Russian aggression, displayed full solidarity to the Ukrainian government and people, and expressed readiness to support the recovery and reconstruction of the country, when conditions will allow. Therefore, let me take this opportunity to express to Secretary-General Mathias Cormann our full support of the OECD stance towards Ukraine.

We need to look ahead and learn from the present crisis, laying the foundations for building more resilient, inclusive and sustainable economies and societies. Those conditions would also be conducive to peace. In order to do that, we need science and diplomacy to work hand in hand and find solutions to global challenges.

That is precisely the lesson we can learn from the OECD experience.

The Organisation was conceived to help re-build Europe through the Marshall Plan after World War II. Sixty years later, Ministers reaffirmed the very same shared values, promoting and prompting advances in science and technology as the most important drivers of productivity, growth, and improvement in living standards. And these advances must be shaped responsibly through effective governance, by developing standards for new and emerging technologies, in line with common values.

Today, global openness and interdependence – which many believed to be the best way to facilitate the diffusion of technology and to lift people out of poverty – are increasingly challenged. We have energy, food and health insecurity. We can see now risks connected to strategic dependence.

It is fundamental to find new instruments to foster economic resilience against shocks, prevent disruptions and ensure security of supply while keeping markets open. This requires science and diplomacy to work together. In this regard, the OECD does have a say, also in preventing beggar-thy-neighbor policies or protectionism.

The OECD can provide a platform, such as the Global Science Forum, for international collaboration in science to address inter-related societal, environmental and economic challenges. It can help identify the game changers of tomorrow and pool resources to unleash innovation in key areas. We also need more

mechanisms and spaces for dialogue between governments and the private sector, academia and the civil society, notably at the international level. This would definitely encourage investments and breakthrough advances.

Analysis of the economic and social consequences of progress in areas such as artificial intelligence, space economy, green and digital transition, trends in Research and Development (R&D) investment and science competence levels is essential. We appreciate the OECD's activity in this respect. We also commend its role in providing countries, through its peer-to-peer reviews, with a toolbox to foster a sound environment for innovation, to invest in the foundations – such as research, education and knowledge infrastructure – and address critical barriers to innovation.

In 2021, during its presidency of the G20, Italy promoted, together with the OECD, the historical agreement on the reform of the international tax system, to make this system fit for challenges arising from the digitalization of the economy. This is a good example of effective multilateral diplomacy supported by evidence-based analysis.

Italy and the OECD successfully worked together to advance the international agenda on the green and digital transition, as well as on gender equality, including by closing the gender gap in STEM.²

We also launched the Inclusive Framework on Carbon Mitigation Approaches. It fosters evidence-based dialogue so as to enhance cross-border cooperation on carbon-mitigation policies, support the transition to net zero, and avoid carbon leakage.

Climate change is perhaps the most prominent and promising issue, where science and diplomacy together make the difference. The Paris Agreement marked a turning point in the global fight against climate change, with negotiations heavily relying on science. The Italian G20 presidency worked towards the objective of keeping the goals stated in the Paris Agreement within reach. This endeavor continued with the COP26 summit, in Italy's role as partner of the UK Presidency, as well as during the recent COP27.

Italian foreign policy relies on science not only in its multilateral action, but also to strengthen bilateral relations.

The Ministry of Foreign Affairs, in close cooperation with the Ministry of University and Research and others, upholds the internationalization of the Italian scientific and technological research

² Science, Technology, Engineering and Mathematics.

and innovation system, through executive protocols and joint research projects.

Our diplomacy counts on a network of 49 scientific and space attachés appointed to the Italian Embassies and Consulates around the world.

They promote Italian excellence in scientific and technological research and support the internationalization of Italian agencies and companies, especially those operating in high-tech sectors, such as in the space domain.

Diplomacy supports the development of new technologies aimed also at the innovation of production processes, with positive spillover into trade, economy, and the environment. The Ministry contributes to attracting investments in innovative enterprises, startups and research facilities. We also promote the encounter among innovators from all over the world.

Science influences the processes and ways of doing diplomacy. Digitalization, for instance, is having a remarkable impact on international relations and on the geopolitical positioning of many states, to the extent that new branches of diplomacy, such as cyber and digital diplomacy, quantitative analysis and strategic foresight have emerged.

The digital transformation implies a paradigm shift, which needs to be mastered and properly managed.

Looking ahead, automation and artificial intelligence will replace some jobs and transform many others, but diplomacy will certainly continue to rely mostly on the human factor.

In 2024, Italy will preside over the G7 summit. Science diplomacy will certainly play a major role. We know we can rely on the OECD to support our priorities in this endeavour. We attach the utmost importance to promoting a resilient and strong recovery, to pursuing the OECD enlargement process and global outreach, to strengthening the relationship with Africa, and to leveraging the OECD Centres hosted by Italy in Trento, Caserta and Ostia.

To return to the wheel drawn by Leonardo da Vinci, it was meant to refer to perpetual motion, even though the great genius thought that such a phenomenon could not exist in nature. Against the current global scenario, we need to make sure that the wheel of diplomacy keeps moving, that channels for dialogue and communication remain open. We will spare no efforts in this purpose.

Lectio Magistralis

Mathias Cormann

From Galileo Galilei, to Giorgio Parisi – one of last year’s Laureates of the Nobel Prize in Physics – the Accademia’s members have through their research made truly exceptional contributions to our understanding of the world:

- Research to help understand the scientific dimensions of phenomena like climate change and pandemics;
- Research to shed light on our changing societies;
- Research to uncover new technologies to help tackle some of our shared challenges;
- Research that questions assumptions and conventional wisdom, to help expand the very frontiers of human knowledge.

The research of members of distinguished institutions like the Accademia provide vital input to the OECD’s own efforts to provide comparative data, identify policy best practice based on evidence, and promote common standards for a better world. At the OECD, we share the drive to harness data, evidence and knowledge for a better world. Better knowledge and understanding leads to better decisions.

Governments, policymakers and societies need the contributions of knowledge-based institutions today more than ever, as we are navigating a profoundly challenging and disruptive period in our shared history.

After two years of dealing with the Covid-19 pandemic, and just as the green shoots of recovery were beginning to emerge, Russia’s war of aggression caused another shock, imposing a heavy price on the world.

The human costs and worsening impacts of this war are devastating, first and foremost, of course, on the people of Ukraine. But through its impact on the global economy, the lower growth, the higher inflation, the massive implications for energy and food security and affordability it is causing, this war is having a direct impact on countries all around the world. The disruptions to food and energy markets have exacerbated the supply-chain pressures building up from the Covid-19 pandemic. They have caused a

global and broad-based surge in inflation, to levels not seen in 30 or 40 years in many countries. We now expect inflation in the G20 and the Euro Area to hit more than 8% in 2022 and still be above 6% in 2023, which is more than triple the pre-war projection for 2023 of 1.8%. Households and firms across the globe are suffering as costs rise and purchasing power is taking a hit. This inflation, and ongoing Covid-related supply-chain disruptions in China, have caused widespread weakness in manufacturing and services activity. Consumer confidence is at the lowest it has been for a long time. All of this will continue to weigh heavily on global growth, which we expect to be just 2.2% in 2023. And it threatens to unleash a food crisis while undermining progress on economic development in low-income countries.

This worsening outlook and heightened tensions are a serious threat to our rules-based international order. And these successive crises are putting pressure on citizens' trust in government. Mis- and dis-information, and loopholes in political finance frameworks, are being exploited by foreign actors. The global, rules-based trading system, a key foundation and driver of economic prosperity and growth, is facing unprecedented challenges.

Our first priority must be to get global growth back on track. An end to the war and a just peace for Ukraine would be the most impactful way to boost the global growth outlook right now. It would not only be good, self-evidently, for the people of Ukraine, who could start in earnest with their rebuilding and recovery effort; it would also be good for the people of Russia, for the global economy, and indeed for national economies and people all around the world. Until this happens, we need well-designed, well-coordinated policy responses to help mitigate the impacts of this war. We need to keep up the fight against inflation through well calibrated monetary policy, supported by equally well calibrated fiscal policy. Fiscal support to households and firms to cushion the impact of inflation should be well targeted and temporary. The supply of energy must be diversified – as Italy is increasingly doing – and demand side measures will also remain crucial. To boost global food security, we do indeed need to boost production through sustainable productivity growth, but as importantly we need to keep markets open to ensure that supplies can get to where they are most needed. Aid will need to be increased, and the openness of global food markets must be maintained to keep food affordable in low-income countries. We must avoid export restrictions, because they make a challenging situation even worse. And international cooperation must also be stepped up to minimize the potential adverse consequences of debt distress in low-income countries.

As we pursue urgent action to boost global growth, we must not lose sight of our medium- and longer-term structural reform missions. The effects of climate change, the uneven impacts of digitalization, declining trust in public institutions, shifting demographics and the pressures of a rising cost of living continue to pose challenges to our drive for healthy societies and inclusive economies, and for the democratic promise of social mobility and equality of opportunity.

While deeply challenging, it is exactly at times like these that we must maintain and build momentum to address our long-term objectives, including through shared action:

- on mitigating and adapting to climate change, while building climate resilience;
- toward seizing all of the many benefits of the digital transformation while better managing the risks associated with it;
- toward ensuring a global trading system in good working order;
- toward addressing the aging of our populations.

First, climate change. The economic consequences of the pandemic and Russia's war in Ukraine have seen our energy supply and security, and our energy affordability goals, collide with our green energy transition and climate-change mitigation objectives. We want to do it all, and indeed we must do it all – cushion the cost burden on vulnerable households and firms, shore up energy security and remain on track for carbon neutrality by 2050. With well thought-out, coordinated and comprehensive policy approaches, we can ensure that our short-term responses to current pressures do not divert us from achieving our important, longer-term net zero mission.

We need to reinforce, not undermine, the sustainable transformation of our economies. The good news is that so far, 139 countries around the world have committed to net-zero carbon emissions by 2050, or in the subsequent years – a number that continues to grow. However, we must translate commitments and the ambition of individual countries into globally effective action and outcomes.

The response to climate change requires globally effective solutions. Without proper global coordination of effort, action to reduce emissions in one jurisdiction may simply result in a shift of activity, jobs and emissions to another part of the world, which doesn't help the planet. To better coordinate our efforts, we need better, more comparable data and information on policy pathways to net zero and their impacts. We need better dialogue between advanced, emerging and developing economies. In June 2022, at

our annual Ministerial Council Meeting, chaired by Italy, we launched the OECD's Inclusive Forum on Carbon Mitigation Approaches. The Forum recognizes that different parts of the world, with different starting positions, in different circumstances and with different opportunities will inevitably use different policy approaches and policy mixes to make their best possible contribution towards global efforts to reduce emissions. Its objective is to take stock of the diverse range of carbon mitigation approaches across the world; to provide a platform to jointly improve the assessment and common understanding of different carbon mitigation approaches, their impacts and their comparative effectiveness; to learn from each other based on a data-driven, technical and objective analytical process; and ultimately to work together to avoid counterproductive negative spill-overs across borders that may result from uncoordinated action – such as the risk of carbon leakage.

As we step up our carbon mitigation efforts, we must also take action to adapt to our changing climate. The World Meteorological Organization reported an almost eightfold increase in average daily economic losses from extreme weather events over the past 50 years. OECD analysis has found that the proportion of our populations and economic assets being exposed to extreme weather events continues to increase. This is highly relevant for Italy, which already suffers from frequent extreme weather events, including both floods and droughts. The impact will be particularly devastating for low-income countries, particularly those that depend on agriculture, forestry or fishing. The OECD is leading work to help countries build their resilience in the wake of our changing climate. Through our International Programme for Action on Climate, we are providing data to help governments plan and implement effective policies for climate action.

And we also need to finance the transition. Current levels of climate and development finance are falling well short. The annual shortfall of funding to reach the Sustainable Development Goals has increased since the pandemic to 3.9 trillion US dollars per year. Governments cannot close this gap on their own. Public finances are under increasing strain from current economic conditions. Private sector financing will be crucial for our ability to fund the massive transformation needed to reach net zero. This will require governments to:

- use development finance to attract private sector investment to developing countries;
- reduce legal and regulatory barriers to private investment in their own jurisdictions;

- develop harmonized metrics and interoperable standards, allowing investment projects to be assessed and readily compared. The OECD is supporting these efforts with recommendations and tools on public procurement, infrastructure governance and investment quality.

It is very important as well for us to focus on the role of jobs and skills in the green transition. At least in the short run, the increasingly urgent and necessary green transformation will involve winners and losers. In fact, both the green and digital transitions risk creating new divides. New firms will emerge, some will adapt, others will close. This will involve significant labour market churn. The International Energy Agency projects a global net gain of 9 million jobs in energy supply alone by the end of this decade, but that is in aggregate. While job losses associated with decarbonisation may be small overall, they will be disproportionately larger in several sectors and regions and may affect public support for the transition. The net-zero transition will progress more quickly and more effectively if our citizens can see that achieving our climate goals is well aligned with their economic well-being. And in an era of tight labour markets and, in advanced economies, ageing populations, we need all of our human capital to be deployed to its best potential. Training will be key, especially for low-skilled workers who, across the OECD, are over three times less likely to participate in training than high-skilled adults. Upskilling and reskilling, active labour market policies, social dialogue and tailored regional economic development policies will therefore also be important enablers of an inclusive green transition.

Second, digital transformation. The benefits for growth, connectivity and innovation from digitalization are massive. Digital technology brings governments and citizens closer together, opens new economic opportunities, improves access to education, healthcare and other services, promotes transparency, and offers platforms for discussion and for dissent. Internet connectivity is now a necessity and a development goal. And of course digital technologies proved vital to maintaining economic activity, schooling and social connections during the pandemic. It prompted a wave of new innovation and accelerated the adoption of digital tools that remain in use, and will no doubt remain in use moving forward. However, the overall gains for growth and productivity have not yet been fully realized due to enduring digital divides. There are divides in access – in 2021, more than a third of the world's population, approximately 2.9 billion people, had never used the internet; divides between rural and urban areas – people in OECD metropolitan regions have broadband download speeds

that are on average 45% faster than remote regions; divides among income levels, since affordability remains a major barrier to access in many countries, amplifying economic marginalization; divides across gender – with women representing only 18% of executive leaders in artificial intelligence start-ups globally, for example; and divides across businesses – with many businesses being left behind while a small number of leading firms benefit the most.

Bridging these gaps will require policy action across a number of areas. Governments should invest in high-quality broadband access to open up opportunities for individuals and businesses, including entrepreneurs in rural communities. Regulatory reforms and effective competition law enforcement will also be crucial to ensure digital markets remain open, dynamic and competitive. New rules to promote digital interoperability and to tackle misconduct by leading digital firms have an important role to play. The European Union is leading the charge in this area with its own approach: the Digital Markets Act and the Digital Services Act. The Italian competition authority has also been particularly active in investigating potential anticompetitive conduct by digital players. Yet again, we must also ensure that citizens have the necessary skills to benefit from the transition, and to participate in all of the opportunities offered by the digital transition. Recent OECD research finds that a digital skills gap is holding back smaller firms in Italy from leveraging the digital transition.³ Strengthening education, including enrolment in science, technology and engineering tertiary education, will be incredibly important. In Italy, 88% of people with tertiary qualifications in Information and Communication Technologies are employed, and yet this sector represents only 2% of new tertiary entrants.

The broad-reaching impacts of digitalization on our economy and societies mean that it can also be leveraged to tackle our common challenges. During the Covid-19 pandemic, digital technologies helped keep businesses and governments operating remotely. They also facilitated international mobility, allowing countries to implement testing and vaccine requirements as they reopened to foreign visitors.

There are also evolving risks and disruptions associated with digitalization that must be well managed: the need to effectively address issues related to cyber security, cyber-crimes, privacy,

³ OECD, *Closing the Italian digital gap. The role of skills, intangibles and policies*, March 15, 2022 (<https://www.oecd-ilibrary.org/docserver/e33c281e-en.pdf?expires=1675714657&id=id&accname=guest&checksum=BA7F288D-B4EA11D9DEB55C811B3994E3>).

competition policy, data free flow with trust, as well as the tax policy implications of the combined effects of digitalization and globalization. And while the digital transformation can help support the green transition, we must also recognize its large and growing carbon footprint. A single Bitcoin transaction in 2021 consumed the same level of carbon as a seat on a passenger flight from Amsterdam to New York. Digitalization also created significant challenges for taxation. In particular, it amplified the ability of large multinationals to take advantage of tax rules and earn significant income in market jurisdictions around the world without having to pay any, or only very little, corporate tax in those jurisdictions. The OECD helped broker a historic global agreement, which was formalized here in Rome at the G20 Leaders Summit in 2021, and which was joined by 137 countries and jurisdictions from around the world to help make the international tax system fairer and work better. It comprises two pillars: one to ensure a fairer distribution of multinational profits and taxing rights among countries, and a second pillar to ensure multinationals pay a minimum level of tax. Digital platforms are also being increasingly used as a vector for mis- and dis-information. During the Covid-19 pandemic, this phenomenon undermined government efforts to promote treatments and vaccination for their citizens. The challenge is to ensure that some of the checks and balances imposed in the physical world find appropriate application in the digital world.

Third, ensuring well-functioning markets, a global level playing field, and a rules-based global trading system in good working order. Open markets drive prosperity. They contribute to crisis response, as they did during the pandemic, when global supply chains rapidly scaled up production of protective equipment and vaccines. They will be necessary to avoid a food crisis, and respond to Russia's energy blackmail through diversification. And they will play a key role in the long-term sustainable transition of our economies. The massive effort to electrify our energy and transportation infrastructure will require copper, rare earths, and other materials, the supply of which is concentrated and therefore dependent on trade openness. Recent shocks have led governments to consider their supply chain vulnerabilities, and of course that is entirely appropriate. Efforts to reduce trade dependencies should be considered carefully, though, as they may introduce new vulnerabilities and risks. Policies that distort the level playing field, by favouring some firms over others, can sap productivity and undermine market dynamism. And fragmentation would be costly for all economies. The World Trade Organization (WTO)

has shown that a complete decoupling in the global economy would shrink Gross Domestic Product (GDP) by 5%. Instead, I would say that governments can enhance their resilience and diversify supply chains by leveraging competition and market openness. They can remove counterproductive trade and investment barriers. They can streamline regulations and eliminate regulatory barriers to competition. They can invest in digital and physical infrastructure to support trade. They can introduce investment-screening mechanisms to identify potential risks without undermining transparency, predictability or accountability in markets. And they can co-operate with like-minded countries to address the risks that economic dependence is used as a tool for coercion or blackmail. The OECD works with stakeholders to enhance supply chain resilience in a way that is aligned with WTO commitments, focusing on four keys: (i) anticipating risk, (ii) minimizing exposure, (iii) building trust, and (iv) keeping markets open. Strengthening supply-chain resilience can also support action on the other structural reform priorities I have mentioned. OECD guidance to policymakers and multinational enterprises on responsible business conduct is a good example. We help businesses better understand their supply chains and address adverse impacts from their operations on workers, human rights, the environment, bribery, consumers and corporate governance. By improving their knowledge of their supply chains, businesses can also identify key vulnerabilities that exist, and work with governments to address them.

Fourth, addressing population aging. The significant increase in life expectancy is one of the greatest achievements of the past half century, and overwhelmingly I'm sure we would all say is rather good news. When combined with low fertility rates, it has resulted in a rapid aging of populations across the OECD. In Italy, more than one-third of the population will be aged 65 and over by 2050. Population ageing is a drag on growth. All things being equal, it leads to lower workforce participation and consequently lower revenue for government. At the same time population ageing drives increases in public expenditure on pensions, health care and long-term aged care.

There are several tools available to governments to boost employment at older ages and to cushion the impacts of this trend. As we live longer we need to work longer. Later retirement should be rewarded and age-discriminatory policies and practices should be removed. Governments must improve the employability of workers throughout their working lives, including by addressing skill obsolescence among older adults. Strikingly, only 24% of

older adults participate in training compared to 47% of young adults in OECD countries. We really need to drive that cultural change towards lifelong learning.

Immigration is another potential tool. Between 2005 and 2015, immigration accounted for 91% of the labour force growth in the EU, 89% in Australia and 65% in the United States. In Italy, over the same period, the labour force would have declined without immigration. In recent years, large inflows of refugees from Afghanistan, Iraq, Syria and more recently Ukraine have contributed to population growth across Europe. However, international migration cannot offset the negative effects of population and labour force aging in the long term. Migrants eventually reach retirement age, too, and their effect on fertility rates is only temporary. So labour migration is best used as a tool for responding to specific labour demand in some sectors or occupations. And it will only be effective if new arrivals do not face structural barriers to full integration into society and the economy.

Boosting labour productivity – doing more with fewer workers – is another tool for grappling with the economic effects of an aging population. Governments need to address skills shortages by better strengthening access to vocational education and training, which reduces school drop-out rates and facilitates the school-to-work transition. Young people of all backgrounds and in all circumstances will need adequate access to education, work-based learning and career guidance to reach their full potential, and to help boost productivity. Beyond broad-based skills training policies, governments can make progress by closing the gap between the most productive firms and those with average levels of productivity. Our research suggests that workforce skills, managerial talent and diversity account for about one third of the productivity gap between these groups. In fact, more gender and culturally diverse firms are more productive. So integrating underrepresented groups such as immigrants and refugees into labour markets can pay not just social, but also economic dividends.

In closing, we face significant challenges from the short-term geopolitical and economic environment which require action, but we should not lose sight of our urgent structural reform agenda. Many elements of this reform agenda are mutually reinforcing. Digitalization can be harnessed to deploy effective climate solutions. Efforts to better understand the environmental impacts of our supply chains can uncover critical vulnerabilities. Digital adoption can help drive the productivity improvements needed to overcome our aging population-related challenges. There can also be tensions between these objectives, of course. However, the

policies needed to achieve them are all centered around open, dynamic markets, and ensuring that all citizens can benefit, and participate in, the ongoing societal transformations. And there is another common element: we cannot achieve these objectives on our own. No single country can achieve these objectives on its own. Our current challenges are an opportunity to strengthen co-operation rather than fragment it further. Multilateralism is critical to effectively respond to climate change, to address the taxation challenges from digitalization, to combat disinformation, and to protect the global level playing field. I know the Accademia is well aware of the value of multilateral co-operation, having hosted the Science20 meeting of national academies of science during Italy's recent G20 presidency.

As an institution founded in the aftermath of the World War II, the OECD is very much an embodiment of a previous generation's hopes for lasting peace and prosperity. Our broad global engagement, rooted in common values of democracy, rule of law, and open markets, helps provide the policy and analytical capability to tackle the shared challenges of the future. Pursuing new understandings and new solutions to these challenges is crucial, and so I thank you for the work you do at the Accademia.

Discussion *

Mathias Cormann, Julie Maxton,
Alberto Quadrio Curzio and Wolfango Plastino

Wolfango Plastino: *What should governments do to respond to the energy crisis?*

Mathias Cormann: That's obviously a very big question at the moment. I think it's appropriate that governments respond to the short-term pressure by seeking to cushion the impact in particular on low-income households, but also to try and cushion the short-term impact on the economy. From the point of view of the OECD, we believe that these measures should to the greatest extent possible be well-targeted, well-tailored, and temporary, and they should not detract from or undermine the incentives to consumers to lower their demand and to investors to help boost supply. To solve this challenge on an ongoing basis, it is obviously very important to use this crisis as the ground from which to accelerate the necessary green-energy transformation.

Ultimately, we need to boost supply in a sustainable and sustained fashion. Italy is very much engaged on that pathway of diversifying supply. We need to diversify supply with an eye on the continued mission, which is to reach carbon neutrality by mid-century.

Julie Maxton: I think the first thing to say is that there are slow-motion crises going on at the same time as the immediate energy crisis and other crises. These slow-motion crises I'm speaking of include climate change, in particular, and biodiversity loss. I think that governments can't take their eye off the ball, whilst they respond, as His Excellency says, to the immediate crisis, to helping households, which the British government has actually done. But more long term, we have to look for renewable

* The text below is the full transcript of the roundtable that followed the *Lectio Magistralis* by H.E. Mathias Cormann, Secretary-General of the Organisation for Economic Co-operation and Development.

electricity, which we are doing, and the Royal Society has done some work on that. But there are some areas of commerce in particular, and shipping, aircraft and heavy road vehicles, where electricity is not going to be the solution in the short term. We're looking at hydrogen, synthetic fuels, and ammonia in those areas.

Also, we need to look at energy storage and electricity storage in the longer term; since we're not going to get to the point where CO₂ emissions can be eliminated in the short term, we have to look at carbon capture and storage as well. And finally, I would say we need to look at nuclear power. The Royal Society has done a report on nuclear cogeneration, and that is an avenue which not all countries agree with, as we know, but it generates low-carbon electricity, which is also consistent and reliable.

Alberto Quadrio Curzio: I am an economist, and I would like to spend some words on the OECD. The OECD is really a fundamental institution to understand how the governance of economies evolve over time. It is politically neutral, but scientifically totally reliable. So this is one of the most interesting experiments in economic sciences and multilateralism after World War II.

Having said that, I think that the title of the *Lectio Magistralis* of H.E. Mathias Cormann, "The Global Outlook: Short Term Pressures vs Structural Transformations and Reform", is in a certain way very important to show that the difficulties which we are living through today disprove the thesis of the "end of history". We have to look to structural reform for producing green growth and much more equality from the North to the South in the world.

Having said that, I want to point out two aspects which have to do mainly with the European Union (EU). The EU is a very big political and institutional setting in the world democracies. 27 countries collaborate with three different levels of government: the Parliament, the Council and the Commission. This implies a certain tiring decision-making process, but a democratic one, which is very important indeed. What happened during the energy crisis? I think that the EU reacted along three types of policies: first, short-term measures to protect mainly consumers and also businesses; income support to the weakest part of society with different kinds of aid has been rapid and effective. Then, in the medium-term, the EU kept decarbonization as its final and most important objective, but in this short period it also stressed other kinds of energy sources to avoid a collapse of the EU itself in its economy, but also its society. Returning to oil and other kinds of energy, which are not clean enough, is considered a momentary kind of intervention. Finally, for the long-term, we have to keep in mind that the six-year

plan of NextGenerationEU and the Recovery and Resilience Facility put one of the biggest parts of investment into energy transition. Taking into account the EU's 2021-2027 long-term budget and NextGenerationEU, more or less four-hundred billion euro are devoted to these transitions to clean energies.

I think that Europe is doing pretty well, even if, as I said before, its decision-making process is rather complicated.

Wolfgang Plastino: The Green Transition is likely to produce winners and losers, at least in the short term. How should governments address these disparities?

Mathias Cormann: I think I addressed that in part in my remarks. It's inevitable; when you have structural transformation of this magnitude, structural transformation which is urgent and important, different parts of society will inevitably be impacted in different ways, and that is where public policy is very important: to correct any disproportionate adverse implications. I touched on the implications for the labour markets; you've got part of the economy working in carbon-intensive sectors, and generally speaking the age profile of that demographic is at the higher end, and some of the transitional measures will need to be very carefully targeted to help them transition from one reality to where we want to be, in a way that ultimately supports them through it. There are entire regions of the world that are more impacted by the necessary transitions than others, and we need to ensure that we have the level of structural transitional support that will help them get from the one reality to where we want to be. And so on and so forth.

Globally, too, different countries are in different positions, and some countries are better equipped to confront the challenges of the green energy transformation than others. When you look at the way some developing countries are impacted, and their comparatively much lower capacity to invest in the necessary measures to facilitate the best possible transition, developed countries obviously have an important responsibility to support developing economies in their transition. And developed economies have made a commitment to, for example, mobilize 100 billion US dollars a year in climate finance in support of that transition in developing economies. That was an objective which was meant to be reached in 2020; so far we are still falling short, and at this stage we will reach that objective in 2023. But there is still much more to be done even beyond that to ensure that the green transition can be effectively managed on a global level.

Ultimately, I think we need many more solutions-focused dialogues within countries and internationally, less politics perhaps and more of a pragmatic solutions focus, making sure that ultimately, nobody is left behind, and that the people that are most adversely affected by the necessary transitions receive appropriate levels of support to get them from one side to the other.

Julie Maxton: I think it's fair to say – and I think His Excellency has said it – that not all options are equal; many solutions are possible, and they won't play out fairly in all geographies. But I think there is a role for governments in investing in the science to move from where we are to where we are going to, and at the same time, I think there's a role for governments in bringing the public along with them, in understanding where we're going. The Royal Society put out a paper last year about moving to net zero, and it emphasized the science behind the move to the green transition. It also emphasized bringing the public along with the government, and thirdly also supporting low-income countries which will find it more difficult. There's a responsibility there, I think, in wealthy and wealthier nations.

Alberto Quadrio Curzio: I want to look now at the social problems, because one of the worries is that the split and the differences between poor, medium-income and high-income populations will increase dramatically. Also in Europe, where we have quite a lot of public aid given to the population, especially to the lower-income population, there is the danger of a kind of more dramatic splitting of societies. So we must be very careful to keep in mind that social cohesion remains fundamental for good development. Good development also means social cohesion.

With these points in mind, we have to consider the problem of employment, because employment is a fundamental way to guarantee also social cohesion. Europe is suffering because many of its industrial activities have another kind of difficulty: the automobile industry which is, especially in Germany, the core of the industrial system, is losing ground because there are shortages of fundamental components, which come from other countries – China, Taiwan, and Russia, too, with some kinds of raw materials. This causes another problem for Europe: how to make the industrial transition from, let us say, the old-style automobile industry, which is of course not electric, to a new kind of production. For the first time since the World War II, Germany, which has remained the strongest economy in Europe, is losing ground, especially because the big carmaker firms, and the automobile sector overall, is in a very, very dangerous crisis. So social and economic,

and especially industrial transitions are big problems for the EU. We need to consider social cohesion in this new revolution; this is not the Industrial Revolution, but the Technoscientific Revolution, which must always take into account the environment, and that's an important aspect for the future of Europe and the world.

Wolfgang Plastino: *How is it possible to protect government tax revenues and address exploitation by multinational enterprises of gaps between different countries' tax systems?*

Mathias Cormann: That's what we've been working on now at the OECD for well over a decade, initially through our approach to working against base erosion and profit shifting, but also through our approach to improving the international exchange of financial information, removing bank secrecy, and making sure that tax authorities around the world have appropriate access to the information they need in order to enforce their domestic tax laws, and ultimately through our international tax reform deal, which was finalized and agreed on in October 2021. This seeks to reallocate taxing rights in relation to the activities and profits generated by 100 of the most successful multinationals globally, to ensure they pay their fair share of tax in the markets in which they operate and generate their profits, and also by putting in place a global minimum tax. That really removes the incentive for companies to base themselves in so-called tax havens, because to the extent that they haven't paid at least a 15% tax somewhere around the world on their combined profits, countries that are legislating to implement our international tax reform bill will be able to collect the gap between zero and 15% which hasn't been paid elsewhere.

It's a very serious challenge; it's one that's made harder by the combined effects of digitalization and globalization, and it is one that can only be effectively addressed through global cooperation; that is what we at the OECD very much seek to facilitate. In the end, governments around the world need to raise revenue in order to provide the essential public services that their citizens expect. They should raise that revenue in a way that is least distorting of the economy, that is least detracting from economic growth, but also in a way that is not just efficient, but also deemed to be equitable and fair. The situation as it was evolving, where local businesses only operating in a local market were subject to domestic tax laws, but businesses operating internationally were not subject to the same level of tax burden, is an obvious inequity and unfairness that needed to be addressed, and that will still need to be addressed

more fully. This is very much one of those areas where we seek to add value in helping governments to protect their revenue base and to ensure that the international tax system is fair, avoiding non-taxation as well as double taxation.

Julie Maxton: Whilst the Royal Society has a vast range of expertise, tax policies is not one area that it's very big on. But I will say this: it's really important in this debate not to lose sight of the fact that the tax income needs to be invested, at least partially, in science, technology and innovation, because only if money is spent on science, technology and innovation, are we going to get growth, higher productivity, and new skills. The Royal Society has made this case in the UK very vigorously year on year, and in last week's budget, we had a commitment to hold to 20 billion over the next year. Our position – and many in this room know, and have helped us in this – is that we would like the closest possible association with Horizon Europe, and that is one area also where we contend that tax income should go to foster international collaboration. Science, as everybody here knows, is an international endeavor; it's not a nationalistic endeavor, and only with collaboration can we get better growth.

Alberto Quadrio Curzio: I think that the OECD and G20 economies, or G20 states, have done quite a lot of work to put together an action plan to address the gaps in the international tax system. The Multilateral Convention carries that measure; its objectives are implemented through a tax treaty to prevent base erosion and profit shifting from one country to another country. The OECD has done quite a lot, and I think that in the end it will succeed in finding a solution to the problem of tax evasion.

Having said that, I would like to point out also that many, many firms, both big and small, have a code of corporate social responsibilities, and also a code of green investment. I think it's important, too, in all these rules, to avoid tax erosion and also to provide certificates for corporate social responsibilities, and that green activities inside the firm are connected and have a very important role indeed.

Wolfgang Plastino: *What is the role of international organizations in contributing to the recovery and the reconstruction of Ukraine?*

Mathias Cormann: In relation to Ukraine, the topic of the day is also very relevant. There are the short-term pressures and then

there is the longer-term reform, rebuilding and reconstruction focus as an imperative. In the short term, self-evidently the first priority is to secure a just peace for Ukraine. Right now, there is a really important focus on Ukraine's immediate financial needs, on ensuring its macro-financial stability. And in the context of serious and intensifying attacks on energy infrastructure, there is a real short-term need to keep the lights on, to keep people in safe housing, and indeed with access to water and public services.

But we are of course thinking beyond. We are working with the government of Ukraine as an organization, and with partners in Europe and internationally, on how to best advance the rebuilding, reconstruction and reform efforts on the other side. It is very important that we start planning on this now, and there are a lot of organizations, a lot of countries, a lot of jurisdictions that are very motivated and that want to help. It's important for Ukraine and the democratically elected government of Ukraine to have full ownership of that process for countries and international organizations and institutions to coordinate very well with each other, for each to deploy what they're best at, their core capabilities. From the OECD's point of view, our core capability really is to provide policy-guidance based on evidence-based best practice, and also to support Ukraine as we have in the past, and as we have with Central-Eastern European countries in the post-Soviet era, to help with capacity and institutional capacity-building and the like.

Right now, there is a war going on. Clearly, a just peace as soon as possible, supporting macro-financial stability and access and reliability of basic services all the way through, thinking about how we can best organize the rebuilding and recovery effort on the other side, making sure there is an inclusive international platform to really channel and well-coordinate that support – all of this, I think, is going to be very important.

Julie Maxton: I agree. I think there's a huge role for international organizations to come together and do a kind of Marshall Plan as there was after the World War II for Ukraine, and clearly that needs to happen, as soon as there's a just peace, as His Excellency says. On a more local level, the Royal Society has been working with other academies, in particular the Polish Academy and the National Academy of Sciences in the United States, to help Ukrainian scientists to work, either close to home in Poland or in other countries close to Ukraine, or in the UK, or further afield, and also we've been making access to scholarly journals available for free and taking other measures to help the scientists.

But clearly it will require a big international effort to get Ukraine back on its feet after this.

Alberto Quadrio Curzio: I think that the reconstruction, the rebuilding of Ukraine should be governed by multilateral institutions. As far as the status of OECD allows, the OECD should have a very important role for protection, control, and reforms, in Ukraine's rebuilding. Secondly, we have to consider that there is the European Bank for Reconstruction and Development (EBRD), which was founded in 1991 by François Mitterrand and Helmut Kohl in order to help the transition of the Soviet economies – satellite states, not the Russian one – to the free-market system. The EBRD is rather capable now, in these days, of helping reconstruction of Ukraine, even if it is lacking in capital for such a big job.

Finally, I think that the World Bank also has to be involved. So I see three institutions which should govern Ukraine's rebuilding: the OECD, the EBRD and the World Bank. I believe that the contribution of single countries will be important, but it has to be realized under the supervision and the planning of these three kinds of multilateral institutions.

Wolfgang Plastino: How do you think artificial intelligence (AI) will reshape our economies, and do you think policy-makers are prepared to respond to rapid developments in technology?

Mathias Cormann: AI is already rapidly reshaping our economies, and it has many very positive benefits. Some of them, like helping us with our movie selection, might not on the face of it seem to be as important as others, but then there are others, all the way through healthcare and the way we may be able to better, more effectively respond to climate change. There's a broad spectrum. The challenge is that, because these technologies are developing so rapidly, it's going to be difficult for regulators to stay, not on top of the technology per se, but in touch with where the regulatory framework needs to be. You want to ensure that we have a human-centric use of AI in a way that is consistent with our values, but by the same token you don't want to be so burdensome with your regulatory framework that you end up stifling innovation. Not that you would necessarily be able to stop innovation that way anyway.

This is a really challenging area to get the balance right, and it is also one where we really do need effective international co-operation to make sure we can optimize all the undoubted benefits that come from AI while making sure that we protect ourselves to

the extent necessary from some of the downside risks. That is a policy space that is very alive as we speak at the moment; it is probably one where it is going to be important for governments to acquire some of the skills to really be able to do their job in a way that is as intelligent as we need it to be.

Julie Maxton: I think that particularly in healthcare there are great opportunities for AI. Many people know that scans of whatever part of the body can be read really well and can be very accurate. But there also areas where humans have a part to play, and I think it's important that policymakers remember that there's a balance between the two aspects – between the increased artificial intelligence and the necessity for human interventions.

It's particularly important in preserving privacy. I think the lack of privacy which comes from some developments in automation and technical advances everybody knows about; but how do we preserve privacy? I think that's a big area for policymakers.

Finally, I think that machines don't always work correctly. We've seen cases in the law courts in the UK where big systems – bank systems – have made mistakes and the assumption has been that the system works, but the assumption is wrong. So I think we need to be sceptical, and we need to remember that machines don't always get it right.

Alberto Quadrio Curzio: In November 2022, there was one of the biggest bankruptcies of a cryptocurrency company ever (that of FTX) – a bankruptcy of many, many millions of dollars, maybe billions of dollars. There is danger in the stock exchange and any financial relationship if we don't have human control through rules, rules which must be elaborated and must be applied. Otherwise, from the financial point of view, all algorithms might be distorted to negative uses. So, we must be very careful. I agree that in healthcare AI might be fundamental, but in the financial market, I don't believe that we can forget rules and controls.

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