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RECOUPLING

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Paradigm change for a sustainable world order



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Dear Reader,

Welcome to the third Global Solutions Summit in Berlin. Our annual Summit aims to support the Japanese T/G20 Presidency. We are honored that State Minister Masahisa Sato will address our Summit as a representative of the G20 as well as the T20 Sherpa Dean Yoshino.

The theme of this year's Summit is global paradigm change to recouple social, political and economic progress.

There are many excellent contributions in this journal and we are deeply grateful to all the authors. At the beginning of this issue, you will find two keynote articles: the MSC Co-Chair Colm Kelly and the Global Solutions President Dennis Snower provide their complementary perspectives on guidelines for global paradigm change. Subsequent contributions are to be understood in this light.

We are delighted to welcome over 1,200 participants and more than 150 speakers. We are humbled by the enthusiasm and engagement of so many people from around

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Global Solutions Summit 2018 closing plenary (from left) with Laura Jaitman, Argentine Ministry of Treasury; Colin Bradford, Vision 20; Naoyuki Yoshino, Chair T20 Japan; Jose Martínez, CARI; Dennis J. Snower, GSI; Sebastian Turner, Tagesspiegel.

the world in preparing this Summit, spanning researchers, policy makers, business leaders, and civil society representatives.

As in 2017 and 2018, we proudly welcome the Young Global Changers (YGC). More than 3,500 applicants from 155 countries applied to participate and it was exceedingly difficult to choose only 100 individuals for this year's program. During the Summit, you will see our Young Global Changers actively participating in the proceedings. Last weekend, during the Global Solutions Summer School, they prepared research and projects alongside the Summit and thereafter. We kindly ask the other Summit participants to support their work as needed.

This year we seek to build a bridge between the worlds of ideas and action by bringing the T20 researchers into closer relation with visionary implementers from politics, business and civil society. The implementers will challenge the proposals made by the T20 working groups and

bring their practical experiences into the global problem-solving discussion. There will also be a special forum for highlighting the implementers' innovations.

We are honored to welcome Heads of State and Government, representatives from various international organizations, G20 and T20 sherpas, ministers, think tank researchers, representatives from NGOs and global enterprises, mayors and experts who are working toward global solutions from a local and regional perspective.

This Summit connects researchers and decision makers from around the world to tackle global problems multilaterally in the interests of civil societies around the world. As such, it is an exercise in recoupling economic, political, and social prosperity. Thank you for joining us in Berlin.

Yours, in hope and confidence,

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Toward global paradigm change

Beyond the crisis of the liberal world order¹

The author:



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The institution:



Policy thinkers helping policy leaders to recouple the world: This is the Global Solutions Initiative serving the G20, the G7, and other international institutions. Independent of the official processes, yet firmly connected with official engagement and working groups, the initiative delivers independent, long-term oriented policy briefs for world leaders.

ABSTRACT

This vision brief may be summarized by the following points. First, the crisis of the liberal world order arises from a misalignment of our social, economic and political domains of activity, along with a resulting destabilization of our physical environment. The integration of the global economy has generated problems that extend beyond our current bounds of social and political cooperation. Second, extending our social cooperation – on which basis our political cooperation can be extended as well – requires the creation of the appropriate moral narratives. These narratives must guide business strategies, public policies and civic activities. Third, these narratives must be supplemented by multilevel governance structures that address challenges at the scale – micro, meso and macro – at which these challenges arise. Finally, past human experience in developing moral narratives, supported by multilevel governance structures, suggests guidelines for a future form of multilateralism that enables us to meet this challenge.

The liberal world order is in crisis. The symptoms abound across the globe: the growing disillusionment with liberal democracy as an instrument for political voice, the growing critique of capitalism as

an instrument for the allocation and distribution of resources, the proliferation of environmental problems, the rising mistrust in our political and economic institutions (political parties, national government, international institutions, corporations, the media, and NGOs), the rise of nationalist and religious supremacy movements, the rise of populism and the gradual abandonment of multilateralism.

The current crisis of the world order, I claim, arises from a clash of paradigms in the social, economic and political domains of human activities, with grave consequences for our physical environment. The prevailing economic paradigm – market-driven globalization – has integrated the world economy, generating great material wealth as well as a variety of associated problems, from climate change to rising inequalities and social tensions. By contrast, the prevailing political and social paradigms – driven by nationalism, religion and ethnicity – keep our allegiances fragmented.

To make progress in tackling our global problems, we must strive to change our social paradigms where they are maladaptive, namely, where they inhibit our material and immaterial prosperity by preventing us from addressing challenges that call for social cooperation at the appropriate scales. And then we must strive to bring our economic and political paradigms into harmony with prosperity-promoting social paradigms.

Thriving societies rest on self-reinforcing social allegiances at various scales – local, regional, national and transnational. In order for our economic and political systems to promote human prosperity, these self-reinforcing social allegiances must

be supported by self-reinforcing economic and political structures at all relevant scales, from local to global. In short, the requisite paradigm change calls for the recoupling of the economic and political domains with well-functioning social domains, across the relevant macro and micro scales.

»We must strive to bring our economic and political paradigms into harmony with prosperity-promoting social paradigms.«

These objectives rest on well-known insights into the process of multilevel selection that drives the evolution of human cultures.² Humans are such a successful species since they are able to cooperate in order to benefit one another, even at a cost to the individual. In cultural evolution, the process of selection acts not only on individuals, but also on groups at multiple levels. Groups containing a higher proportion of cooperators may gain a competitive

advantage over groups of selfish individuals, much as groups of cells composing an organism cooperate successfully. The crucial difference between cultural and biological selection at multiple levels is that the ideas, rules, norms and values that drive human cultures can be managed. This difference enables us to have the mission of shaping our social, economic and political domains in order to promote human prosperity.

This mission has three far-reaching implications.

First, in the social domain, there is a broad recognition that we all have multiple social allegiances – to our families, friends, colleagues, fellow citizens, congregants and so on – and that these permit us to cooperate with one another in multiple domains and allow us to lead rich, multifaceted lives. The new paradigm encourages consonance among multiple allegiances that enable us to cooperate at the scales commensurate with our challenges. These complementary allegiances are generally driven by moral narratives, supported by institutions, leading to personal empowerment, social belonging and an equitable distribution of benefits. Where our challenges are transnational, our allegiances need to be transnational as well, so that patriotism does not come into conflict with cosmopolitanism.

Second, in the political domain, our political allegiances must be recoupled with prosperity-promoting social allegiances. Under the new paradigm, nationalism serves national goals, while nations cooperate multilaterally in providing global public goods and managing the global commons. This new form of multilateralism is to be viewed as a means of pursuing

enlightened nationalism. In the same vein, the new nationalism can become a means of supporting enlightened regionalism, localism and individualism.

»Humans are such a successful species since they are able to cooperate in order to benefit one another, even at a cost to the individual.«

Third, in the economic domain, globalization should not be pursued at the expense of local communities. The new paradigm must encourage us to build strong local identities, while enabling us to reap the gains from specialization and knowledge transfer that globalization provides. This implies that neither central economic planning nor pure laissez faire are likely to be policy paradigms that can generate sustainable, inclusive and fair prosperity. Consonant economic policies at the micro, meso and macro levels are called for, associated with complementary endeavors in the political and social domains.

For this purpose, business leaders must adopt broader objectives than maximizing shareholder value and economic policy makers must measure their success by more than GDP. Since the new paradigm recognizes that the ultimate purpose of business and policy is to promote human prosperity, it involves more than achieving aggregate economic outcomes (such as pursuing high rates of economic growth). More than ensuring that these outcomes are fairly distributed among the stakeholders. Beyond these goals, the new paradigm induces business and policy to support personal empowerment (people's need to shape their own destinies through their own efforts) and social solidarity (people's need to be embedded in communities of belonging and care).

In sum, the new paradigm leads us toward a new social contract in which our social, economic and political domains no longer follow their own logic, dictated by current institutions, rules and norms, but rather interact to serve to fulfill our fundamental needs and the relevant interacting scales.

THREE TECTONIC PLATES OF HUMAN AFFAIRS

What we are witnessing is a clash among the three tectonic plates on which human affairs are founded: (1) the economic domain, governing our production and exchange of goods and services, (2) the political domain, organizing the distribution of power, and (3) the social domain, regulating our social interactions. Human affairs flourish and we live in a life-giving relationship with our planet when these domains are in harmony, promoting hu-

man-inclusive and sustainable prosperity.

This means, first, that the boundaries of the society must overlap substantially with the boundaries of the polity. In other words, every country requires sufficient social cohesion for the needs of society to be addressed through the political processes representing the members of the society. Only then will citizens recognize the legitimacy of their political representatives. In countries with polarized societies – regardless of whether the polarization is due to inequalities of income, wealth and education; or divergent openness to foreigners; or to warring tribes – it becomes difficult, sometimes impossible, to establish legitimate government. Social polarization – measured in terms of population clusters in which people belonging to the same cluster have similar attributes, while people belonging to different clusters have dissimilar attributes – can lead to social tensions and unrest, due to this lack of overlap between social and political boundaries.³

Second, it is useful for the boundaries of the polity to overlap substantially with the boundaries of the economy. Under these circumstances, governments can manage the rules governing economic interactions in accordance with the will of their citizens. When the boundaries of the economy cross multiple national borders, then the boundaries of the polity must cross these borders as well, through multilateral rules and norms. In short, globalization calls for “polycentric governance,” that is, a governance system in which multiple governance bodies interact to make and enforce rules to promote collective action.⁴ Otherwise disagreements concerning the regulation of economic

activities are bound to arise, with regard to human rights, workers' rights, environmental issues, consumer protection, and much more.

»The new paradigm induces business and policy to support personal empowerment and social solidarity.«

When the boundaries of society, polity and economy broadly coincide, then the sovereignty of the individual is reconcilable with the sovereignty of the economy and the sovereignty of the nation (or other political body). These issues of sovereignty – the right and power of a governing agent over itself, without interference from other agents – can be expressed in terms of votes. For example, a democratic polity runs on the principle of “one person, one vote.” A capitalist economy runs on the principle of “one dollar, one vote.”⁵ These two voting principles are reconcilable only if the voters in the polity favor

an economic system that rewards people in accordance with their purchasing power. In a democratic polity, this is likely to happen only when economic mobility is sufficiently high to give all individuals the prospect of achieving acceptable purchasing power. When the boundaries of society, polity and economy diverge substantially, then these issues of sovereignty become intractable, and sooner or later conflict is likely to arise.

As explored in Paul Collier's insightful new book,⁶ many of the social tensions in advanced Western countries are driven by spatial, educational and moral divides, playing out in the social, political and economic domains. In many countries, the middle class provides an anchor for overlapping social, political and economic identities and thereby serves to mitigate social tensions, and the shrinkage of the middle class may consequently be associated with social and political tensions.⁷

THE PROBLEM

The crisis of the liberal world order has arisen because the three tectonic plates of human affairs have shifted. The economic domain has integrated much of the world into one integrated system of production and exchange. Nowadays most goods are produced in many countries. This globalization of production has come with a globalization of markets, allowing buyers and sellers to connect and compete with one another around the world. As goods and services have become increasingly interconnected and services have become electronically transmittable, the production and exchange of services has become global as well. Today's factories and marketplaces – the sites where goods are

produced and exchanged – extend across multiple national borders. Through trade, financial flows and foreign direct investment, the world economy binds producers and consumers into integrated networks of global value chains. More profoundly, the production and distribution of knowledge in the economic domain has become globalized as well. The international movement of goods, services and ideas has, in turn, encouraged the international movement of people, though migration flows remain tightly restricted through national migration controls.

However, the integration of the world's economies has not been accompanied by an integration of the world's polities or societies. The globe is divided into a multitude of nation-states, each controlling most of the instruments of its public policy. With the rise of nationalism, the boundaries of these nation-states have created more unbridgeable social boundaries as well. As ethnic, religious and class identities have become more salient, many nation-states are witnessing the fragmentation of their social domains.

In short, the boundaries of economy, polity and society are becoming progressively decoupled. This is the fundamental problem of our age, the reason for the crisis of the liberal world order. It poses multiple overarching threats, since the integration of the global economy has generated a variety of troubles that are globally integrated as well – climate change, financial crises, nuclear, biological, chemical and cyber conflict, social disruption from migration, the danger of pandemics, the internationalization of economic stagnation and inequality, just to name a few. These threats can only be addressed

through international cooperation, but this cooperation is obstructed through the fragmentation of our political and social domains.

There is a growing recognition that the global governance paradigm must change if peace and prosperity are to be assured. The current institutions overseeing global affairs – the United Nations, the International Monetary Fund, the World Bank, and so on – cover a wide variety of interlocking domains, with little if any coordination among them. This international governance system is not well suited for harmonizing our economic, political and social domains.

What is to be done?

To make progress recoupling our economic, political and social domains, we need to go back to basics and inquire how humanity has managed to perform massive acts of cooperation in the past. This is not the first time in human history that Homo sapiens needed to tackle problems that required extending our bounds of human cooperation. In fact, the main reason why humans have been so successful in the evolutionary process lies in our ability to cooperate with one another beyond the bounds of kinship. How did we perform this trick in the past?

Initially, our ability to use language was crucial for far-reaching cooperation, but language by itself explains only a fraction of our cooperative capabilities. Language enhances our ability to acquire reputations for being cooperative, inducing others to cooperate with us. But the maximum size of a group that relies on word of mouth to create trust is about 150 individuals.

To establish larger groups, such as those cohering in large multi-national

companies, nations, religions, and trading networks – communities that may comprise millions – we were required to create something that no other animal appears to have managed: moral narratives supported by institutions of multilevel governance. The moral narratives created social identities for social groups of the requisite size. The institutions of multilevel governance enabled different groups to work cooperatively with one another. It is worth considering each of these elements in turn.

MORAL NARRATIVES DRIVEN BY MORAL VALUES

How are narratives able to induce people to see themselves as part of a larger social whole, inducing them to cooperate with one another through the adoption of differentiated social roles? The central driving force is to be found in moral values. These values distinguish between good and evil as objectives of behavior and define codes of conduct, differentiating right from wrong. They have normative force, inducing us to act in specific ways. Their purpose is to establish social cooperation beyond the bounds of self-interest.

Moral narratives have enabled humanity to extend its cooperative units from the family to the tribe to the village to the city-state and from there to empires and nations. We now require narratives that enable us to extend our social and political boundaries to address the global problems arising from our global economy. Our genetic and cultural evolutionary past has not yet given us the mental resources to strive for global cooperation. Instead, we are designed to seek support in social groups of limited size. These social groups – often following national, cultural, religious and

professional boundaries – structure our identities and thereby help determine our willingness to cooperate with one another. The objectives of these groups receive little centralized coordination through our international organizations and engage in little decentralized coordination. Our local affiliations are more emotionally satisfying and fulfilling than our global ones. The scope of the market exceeds our capacity to form equally far-reaching identities. Thus the scope of our problems exceeds our capacities of cooperation.

Our moral values can be viewed as psychological adaptations enabling selfish individuals to enjoy the benefits of cooperation. Globalization and today's ICT technologies enable social groups to come into contact with one another on an unprecedented scale. Our genetically and culturally evolved morality did not prepare us for cooperation on this scale. Reaping the material rewards from globalization sustainably requires broad social approval across many national and cultural groups. Generating such approval requires the equitable distribution of material rewards across these groups in the economic domain, the willingness to cooperate across national boundaries in the political domain, and the acceptance of a common cause across cultural groups in the social domain. Thus far, the process of globalization has not been managed accordingly.

Thus our job now is to create new moral narratives relevant to both our local, regional, national and global problems. These narratives must strengthen local identities in accordance with people's traditional social needs and local challenges, and they must create wider identities relevant to our wider challenges. Vari-

ous attempts to find narratives that shape global identities have already been made, such as the Universal Declaration of Human Rights, the Earth Charter, and so on. Contributions to the creation of motives, norms and attitudes favorable to a common human identity – through art, law, education, politics, institutional settings, personal transformation – are of greater importance than is generally appreciated.

»Our job now is to create new moral narratives relevant to both our local, regional, national and global problems.«

Just as we currently live our lives through many identities at different levels of social aggregation – with regard to our families, occupations, hobbies, nations, ethnicities, religions and so on – so we must seek to combine these identities with more encompassing ones, just sufficient to address our global problems through interchangeable perspectives and the begin-

nings of Care. Then this could set in motion a virtuous cycle of values – including Care, Reciprocal Fairness, Authority and Loyalty – that shapes individual identities complementary to our global one.

Of course, not all aspects of our individual identities will survive the interplay with our global identity. All the divisive, hate-filled, dehumanizing aspects would need to fall by the wayside. Such active shaping of individual identity might be viewed with suspicion, as conflicting with our individual liberties. But people around the world are already familiar with the desirability of such social interventions in dealing with what the philosopher and neuroscientist Joshua Greene⁸ calls our "Me-Us problems," the problems of controlling our self-interest in favor of our social groups. What globalization and the ICT revolution has done is vastly extend the scale of our "Us-Them problems," the problems of controlling our groups' self-interest in favor of intra-group cooperation.

Humanity has already managed feats of comprehensive Care before, as when it transformed slavery from an acceptable form of international business into a globally acknowledged evil. A major force driving this transformation was perspective-taking. Through books like Uncle Tom's Cabin, art, political activism, and media reports, people around the world gradually came to regard slaves as beings of ultimate intrinsic worth, and this realization eventually led to the criminalization of slavery in country after country. Europe's refugee crisis should be viewed as a golden opportunity to initiate the educational, legal and cultural initiatives required for perspective-taking beyond our current national, cultural and religious borders.

Extending our circles of affiliation – through encompassing narratives, social norms, education, laws and institutions – is now our central challenge as human beings, made salient through the proliferation of our “problems without borders.” Rising to this challenge will be arduous since our moral instincts are more suited to addressing the “Me-Us problems” than the “Us-Them problems”. Despite international condemnation of slavery, the UN estimates that 27 to 30 million people are still caught in the slave trade industry today.

Given our capacities for perspectival disconnection and for attributing people’s situational constraints to their dispositions, many people still do not consider the extension of our social affiliations to be obviously desirable. Furthermore, affiliative relationships – particularly in the absence of fairness, reciprocity and means-end rationality – are notoriously vulnerable to free riding and exploitation, such as when computer hackers gain access to people’s email accounts and then request money from friends and relatives in their address books. Extending our circles of affiliation may be particularly difficult when levels of affiliation are in conflict, as when familial affiliation hurts the tribe, tribal affiliation hurts the nation, or national affiliation hurts the global public interest.

The integration of the global economy and our ever more oppressive footprint on the global environment calls for the development of moral narratives that induce us to cooperate at unprecedentedly large scales, while maintaining our sense of belonging at the small scales necessary to tackle our small-scale challenges.

MULTILEVEL GOVERNANCE

But that is not all. In the past, whenever we have been successful in extending our social boundaries, we have done so through institutions of multilevel governance. Such institutions enable locally cohesive social groups to cooperate with one another at a regional level, thereby establishing a regional affiliation that may be weaker than the local one, but sufficient for addressing regional challenges. Further institutions enable regional groups to cooperate with one another at a national level, thereby establishing a national affiliation. Beyond that, our global challenges call for international institutions enabling multilateral cooperation. Such multilateralism is politically sustainable if it succeeds in establishing multilateral affiliations, which can be weaker than the national ones, but sufficient for addressing our global problems.

Such multilevel governance, supported by moral narratives, is essential in establishing sustainable cooperation at the various levels – local, regional, national and global – at which our problems arise. It is striking that this multilevel governance mirrors the multilevel selection that has become prominent in the analysis of cultural evolution⁹. Multilevel selection theory recognizes that groups of individuals can have a functional organization analogous to the groups of cells that compose each individual. Social norms and institutional governance structures can serve to reduce individual level variation and competition, thereby shifting selection to the group level. Thus, in the process of evolution, selection can take place at the individual and various group levels. The principles required for groups to thrive in

the evolutionary process are the same as the principles required for individuals to thrive. David Sloan Wilson writes, “At all scales, there must be mechanisms that coordinate the right kinds of action and prevent disruptive forms of self-serving behavior at lower levels of organization.”¹⁰ Humans have individual and social needs, and they are capable of meeting these needs through selfish and socially cooperative behaviors, but these behaviors often pull in opposing directions. D.S. Wilson and E.O. Wilson explain, “Selfishness beats altruism within groups. Altruistic groups beat selfish groups. Everything else is commentary.”¹¹ The history of human cooperation may be understood as a struggle between selfish individualism and group sociality.

Elinor Ostrom¹² (1990) has identified eight Core Design Principles that enable social groups to avoid the tragedy of the commons through the sustainable use of common pool resources. These principles encompass social, economic and political relations. First, the group must have a strong sense of social identity and share a social purpose. Second, the distribution of benefits and costs must be fairly distributed. Third, the decision making within the group must be considered inclusive and fair. Fourth, individual behavior must be monitored to detect free-riding. Fifth, misbehavior must be punished through graduated sanctions. Sixth, conflicts must be resolved quickly and fairly. Seventh, groups must have the authority to organize their own affairs, in order to ensure that their decision-making is accepted as inclusive and fair. And finally, there must be appropriate coordination among groups, in accordance with “polycentric govern-

ance.” These Core Design Principles are a promising starting point for conceiving the multilevel governance that promotes human cooperation at the multiple levels at which our local, regional, national and global problems arise.

As our problems have become more interconnected and far-flung, we face the challenge of designing multilevel governance structures, supported by moral narratives, operating at ever larger scales. This is where the future of multilateralism is to be found.

In the process of developing new forms of multilateralism, we will need to rethink the future of democracy and capitalism as well.

»Many of the world’s current social, economic and political problems are a product of this decoupling.«

IMPLICATIONS FOR GLOBAL PARADIGM CHANGE

The three domains of human affairs – the economic, political and social – all serve to promote cooperation, discouraging selfishness and free-riding. For this purpose,

each domain needs to answer two elementary questions:

- Individual needs: Which human needs are to be taken into account?
- Interpersonal comparisons: How are the needs of different people to be compared in the pursuit of public policy?

»In business, it will mean moving from corporations that maximize shareholder value to those driven by social purpose.«

The answer to the first question is multifaceted. Humans have a variety of needs, some self-interested and some social. Our social needs are addressed by our moral values, with different needs associated with different values. For the values identified by Jonathan Haidt and his colleagues,¹³ for example, “care” enables us to protect and care for our family and friends, “fairness” permits us to exploit synergies from partnerships, “loyalty” enables us to form cohesive coalitions, “authority” generates synergistic relationships within hierarchies, and “sanc-

tity” induces us to avoid contaminants and pursue health.

Regarding the second question, the world is caught in a clash between three perspectives – a clash that has arisen as the political and economic domains have become decoupled from the social domain. The discipline of economics, insofar as it has been dominated by the concept of Homo economicus, has set the stage for this decoupling, since Homo economicus is driven exclusively by the rational pursuit of selfish, materialistic needs. The three perspectives on interpersonal comparisons of worth are associated with the three domains – social, political and economic.

In the social domain, people are connected to one another in social networks, giving rise to acts of cooperation, positional competition and aggressive conflict. These networks are commonly driven by moral narratives, comprising moral values and norms, as well as institutions that were created to serve social purposes. The networks generate identities, associated with social roles within these networks. The social and institutional forces maintaining the networks generate rewards and punishments, which often become persistent once they have been created and thus need not adapt readily to changing physical and social contexts. Consequently, the social networks may be both adaptive (serving human social needs under the prevailing contexts) or maladaptive. Adaptive networks generally promote cooperation among people at the scales in which these people’s opportunities and threats arise; maladaptive networks fail to do so and may generate harmful conflicts.

In the political domain, as noted, interpersonal comparisons of worth are treated

simply in democracies, where all individuals are counted equally, in accord with the principle of “one person, one vote.” This principle is upheld through Kantian deontological ethics, emphasizing the equal intrinsic worth of each individual. But there are also other ethical foundations for public policy, which may or may not be reconcilable with the intrinsic equal worth of all people. In Benthamite utilitarian ethics, each individual is to be weighted by his or her utility, with the aim of “the greatest happiness of the greatest number” in economic, political and social affairs. In Rawlsian ethics, each individual has an equal right to the most extensive basic liberties (the greatest equal liberty principle) and social and economic inequalities are to be arranged so that they benefit the least advantaged members of society (the difference principle). Such diversity of moral foundations for public policy provides latitude for the moral narratives of politics to become dissociated with the moral narratives of society.

In the economic domain, capitalist economics implies interpersonal comparisons of worth that have come to be increasingly at odds with the perspectives above. Capi-

talist economies weight individuals in accordance with their purchasing power, so that richer individuals have more access to goods and services.

As capitalist economics plays a pervasive role in many of our institutions of global governance, it is useful to compare the economic and social perspectives, as this can provide clues concerning how the global paradigm needs to change in order to bring the economic and social domains into better alignment and thereby indicate useful avenues for the future of politics. The following matrix (Table 1) compares the economic and social perspectives.

The two rows cover the two questions above; the two columns differentiate between a selfish materialistic focus (human needs focused on goods and services, interpersonal comparisons in terms of purchasing power) and a holistic focus (covering a wider conception of human needs, non-materialistic interpersonal comparisons of worth). Homo economicus is restricted to material needs, whereas Homo psychosocialis covers a broad range of human needs (material and immaterial, self-interested and social). Shareholder Capitalism is based on materialistic interpersonal

Table 1: Comparison of economic and social perspectives

| | Selfish Materialism | Holism |
|---------------------------|------------------------|---------------------------|
| Individual Needs | Homo Economicus | Homo Psycho-Socialis |
| Interpersonal Comparisons | Shareholder Capitalism | Social Purpose Capitalism |

comparisons of worth, both through its focus on goods and services and on maximizing shareholder value. By contrast, social purpose capitalism is based on business driven by well-defined social purposes.

As long as business and politics remained strongly rooted in local social networks, the alignment of the social, economic and political domains occurred quite naturally. Many of the major innovations in business and policy over the past century – the creation of community banks, credit unions, cooperatives, friendly societies, local councils, etc. – were responses to social problems. But with the advance of globalization and financialization in the world economy, the economic domain became progressively decoupled from the social domain. The political domain became torn between the fragmented allegiances of the social domain and the integration of the world's economic domain. Many of the world's current social, economic and political problems are a product of this decoupling.

To realign the economic domain with the social domains, our thinking concerning economic activity – in both business and policy – will need to shift from selfish materialism to holism. In economics, this will mean moving from models based on Homo economicus to those that take a wider range of psycho-social needs into account. In public policy, it will require a shift from economic objectives centered around GDP to wider conceptions of human welfare (“beyond GDP”). Such welfare measures are already proliferating, including the OECD Better Life Index, Index of Sustainable Economic Welfare, Genuine Progress Indicator, the Inclusive Wealth Index, the Human Development Index, the Weighted Index of Social Indicators, and

much more. In particular, much progress has been made in measuring not only environmental sustainability, but also social cohesion.¹⁴ By taking these welfare measures seriously in the design of public policy, the social domain may become more salient in political decision-making and the democratic political process may become more responsive to issues of the common good (in contrast to the polarizing pressures currently arising from many populist movements). This will involve not only measures that adjust GDP to take account of environmental and social influences of economic activities,¹⁵ but also measures that supplement GDP¹⁶ and those that replace GDP.¹⁷ In doing so, policy makers will need to rely not just on the performance classifications of economists,¹⁸ but also those of sociologists¹⁹ and psychologists.²⁰

In business, it will mean moving from corporations that maximize shareholder value to those driven by social purpose. In his new book, *Prosperity*, Colin Mayer writes that “enlightened corporations ... deliver on their stated purpose by balancing and integrating the five different components of capital that comprise their business activities – human capital (employees, suppliers and purchasers), intellectual capital (knowledge and understanding), material capital (buildings and machinery), natural capital (environment, land and nature), social capital (public goods, trust and social infrastructure) and financial capital (equity and debt).”²¹ For this purpose, “company law should be reformulated to require corporations to articulate their purposes, to redefine the fiduciary responsibility of boards of directors to the delivery of their stated purposes, to produce accounts that measure

their performance in relation to them, and to implement incentive arrangements that reflect their success in delivering them.”²²

»This means driving change through moral narratives, supported by multilevel governance structures.«

These and many other changes²³ in public policy and business will need to be implemented in conjunction with one another in order to become individually effective and sustainable. Furthermore, economic transformation will need to be accompanied by a complementary political transformation that supports it. To recouple the social, economic and political domains, it will be vitally important to take into account the lessons learnt from our past cultural evolution. This means driving change through moral narratives, supported by multilevel governance structures.

The desirability of multilevel governance implies that it is undesirable to strive for sovereignty primarily at the national level, just as it is also undesirable to aim for sovereignty primarily at the level of international governance institutions.

Both nationalism (“My country first”) and globalism (world government through international organizations) are misguided. Similarly, it is undesirable to let economic decision-making power reside primarily with private economic agents (*laissez faire*) or government (central planning). In the same vein, we should avoid identity monocultures, defining ourselves primarily in terms of one social group, whether religious, national, ethnic, gender-based, class-based, occupational, or other.

Instead, the current crisis of the liberal world order calls for a multilevel approach in the social, economic and political domains. In the social domain, we must strive for multiple identities that induce us to cooperate at the appropriate levels – locally to preserve our neighborhoods, regionally to address challenges of migration, globally to tackle climate change. In the economic domain, our aim should be distributed decision making powers – at the individual level for private consumption decisions, at the meso level for rural and urban renewal programs, at the national level for macroeconomic policies. By implication, our objective in the political domain must be the multilevel governance that promotes multilevel economic policy and is consonant with our evolving multilevel identities. Since our local identities generate particularly meaningful bonds of belonging, it is vital for higher-level economic and political decisions reflect the interests of local communities. Multilevel economies and polities function well when they succeed from bottom up.

TOWARD A NEW PARADIGM

We have good reason to believe that governance is moving in these directions. We

live in a world of international institutions working top-down and decentralized initiatives working bottom-up. In the aftermath of World War II, political intergovernmental organizations addressing various global problems have proliferated: the United Nations, the International Monetary Fund, the World Bank, the Organization for Economic Co-operation and Development, the World Trade Organization, the World Health Organization, the International Criminal Court, Interpol, the International Seabed Authority, the World Customs Organization, the Organization for the Prohibition of Chemical Weapons, the Nuclear Suppliers Group, the International Energy Agency, International Commission on Missing Persons, and innumerable others.

There are also a variety of cultural intergovernmental organizations, such as the Commonwealth of Nations, the Community of Portuguese Language Countries, the Organization internationale de la Francophonie, and so on. There has also been a proliferation of international nongovernmental organizations (NGOs), such as the International Committee of the Red Cross, Médecins Sans Frontières, Greenpeace, and many others.

There are also many organizations operating at the meso level, involving both top-down and bottom-up initiatives. These include Amnesty International, Transparency International, the Global Environment Facility, the International Organization for Migration, the Bank for International Settlements, a variety of development banks, regional organizations on all continents, and mayors' roundtables. Collaboration among cities has become a major source of multilateral cooperation, as illustrated by the Cities Climate Finance Leadership

Alliance.²⁴ Cities are also important domains linking the political, bureaucratic and social domains.²⁵ Additionally there are local urban development initiatives aimed at fulfilling social needs, such as the development of Saigon South.²⁶

»Multilateral institutions must be explicitly designed as vehicles for addressing multilateral issues lying outside the scope of single nations.«

Insofar as these organizations have some decision-making power, it is clear that we have moved far from a world of sovereign nations in practice. But the efforts of the many international organizations are usually not coordinated with one another. Nor do these organizations have systematic regard for the alignment between the economic, political and social domains that must occur in order for in-

ternational cooperation to become sustainable and legitimate.

Instead, the current globalization paradigm is still trapped in a misplaced belief in the Invisible Hand applied to the three domains at the global level. According to this belief, the different decision makers in the economic, political and social domains all have different responsibilities and, in pursuing these responsibilities, they will be lead as if by an Invisible Hand to promote the global public interest. In particular, the responsibility of citizens is to pursue their material self-interest (meaning the maximization of their individual utility through consumption), the responsibility of business is business (meaning the maximization of profit and shareholder value), the responsibility of national and sub-national political governance institutions is to pursue their specified political targets (such as those of different government ministries), and the responsibility of international organizations is to pursue their specified transnational and international targets (again divided into different silos of decision making, such as the different economic domains of the IMF and World Bank and the different social domains of the WHO and the ICC). Our current difficulties in achieving global cooperation to address climate change, financial crises, cybersecurity and more, as well as our difficulties in dealing with rising social tensions in many countries testify to the folly of relying on the Invisible Hand to coordinate the activities of the existing economic, political and social decision makers at the micro, meso and macro levels.

The new paradigm – in which multi-level social affiliations are to be matched with multilevel political and economic

structures – is meant to promote a closer alignment of responsibilities across the social, economic and political domains. In the aftermath of the global economic and financial crisis of 2008-9, it is becoming clear to many consumers that they have responsibility for much more than their individual material prosperity, but need to take more responsibility for their environment and communities as well. Similarly, many business leaders have understood that they must strive for more than the maximization of shareholder value, but need to pay greater attention to the well-being of their workforces, the environment and the local communities in which they operate. In the political domain, the need to harmonize power relationships in the political, economic, and social is also becoming increasingly apparent.

The need for a greater confluence of responsibilities is illustrated clearly in the challenges addressed by EU politicians. The European Union began by focusing on an “economic project:” the creation of a European Single Market. The conception of this market was gradually extended to the “four freedoms,” namely, the free movement of goods, capital, services and labor.²⁷ To address the resulting challenges, the EU devoted itself increasingly to its “political project,” involving the development of its political institutions, including the European Parliament, the European Council, the Council of the EU, the European Commission, the EU Court of Justice, the European Central Bank and the Court of Auditors, as well as a wide variety of decentralized agencies. In response to the resulting social challenges, the EU is devoting greater efforts to its “social project.” The European Social Fund,²⁸ originally

created in the founding Treaty of Rome in 1957, is currently giving increasing attention to social cohesion – improving access to employment for people of all ages and backgrounds, supporting social inclusion of disadvantaged people, promoting access to vocational training, lifelong learning and primary education for disadvantaged children and promoting public services to make public administrations more transparent and accessible to citizens. The political emphasis on social cohesion also generates new efforts to measure social cohesion, in order to assess the social effects of policy.²⁹

»Overcoming the current crisis of the liberal world order requires a new paradigm for our thinking about human relations.«

Overcoming the deficient legitimacy that is commonly ascribed to EU political institutions – for example, most Europeans feel much greater allegiance to their national representatives than to their MEPs (Members of European Parliament) – can

only be addressed by bringing the social allegiances of Europeans into closer alignment with the political initiatives at the EU level. In short, political legitimacy must arise from a recoupling of social and political commitments.

As people in different geographic regions have different social norms, values and identities, different countries are justified in building distinct economic and political domains, aimed at serving distinct social needs. In order to enable different countries to cooperate economically and politically to reap equitably the potential gains from trade and to address global problems such as climate change, these distinct national economic and political systems must pursue international cooperation. This means that putting “my country first” generally involves multilateral cooperation to address multilateral opportunities and dangers. In the new paradigm, the roles and responsibilities of local, national and international institutions must be specified explicitly in order to enable people to address the challenges they face with cooperation at the appropriate scale.

Multilateral institutions must be explicitly designed as vehicles for addressing multilateral issues lying outside the scope of single nations. Similarly, national institutions should be designed as vehicles for addressing national issues that exceed the competence of regional and local decision makers. Where local and regional allegiances are strong, the new paradigm should respect the principle of subsidiarity, with political institutions performing only those tasks that cannot be performed at a more local level. The resulting networks of cooperation could be called “glocalization,” connecting global and lo-

cal affiliations. This multilevel approach to human prosperity under the new paradigm permits the transformation of conflict-prone nationalism into mutually constructive patriotism.³⁰

IMPLICATIONS FOR THE G20

This paradigm change has significant consequences for the framing and execution of G20 policies. In broad segments of the public, the G20 has become the voice of multinational interest groups that have become increasingly mistrusted as global economic growth has become increasingly dissociated from local prosperity. In many policy circles, the G20 is viewed as the voice of multilateralism as opposed to nationalism, of global as distinguished from national governance, of supranational as distinguished from national sovereignty. This is a source of the ominously recurring protests against globalization at G20 summits and the widening nationalist backlash against global agreements on climate change, migration and other global issues.

The new paradigm places the G20 in a different light. It calls on the G20 to use its unique capabilities – its ability to set global agendas and influence global norms; its access to politicians, experts and civil society representatives; and its economic and political clout at international and national levels – to develop a framework for multilevel governance to encourage the recoupling of economic, political and social domains around the world. As countries differ in terms of identities, social norms, institutions and historical traditions, this recoupling implies policy diversity to address national and regional problems, combined with a coordinated multilateral approach to tackling global problems

that is accepted as inclusive and fair. By implication, the G20 should be a forum that encourages national policy diversity, identifying best practices were relevant, and discouraging beggar-thy-neighbor policies. It requires the development of expeditious and fair conflict resolution mechanisms concerning global problems, associated with monitoring processes to detect free riding.

At the same time, the new paradigm for the G20 must support strong national and social identities, on which a common sense of global purpose can be built. Through its Finance and Sherpa Tracks, its various Working Groups, and its Engagement Groups, the G20 can seek to promote a multilevel governance system in which the legitimacy of the parts enhance the legitimacy of the whole.

Achieving this end will require a far-reaching exchange between Eastern and Western, as well as between Northern and Southern, perspectives on global, national and local governance. As these approaches differ in terms of individualism versus collectivism, centralization versus decentralization in the organization of economic, political and social affairs, and absolute versus contextual understandings of morality, a vigorous exchange among these approaches provides a promising basis for a multilevel approach to global and national problem-solving. As explained below, this approach involves understanding multilateral policy as an extension of national policies with regard to transnational challenges, just as national policies are to be understood as complementary to local policies with regard to problems that single localities cannot address on their own. The Japanese G20 Presidency in 2019 may

offer a special opportunity for such an exchange of worldviews.

In sum, overcoming the current crisis of the liberal world order requires a new paradigm for our thinking about human relations. To live in peace and prosperity with each other and the rest of the natural world, we require two things: (1) complementary, polycentric social allegiances that induce us to address our local, national and global challenges at the appropriate scales and (2) polycentric political allegiances and

economic collaborations that are coupled to our social allegiances. Globalization has vastly magnified the scale of our challenges. But we should not despair. Human history is an account of how we have managed to cooperate at ever larger scales through the creation of moral narratives, supported by multilevel governance structures. Our mission now is to create new narratives and governance structures that are appropriate for recoupling our social, economic and political domains in a globalized world.

¹ I am deeply indebted to Markus Engels, Dennis Görtlich, Colm Kelly, Rolf Langhammer and David Sloan Wilson for their highly insightful comments and to Theresa Hoffmann and Jan Zogs for their superb research assistance.

² See, for example, Wilson (2015), Wilson and Wilson (2007), Richerson & Boyd (2006), Henrich (2017), and Turchin (2016).

³ Esteban and Ray (1994).

⁴ McGinnis (1999), Carlisle and Gruby (2017).

⁵ For a comparison of these voting principles, see Maira (2018).

⁶ Collier (2018).

⁷ See, for example, Birdsall, Graham and Pettinato (2000).

⁸ Greene (2013).

⁹ Boyd and Richerson (1985), Richerson and Boyd (2006) and Henrich (2015).

¹⁰ Wilson (2015).

¹¹ Wilson and Wilson (2007, p. 345).

¹² Ostrom (1990, 2010a, 2010b).

¹³ For example, Haidt and Joseph (2004), Haidt and Kesebir (2010), Haidt (2012).

¹⁴ See, for example, Chan et al. (2005) and Bottoni (2018).

¹⁵ For example, the Index of Sustainable Economic Welfare, Green GDP, Genuine Savings and Measure of Economic Welfare.

¹⁶ For example, the Sustainable Development Goals, Sustainable Development Indicators, System of Economic Environmental Accounts.

¹⁷ These include measures of happiness and life satisfaction and other indicators such as the Environmental Sustainability Index, the Human Development Index, Ecological Footprint and the Happy Planet Index.

¹⁸ For example, the Index of Sustainable Economic Welfare and the Measure of Economic Welfare.

¹⁹ For example, the Human Development Index, the Index of Social Progress and Physical Quality-of-Life Index

²⁰ For example, the happiness indicators, the Happy Life Years Index and the Personal Well-Being Index.

²¹ Colin Mayer (2018, p. 41).

²² Ibid, p. 42.

²³ A variety of other desirable changes are described in Kelly (2019).

²⁴ [http://climateinitiativesplatform.org/index.php/Cities_Climate_Finance_Leadership_Alliance_\(CCFLA\)](http://climateinitiativesplatform.org/index.php/Cities_Climate_Finance_Leadership_Alliance_(CCFLA))

²⁵ See, for example, Landry and Murray (2008) on “urban psychology” and the initiative on “Making Cities Socially Cohesive” of the International Federation for Housing and Planning (<https://www.ifhp.org/agenda/making-cities-socially-cohesive>).

²⁶ Kriken (2017) describes nine design principles: accessibility, sustainability, open space, density, incentives, diversity, compatibility, adaptability and identity.

²⁷ <http://ec.europa.eu/growth/single-market/>

²⁸ <http://ec.europa.eu/esf/home.jsp>

²⁹ See, for example, Aket et al. (2011) and Dickes and Valentova (2013).

³⁰ This is my interpretation of Emmanuel Macron’s statement that “Patriotism is the exact opposite of nationalism. Nationalism is a betrayal of patriotism.” (<https://www.reuters.com/article/us-ww1-centenary-macron-nationalism/with-trump-sitting-nearby-macron-calls-nationalism-a-betrayal-idUSKCN1NG0IH>). The underlying issue was clarified by Angela Merkel: “Either you’re one of those who think they can solve everything on their own and just have to think of themselves. That is nationalism in its purest form. That is not patriotism. Because patriotism is pursuing the German interests by taking other people’s interests into account and accepting win-win situations” (<https://www.tagesschau.de/inland/bundestag-generaldebatte-125.html>).

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Repurposing our economies – and our businesses

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INTRODUCTION

This article is an invitation. It is an invitation to debate, challenge, supplement and evolve the content. But most of all, it is an invitation to recognize the need for fundamental systemic change to the manner in which our economies interact with our societies and to consider some of the primary elements of such change and how they might be developed and adapted to allow our "system" to function more effectively.

The case for change, and the basis on which this has come about, has been considered in some detail elsewhere¹ – and will not be repeated. This piece will focus on a deeper understanding of the changes to the basic premise and assumptions underpinning the way in which our economies and businesses have been designed to operate for many decades (and indeed beyond), and therefore a deeper understanding of what needs to change, and how, if we are to bring about greater alignment between business, economies and the societies within which they operate.

How can we reconcile two apparently conflicting scenarios?

1. It is fair to say that we have seen massive unprecedented global progress by almost any measure over the last 70 years. A billion people have been lifted out of pov-

erty,² world per capita income has quadrupled,³ global average life expectancy has increased from 48 years in 1955⁴ to 72 in 2016⁵ and now more than 300,000 people are gaining access to electricity and clean drinking water daily.⁶

2. It is also fair to say that we are seeing large-scale dislocation, mistrust and dissatisfaction in growing portions of the population in many – perhaps especially developed – countries. Over recent years, we have seen unexpected election and referendum results, the polarisation of communities and regular street protests as people make their discontent known.

In fact, not only are these scenarios reconcilable, they are the entirely logical outcome of some very basic principles on which economies and business have been constructed and managed for decades.

Adam Smith described how, in spite of their “natural selfishness and rapacity,” they “are led by an invisible hand to make nearly the same distribution of the necessities of life which would have been made had the earth been divided into equal portions among all its inhabitants, and thus without intending it, without knowing it, advance the interests of society.”⁷ A selfish business is actually a primary vehicle for social progress. Note, however, that the underlying premise was explicitly “to advance the interests of society.” One of Smith’s many extraordinary insights was to equate the selfish interests of individuals and their businesses with the best interests of the communities within which they operated.

Smith was also a product of his time, and his thinking showed this in two significant and related respects. First, “the interests of society” was by definition a

reflection of the social, moral and political context of the time. Second, and equally significantly, the same context informed and influenced the otherwise “selfish” behaviors of individuals in their communities. These otherwise selfish behaviors most certainly reflected an underlying sensitivity to the prevailing moral code.

»This changed context needs to be understood in a number of respects to consider how best to respond.«

Smith was acutely aware of this – his work, *The Theory of Moral Sentiments*, opened with the following statement: “How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortunes of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.” Perhaps in today’s world, he might have used the word care.

In some respects, modern economic and business philosophy (and practice) owes even more to the Friedman doctrine, in which Milton Friedman claimed that,

“there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits.”⁸ We should remember that Friedman – like Smith – was writing in the context of his time. He was deeply concerned about the political risks to liberal democracy of requiring a business to engage beyond the profit motive and saw totalitarianism as a very real threat. His work took place many years before the prevailing communist regimes collapsed in failure. We should also remember that as businesses and economies adopted his credo with enthusiasm, the economic progress that followed did indeed deliver the unprecedented societal progress (in overall terms) we have seen since then.

However, the context within which Smith, Friedman and many other notable economic thinkers developed their theses has changed utterly. Their respective doctrines now operate in a hyperconnected interdependent world of global supply chains, fragmented business functions and relentless financial efficiency that none of them could have possibly imagined. The issue is not that they were wrong – in fact, one might credibly argue they have been proven to be correct as a consequence of the scale of human progress that has been made. The issue is that the world they believed they were designing for has itself changed utterly. They and many others made the compelling case for the role of the profit-motivated business as the primary vehicle for societal (or political) progress, and they were largely correct. However, this is typically because at the time, their work was also supported by an underlying context in which related behavioral norms were firmly established and

reflected the broader interests of other stakeholders, and the interests of society beyond the financial. Put simply, the profit motive worked so well and for so long because it was always supported by other factors that established norms of behavior to guide economic activity in broad alignment with the interests of society. We need to ensure that the profit motive continues to be buttressed and balanced to this effect for the future.

This changed context needs to be understood in a number of respects to consider how best to respond. First, as business began to operate on a truly global scale and as it became ever-more feasible to disaggregate functions and relocate activities, businesses inevitably became ever-less grounded and connected with their local communities – in other words, the moderating effect of the local, social and moral context became less relevant. Local relationships – with customers, employees and suppliers – became less significant. The same dynamic also changed the nature of businesses themselves – it became feasible for a business to become truly impactful on a global basis at a global scale. The combined effect of the globalization and the technology that emerged in the late ’80s, working in a system that was originally (intentionally) designed to have an emphasis on financial performance, began to create a disconnect between business and economic activity on the one hand, and societies on the other.

So how can we redesign our economies and therefore our businesses to advance the interests of society in a world facing both new challenges and opportunities?

The first and primary principle is to once again articulate the premise or objec-

tive for economic activity – to advance the interests of society. In simple terms, the challenge is to take Smith’s original framing and consider how it needs to evolve to reflect the world we live in now. The implications of this ambition are not simple, but they are profound. So much business and economic thinking has, for decades, been founded on the notion of profit-motivated businesses that to deconstruct, redesign and reorient the edifice that has emerged as a consequence is no small task – but it is a necessary and increasingly urgent one.

A business is successful and ultimately sustainable because – and only because – it meets a need, a need that is ultimately human in nature. A human or social need creates an opportunity for a business to respond, whether directly or indirectly. A modern economy is the most extraordinary mechanism for matching human needs and opportunities. But if a business – or an economy as a whole – fails to deliver on this purpose, and fails to meet the needs of its broader stakeholders on a sustainable basis, then the very existence of the business – or the economic system – is at risk. This applies to an individual business operating in a manner that customers, employees and/or others consider to be unacceptable – we have seen many examples of these debates emerge in recent years. It applies equally to an economic system as a whole that fails to address the needs of a significant portion of the society in which it operates, or which even threatens the sustainability of the planet. We see concerns at this level reflected in the political upheaval in many countries.

This does not mean that the objective is to dispense with market economies. Quite the opposite. We have learned from expe-

rience that market economies functioning broadly in alignment with the societies within which they operate deliver more effectively for citizens and communities than any other model we have seen. The market economy, the engine for matching human needs and opportunities, can be a great contributor to societal progress. The profit motive of each individual business is a necessary and essential component of any market economy. One question is whether it is the sole or primary component. More particularly, the real question is what is the means by which a business makes its profits? Market economies have always operated with certain facilitations and protections, as well as with certain boundaries and limitations, which naturally reflect a society’s expectations. By definition, therefore, these requirements, conditions and enablers also help establish norms, responsibilities and expectations. In a truly globalized, technology-enabled world, these norms and expectations need to be drawn more explicitly so that financial performance is guided toward – and in turn fuels – sustainable societal progress. The issue now is to determine how these factors must be redefined and redrawn for the world of today and tomorrow to facilitate thriving businesses and economies that in turn enable thriving and sustainable societies. We must recouple economic and societal progress.

Part of the complexity of the recoupling task at hand is, of course, that it requires a systemic transformation. It is impossible to address one aspect of change without making fundamental adjustments to a web of interlinked factors. The macro environment for business must be recast if business is going to operate differently

in the long term. Likewise, all aspects of the constitution and operation of the firm – from legal and fiduciary requirements, to cultural values and established norms, to measurement and reporting – are intimately connected and must be altered holistically and in tandem to affect meaningful and sustainable change. There is also a dynamic and undeniable relationship between the macro and micro that cannot be overstated. Efforts must be focused on overcoming localized challenges and realising localized opportunities while at the same time acknowledging the realities of a globalized world and all that it entails. The areas of focus I explore next should be understood as component parts of a much bigger picture, each acting as a lever that will inevitably influence the other.

»A modern economy is the most extraordinary mechanism for matching human needs and opportunities.«

1. PURPOSE OF AN ECONOMY

Adam Smith’s own phrase of “advancing the interests of society” seems a good

place to start in defining the primary objective of economic activity. However, it also highlights the immediate challenge – absent the ability to rely exclusively on the profit motive of a business (guided, of course, by the moderating influence of the social, moral and political context of the day) to deliver against such an objective, how are such interests to be determined?

While considerable progress is being made to identify means and measures to help define social progress, it is important to remember the two interdependent elements noted earlier: the profit motive and the prevailing societal perspective. Because the latter is effectively a matter of social, moral and political context, and the behavioral norms and expectations which emerge as a consequence, this implies that there will be significant variations in what are considered to be acceptable “societal interests” based on variations by country, or even by community within countries. This in turn implies that seeking to impose some form of standardized or default set of assumptions top down is very unlikely to be effective. Communities and countries will need to engage civil societies in meaningful debates about expectations, standards and objectives, and at a minimum, there will need to be some meaningful mechanism to facilitate/resolve debates about competing or conflicting interests. This latter point quickly highlights the systemic nature of this overall framing – regardless of the country-specific objectives, governance is required to facilitate progress where these interests potentially conflict, both within and between countries.

None of this is to diminish the significance or urgency attached to the need to

define and report broader measures of societal progress – these are critically needed to help orient economic activity toward alignment with the relevant societal objectives. In fact, much compelling work has been undertaken to define societal interests and alternative measures of success that move beyond the financial.

»Communities and countries will need to engage civil societies in meaningful debates about expectations, standards and objectives.«

These are not straightforward questions, and they have surfaced repeatedly over many years, initially highlighting the shortcomings of our current methods. In a 1968 speech to the University of Kansas, for example, US presidential candidate Robert F. Kennedy recognized that gross national product “measures everything... except that which makes life worthwhile.”⁹ In the period since, Joseph Stiglitz, among other leading economic thinkers, has ar-

gued that Gross Domestic Product (GDP) tells us nothing about sustainability.¹⁰ As it is argued in relation to the Social Progress Index (SPI),¹¹ “if people lack the most basic human necessities, the building blocks to improve their quality of life, a healthy environment and the opportunity to reach their full potential, a society is failing regardless of what the economic numbers say.” GDP has been increasingly seen as only a crude success measure, leading several pioneering organizations to explore alternative models. The Organization for Economic Co-operation and Development’s (OECD) Better Life Index, for example, allows for a better understanding of what drives the well-being of people and nations, and what needs to be done to achieve greater progress for all.¹² Similarly, the SPI offers a comprehensive measure of real quality of life, intended to complement rather than replace economic measures, such as GDP.¹³ Both initiatives reflect a vision of a world in which people’s needs come first.

It is also worth reflecting on the United Nations’ Sustainable Development Goals (SDGs)¹⁴ – not least because they potentially represent a truly global and consistent approach to defining the societal goals and outcomes to which countries wish to aspire, and for which, by definition, all countries will be relying on economic activity in one form or another to deliver on. However, as suggested earlier, there are some considerable challenges to be addressed in practice, not least of which is the need for individual countries to reflect both different realities but also different cultural and social preferences and priorities over the planning period. And without the engagement of civil society in this process, the legitimacy of the outcomes and

support for the ensuing actions will almost certainly be a challenge.

The SDGs are – perhaps inevitably – a hugely complex set of measures against which to progress on this basis. But if progress is to be made, then it is also essential to bring the role of the SDGs (and/or equivalent measures) to bear in economic and business purposes – and therefore policy and strategy – in a meaningful and achievable manner. This very likely leads to the following observations:

- Policy, as well as economic and business planning, likely needs to reflect the differing starting points and maturity of different countries for different factors.
- Similarly, countries will also likely have different cultural, political and historical perspectives on prioritizing the goals, as well as different norms and expectations.
- There is, therefore, both a prioritization required and a sequencing. Many of the goals are interdependent – and societies and communities will typically have a “hierarchy of needs” when considering how and when to progress, as well as in which order.

Once the debate moves beyond the notion of traditional “financial” measures of successful outcomes, stakeholder engagement is needed to define a country’s priorities in its broadest terms and to define the purpose of economic activity to advance these interests. With the announcement of its first Wellbeing Budget to take place in April 2019, New Zealand is making strides in this regard.¹⁵ The budget will formalize the country’s approach to delivering better living standards in line with the government’s belief that economic growth is a means to an end and not an end in it-

self. The New Zealand experience, alongside other initiatives already underway, is sure to prove instructive.

2. CORPORATE (OR “BUSINESS”) PURPOSE

Since the basic premise of (successfully) using economic activity to advance the interests of society has been founded on the assumption that this is effectively delivered by the “selfish profit motive” (as guided by the “invisible hand”), it is unsurprising that this same ethos has been heavily embedded in the rules, regulations and cultural norms and practices surrounding business behaviours and responsibilities.

Corporate purpose is typically focused on the equivalent of the Friedman doctrine – i.e., financial, short term and limited to shareholders – as stakeholders in which “there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.”¹⁶

It is not at all surprising that an institutional framework (legal, investment, regulatory, management, governance, etc.) that has been designed to focus the activities of corporations on primarily financial and typically short-term results has been very successful. In fact, as we have seen, for a very long time, this was highly aligned with delivering societal progress. However, in an era in which we have seen greater misalignment in this regard, and a decoupling of economic and social progress with the attendant political reactions, it is essential that this same institutional framework is itself redesigned so that it explicitly de-

defines the expectations of business in a broader manner, redefines the purpose of a business in this regard and tackles the related changes needed in terms of governance, regulation and management.

This point again highlights the systemic nature of the change needed and the interdependence between the various elements. It will not be possible to refocus economic activity without redefining and then redesigning the related framework that establishes and drives the behavioral norms and expectations for individual businesses. And, by definition, therefore, this framework must flow into the related reporting obligations at both macro and micro levels, as well as the related need for alignment between the macro and the micro, of which I discuss more next.

It is perhaps worth the reminder that it is only in the last half century of the corporation's near two-millennia existence that profit has replaced public purpose as the sole corporate purpose.¹⁷ Initiatives are now emerging to redefine the purpose of a corporate entity and its responsibilities formally. The United Kingdom's new Corporate Governance Code is among those initiatives that go furthest by stating: "the board should establish the company's purpose, values and strategy, and satisfy itself that these and its culture are aligned. All directors must act with integrity, lead by example and promote the desired culture."¹⁸

The British Academy has launched important research in this area through the Future of the Corporation Initiative,¹⁹ setting out a reinterpretation of the nature of the corporation that focuses on corporate purpose, its alignment with social purpose, the trustworthiness of companies and the

role of corporate culture in promoting purpose and trust. It is a valuable contribution for policymakers and business leaders alike, and is sure to become even more instructive in its next phase as it examines a number of these areas in greater depth.

»A business which is not clear about its purpose within that framework may be putting its sustainability at risk.«

In the United States, Senator Elizabeth Warren has put forward the Accountable Capitalism Act,²⁰ targeting large companies with a new approach to corporate governance. The French government has also been rethinking the place of companies in society through its Action Plan for Corporate Growth and Transformation,²¹ which is intended to protect the notion of the social interest of a corporation, imposing a requirement that a corporation should no longer be managed solely in the interests of its shareholders but, more broadly, in line with the interests of society as a whole. These initiatives all represent attempts to

change the aspects of the framework in which business operates and provide a vital source of learning as we consider a broader systemic transformation.

There is an important distinction to be made between the "operating system" for business generally on the one hand and the choices which a specific business may make to make a profit within that system. The overall system should frame the choices available so that there is overall alignment. However, each individual business must determine its own purpose – within that operating system – and then compete vigorously and fairly to make a profit by delivering on the purpose which it has chosen to focus on. Put another way, making a profit is an entirely appropriate consequence of successfully executing on the purpose that a business has chosen within the overall framework. In fact, a business which is not clear about its purpose within that framework may be putting its sustainability at risk – making a profit could be seen as an increasingly unacceptable motive when it appears to derive from activities which are otherwise considered by society as unacceptable and unsustainable. We see more and more examples of this kind of tension arising for individual businesses in today's world – and very often at moments of crisis.

3. MEASURING AND REPORTING FACTORS

Building on the perspectives described earlier, it is clear and understandable that the reporting responsibilities of businesses have been focused primarily (and arguably exclusively) on the financial performance of the business, primarily based on the responsibilities to its shareholders and

primarily focused on the relatively short term (and arguably the very short term). In a similar vein, macro-economic reporting has tended to focus on a narrow range of metrics, with a particular emphasis on GDP.

Two observations are immediately relevant.

The first is that at both the macro and the micro level, current approaches to measurement and reporting are neither sufficient nor effective, especially in the context of the shift needed away from an exclusive emphasis on short-term financial results.

There has been a proliferation of initiatives, standards and frameworks to help companies deliver on an ambition to measure and report on more than just financial outcomes, and beyond Corporate Social Responsibility initiatives. This momentum partly reflects a shift in investor preferences but also both consumer and employee demands. The launch of the Compact for Responsive and Responsible Leadership²² at Davos in 2017, for example, marked a comprehensive global corporate effort to define a framework for business leadership according to long-term sustainability principles. This framework lends greater coherence to private-sector efforts, many of which have strived to incorporate Environmental, Social and Governance (ESG) information into their operations over many years. The Leadership Compact is an addition to the multiple initiatives that have already been established internationally to encourage business to operate responsibly and sustainably, and to report on their activities.²³

However, there is still a long way to go. The absence of commonly held termi-

nologies, guidelines and market standards continues to be a hindrance, along with inadequate data, the dominance of short termism in the financial markets and inconsistent baselining, leading to a lack of comparability of data. As it stands, there is little common understanding and practice to evaluate how business is impacting sustainability and people's well-being.

The second observation may be less obvious, but it is highly significant. Since the selfish profit motive was identified as the guiding premise for delivering societal interests, it is unsurprising that both macro and micro reporting largely converged around an emphasis on largely equivalent metrics, which are largely financial in nature. In light of the misalignment which has now emerged, it will be equally key to ensure that there is a high degree of synergy between the reporting which takes place at both a macro level and corresponding micro level to foster the desired realignment. Otherwise, we should expect that business will continue to focus on one set of outcomes as defined, frankly, regardless of how these outcomes align with the interests of the society within which the business operates.

This is not to suggest that any single business should be treated as a microcosm of an entire economy and report on this basis – but it does suggest that there are societal interests on which businesses have profound influence – and these factors will need to be more prominently reported on in a consistent manner. This is also a reflection of an equally significant reality: that societal outcomes are a reflection of activity in both the public and in the private sectors. Governments, as well as businesses (and hybrids thereof), will

need to be clearer than ever about their respective goals, expectations and responsibilities in the context of who is expected to play which role in delivering on target objectives.

There are a number of ways in which macro and micro metrics can be better aligned. If Gross National Income (GNI) is used as a macro indicator, for example, measuring the total income of all residents, it is possible to then consider a number of corresponding indicators at a micro level. A business contributes to GNI by generating income for residents – far more than just its profit. Its contribution consists of all the (value-added) income paid to shareholders, creditors and workers. Indicators at both the macro and micro levels must be consistent with a reasonable conception of the well-being of a population. This still allows for some flexibility when selecting indicators, of course, because there are diverse conceptions of well-being and different approaches to aggregating it as a whole.²⁴

When reviewing a select number of other macro indicators, it is possible to explore their micro equivalents. A dashboard approach, for example, establishes a range of indicators and allows the study of how micro entities contribute to each one. If income inequality is a macro indicator, one method to measure a business' contribution to it is through the distribution of wages in the payroll and to compare it to the distribution of wages in the economy. In the case of synthetic indicators (such as human development indexes), a similar approach can be taken in which each component of the macro-level indicator will align to its corresponding micro indicators. This exercise must, however, take into ac-

count the calibration required at a micro level to reflect the process of aggregation at a macro one. Other methods include "subjective well-being," which would require the use of empirical surveys to glean levels of stakeholder satisfaction with businesses and "equivalent income" (e.g., OECD Multidimensional Living Standards) which correct income for non-market aspects of quality of life and can be adapted to the level of a company by making corrections to the bottom line or to the total value added to the company.

4. RESPONSIBILITIES TO "STAKEHOLDERS," CORPORATE GOVERNANCE AND OTHER NORMS AND INCENTIVES

I have referred to the reality that in many legal systems, businesses are legally required to operate in a manner that is primarily, if not exclusively, responsible to shareholders. This is typically a reflection of the evolution of the notion that "the business of business is business",²⁵ as described earlier. However, it becomes an obvious hurdle if economies are to look to deliver on societal interests, especially if these are now viewed as much broader than (or even challenged by) the narrower focus on shareholder interests. A thorough review of corporate governance in this context is clearly required, building on the debate needed to address the nature of corporate purpose as described earlier, including shareholders' and other stakeholders' responsibilities. It also encapsulates other factors that are often attributed to the overall emphasis on "shareholder value" as the driving force for business strategy and corporate decision making. And this same frame of reference is embedded in business culture and

management approaches within organizations – management responsibilities and incentives which drive behavior equally reflect a typical emphasis on the financial and on the short term, and which in turn is reinforced by the resulting reporting framework not only externally but also within the typical business.

»Current approaches to measurement and reporting are neither sufficient nor effective.«

This is not to suggest that financial performance (and discipline) is not a necessary element of a market economy – it clearly is. The question is the degree to which it is the primary (exclusive) factor and the degree to which other target outcomes are supported (or actively inhibited) by equivalent drivers of behavior and norms. Financial success must be a (worthy and desirable) consequence of a business operating successfully in overall alignment with the interests of society. This means the various factors that establish norms of behavior in this regard – investor expectations and requirements, legal requirements, reporting obligations, governance, management incentives,

etc., – must all work together to support this alignment. The “wiring” of our economies must be examined and redesigned to focus on this.

»Our system as a whole needs to be rewired.«

At the level of the investment community and its operating framework, a growing number of financial institutions have been showing interest by launching new initiatives to support the SDGs. For example, the United Nations Environment Programme (UNEP) Finance Initiative and Principles for Responsible Investment (PRI),²⁶ representing more than 1,800 organizations with combined approximately \$80 trillion in assets under management,²⁷ are working with the UN Global Compact to create innovative financial products that have the potential to redirect public and private finance toward critical infrastructure and solutions that are integral to the SDGs. The World Bank has launched a program of equity index-linked bonds, which will allow investors to contribute to the financing of sustainable development projects and benefit from the performance of companies making a significant contribution to the SDGs.²⁸

A large number of principles have been in effect for some time, among them the Equator Principles, UN Principles for Sustainable Insurance, UN Guiding Principles in Business and Human Rights, Climate-Wise Principles and Green Bond and Green

Loan Principles, as well as standards, including World Bank/International Finance Corporation (IFC) Performance Standards (plus other regional bank equivalents) and Climate Bonds Standards. Banks also tend to follow a wider range of principles and standards for specific issues: for example, the Wolfsburg Principles, UN Global Compact, Montreal Protocol, etc., as well as others, for disclosure. The upshot is that there is no shortage of frameworks in place for companies to orientate themselves to broader stakeholder considerations. Furthermore, the number of ESG or sustainability-related indexes around the world rose from less than ten in 1993 to hundreds today and continues to increase as more retail and institutional investors seek to integrate ESG criteria into their investments.²⁹

We have also seen new models emerge, contrasting with the traditional corporate construct. For example, more than 2,500 companies across 150 industries are now certified B Corporations.³⁰ B Corporations consider the impact of their decisions on their workers, customers, suppliers, community and the environment, and represent a dedicated and growing movement to align business priorities to those of the communities and broader societies in which they operate. Certified B Corporations also amend their legal governing documents to require their board of directors to “balance profit and purpose.”

The obvious and significant challenge is that, notwithstanding the availability of so many initiatives and frameworks, the default premise for most businesses reflects the behaviors and norms established by a system designed to focus on financial performance above all else.

This is reflected in investor expectations and requirements, legal and fiduciary responsibilities, management practices and strategies, reporting and standards, business education and training, rewards and incentives and so on. Having described all of these disparate elements as the “wiring” of our economic and, therefore, business systems, all of these and the other elements of our system need to be oriented in alignment with the broader societal needs and outcomes. Our system as a whole needs to be rewired.

5. THE FLAWED PHILOSOPHY OF “EXTERNALITIES” IN TODAY’S REALITY

Once it was accepted that the “selfish” profit motive was a basic premise for economic and, therefore, societal development, it was perhaps inevitable that there was a need to invent the concept of “externalities” – a way of managing factors external to that premise and therefore to the models designed to reflect it.

Since the underlying premise is no longer functioning sufficiently well, so too do we need a new way to think about the factors which are or were external to such a model. This is not only relevant to economic theory and practice; it is highly relevant to business strategy and performance. Building on the original premise, businesses typically measure, report and manage on the basis of financial performance which also ignores “external” costs – for example, whether related to health costs or environmental costs or any other similar factors where the costs are indirect and must, therefore, be borne by “someone else.” During Smith’s lifetime, of course, natural resources were in plentiful supply, and the planet could support the popula-

tion’s needs. In today’s world, this is a good illustration of how the system which has developed will actively inhibit the ability of an economy to deliver on broader societal interests – the reported financial performance of a business must by definition be an overstatement if it does not reflect the indirect costs of doing business which arise directly as a consequence of that business. It also represents a significant challenge to the appropriate allocation of capital, since investors cannot fully assess the risk of particular business activities. By addressing externalities (by ensuring that to the greatest extent possible they are internalized), both investors and companies can make better business decisions, based on fuller, more accurate information and bring an integrated approach not only to the management of risks but also to performance improvements and longer-term value creation. It is also a means to build trust with different stakeholder groups in the process. These are all integral to a collective effort to drive common purpose.

The obvious conclusion in light of the changed premise is to redesign models of economic and business performance and reporting to minimize externalities. And in doing so, we should not assume that all human activities must fit into an economic model – many critical aspects of human well-being are by definition outside the scope of the market and outside the scope of economic activity. Put another way, we now need to stop explaining why the world doesn’t fit with our original economic and business models, and change the models to ensure that they reflect our world.

Efforts are underway to consider how this might be done. One example is the International Integrated Reporting

Council's (IIRC) principles for integrated thinking and reporting, which are being implemented by approximately 2,000 organizations around the world.³¹ Principles such as value creation, the longer term, future orientation and "multiple capitals" are embedded in the Integrated Reporting Framework.³² Where properly adopted, this enables more strategic and integrated information sets that show the relationships between human, social and natural capital, for example, and their impact on financial performance – bringing a new perspective to decision makers both internally and externally. Another example is the European Union Non-financial Reporting (NFR) Directive, which now requires 6,000+ companies to ramp up reporting of environmental and social aspects of their operations. The directive represents a minimum standard for non-financial reporting across the EU and allows for considerable flexibility for member states to develop an approach that works in the respective contexts.³³

There also is very interesting work being done to bring such externalities within the reporting responsibilities of business – for example, in relation to climate risks in UK banks, requiring banks to recognize financial risks on their balance sheets attributable to climate change.³⁴ On a global level, the Financial Stability Board – a G20 advisory body – established the Task Force on Climate-Related Financial Disclosures (TCFD)³⁵ to provide greater transparency to company reporting, ultimately giving investors the information about climate and environmental risks they need to make better informed decisions on where to deploy their capital. TCFD figures (August 2018) show that

over 290 companies have expressed their support for the recommendations, with a combined market capitalisation of over \$6.6 trillion.

Recent research³⁶ by PwC, in collaboration with the Natural Capital Finance Alliance (NCFA), UNEP and Global Canopy, warns that most financial service providers are still not assessing the financial risks associated with environmental degradation. While banks have made progress on disclosing environmental risks, most are failing to assess the sustainability of their entire portfolios and how they will be affected by, for example, droughts, floods and heat waves. By placing financial value on natural resources, a natural-capital approach would integrate the management of ecosystems with economic decision-making and development. While financial institutions are increasingly making a dedicated effort to measure their impact on sustainable development by integrating ESG information into their work, there is a long road to travel. Despite the many worthwhile examples of a growing commitment to sustainability activity and reporting, firms that are measuring their impact only represent a small percentage of the estimated US\$135 trillion aggregate balance sheet of the banking sector globally and the approximately US\$100 trillion investment assets under management.³⁷ This "gap" is a good illustration (again) of how all of the component parts of the system are interdependent and need to point in the same direction – if the governance and reporting frameworks are not supportive and consistent, the issue of externalities will continue to be a fundamental challenge. There is clearly more work to do.

6. COMMUNITIES MATTER MORE THAN AVERAGES

One of the significant challenges in the many debates now underway about our political and economic systems is a tendency toward the polarization of perspectives – especially about participation in the global economic system. The globalized economy has been painted by many populist politicians as a factor in – if not the primary driver of – the negative outcomes experienced by frustrated segments of the population. In other words, the globalized economy is a bad thing.

»Progress on average is not a sufficient measure of success.«

In a similar vein, defenders of the globalised economy point to the enormous progress which has – as a matter of fact – been made in overall terms over the last several decades, a period of unprecedented societal progress by almost any measure, which could not have happened without a globalized economy.³⁹

The difficulty is that both perspectives are valid. Populist politicians can appeal to increasingly large segments of the population because these citizens are increasingly dissatisfied – whether or not this is actually attributable to participation in the global economy. The bottom line for these

concerned citizens is that their economies are not seen to be serving them well, for whatever reasons. And it is true to say that global economic activity has delivered massive social progress in overall terms – but large segments of the population in many economies feel left behind. Average global progress is meaningless (or worse) if it appears (or you believe it) to be coming at your expense.

There are some key themes that emerge. First, there are compelling arguments in support of the value which an interdependent globalized economy delivers, but that does not mean that economies generally do not need to evolve to address the needs and interests of those who do not feel they are participating – for whatever reason. Progress on average is not a sufficient measure of success. Second, and following from this, it is critically necessary to focus on the needs of communities in geographically more specific terms, rather than to risk "masking" these needs by focusing on policy measures intended, for example, to drive overall or average economic growth, typically in financial terms. There are some interesting examples of where a different approach has been taken.

In severely disinvested US neighborhoods, for example, the notion of "community wealth building" was developed to start systems change, with its roots at the local level. When Cleveland had lost a significant percentage of its population and many of its public companies because of deindustrialization, the Evergreen Cooperative was established to create a more sustainable local economy and generate living-wage jobs in low-income neighborhoods.

Similarly, in the northern town of Preston, United Kingdom, the local city council took an “ultra-localist” approach to economic policy in the wake of the last recession. By encouraging “anchor institutions” – so-called because they were unlikely to up and leave – to buy the goods and services they needed from local businesses wherever possible, the council shaped the market to suit the community. Research carried out by PwC UK and the British think tank Demos revealed that Preston is the most rapidly improving urban area in the United Kingdom to live and work.⁴⁰

The Cleveland and Preston examples, and others like them – including the US Investing in Opportunity Act⁴¹ and Mondragon cooperative⁴² in the Basque country – have started to form part of the answer to our strained economic system by applying new design principles at a local level, working to create economic inclusion from the outset, as well as designing policy for the holistic success of communities in broad human terms, rather than primarily narrow economic or financial ones.

Another good example is Project Nagarik⁴³ in India. This initiative supports employment generation where it is needed most, in the smaller districts of India, where a majority of Indians reside. It develops employment strategies that leverage the state’s core capabilities and existing strengths, creates linkages to market needs, identifies what’s required for long-term and sustainable employment generation and forges a concrete role for citizens alongside government and the private sector in the process. In doing so, this collaborative, locally grown model for employment generation is shifting the economic balance within the country and creating

new opportunities where they have been steadily dwindling.

The Saigon South Urban Development Project in Ho Chi Minh City, Vietnam, also adopted a dedicated focus on job creation, education and infrastructure investments, and has built up a new sustainable, inclusive, knowledge-based urban center.⁴⁴ There, an area of swamp land with no road access, water or electricity has been transformed to create a liveable, sustainable city. Residential neighborhoods, hospitals, shopping malls and office buildings have developed, each meeting a new social need within the urban community. Today, 65,000 people from over 40 countries live in the city centre and over 10,000 service-sector jobs have been generated, with a boost to workers’ skills.

»The objective here is to create not just commonality of interest, but commonality of purpose.«

These strategies are all diverse and unique to the local circumstances that have caused them to emerge, but all of them have a common commitment to improving the lives of people living in their respective communities. They have been proactively

designed with a far broader, more holistic view in mind of the human and social needs of a community that go far beyond the financial. The economy is not treated as the answer but a means to a human end. This is in contrast to the default assumptions that have underpinned the traditional approach to business and economic thinking for decades, where often the opposite is true.

7. FIX THE SYSTEM, NOT JUST THE SYMPTOMS

The examples above represent attempts to redesign the current system so that it is inclusive from the outset and working in the interests of people and their communities.

This is a very different premise compared to a focus on redistribution to address the implications of disrupted communities, regions or demographics – people left behind when jobs fade or depart (or were never available in the first place). We must recognize that the systemic change is needed not only for those who currently participate in the economy, it is even more urgent for those who are or may become excluded from such participation – and this clearly links to the related comments on geography and skills.

This debate is important today in the context of discussion about the globalized economy and the challenge of responding to those who have become marginalized. However, it is also critically important in the context of the disruption that is inevitably still to come as new technologies impact at scale – as they surely will. It will likely not be acceptable to respond by redistributing (in financial terms) to provide minimum levels of support to those excluded – whether in the form of Universal Basic Income or otherwise. This will not

satisfy people’s individual or social desires for fulfillment, intellectual stimulation, teamwork, productivity and personal growth. The concerns of families and communities likely relate to anxieties about empowerment, control, fairness, trust and estrangement. Responding with an emphasis on financial redistribution may lead to a future without hope or true care. This is not a sustainable or desirable future.

Our economic engine – our operating system – now needs to be oriented to recognize and then deliver on what makes communities and societies successful, and supporting people to thrive from the outset, rather than excluding them and then trying to manage the consequences. We can learn a huge amount from the local and other examples noted earlier that are attempting to do precisely this.

8. GOVERNMENT POLICY AND MARKET RESPONSE

One of the most challenging and perhaps contentious debates is, and will likely continue to be, around the role and relationship between government on the one hand and business on the other – finding the right and successful balance between “intervention” by government and the effective functioning of the market economy. However, this question becomes even more significant in the context of a reframing of key assumptions that have underpinned economic and business strategy in the manner described earlier.

A key point to make at the outset is that the effective functioning of a market economy has always required some degree of regulation or intervention, not least to preserve the essential characteristics of a functioning market, including competi-

tion – which by definition, for example, requires antitrust provisions. Market economies have always been guided by a policy framework that reflects the political and societal context. The reframing described requires a fresh perspective on how these guidance measures should be defined and implemented to reflect our intentional focus on the purpose of an economy to support societal interests.

»The Fourth Industrial Revolution offers huge potential to transform and realign economies and societies.«

This suggests that the overarching objective should be for policymakers to ensure that the guidance measures are designed so that the economy is aligned to the greatest extent possible toward delivering on societal interests, but that otherwise the level of intervention should avoid inhibiting the effective functioning of the market economy. The objective here is to create not just commonality of interest, but commonality of purpose.

To reiterate a key point made earlier – this does not mean that the selfish profit motive is problematic – quite the opposite. It is both necessary and desirable for a market economy to function. The policy framework – the operating system – provides the opportunity for a business to make profit successfully in a manner that is aligned with the interests of (or at minimum not contrary to) the society within which it operates – this is how commonality of purpose comes to life.

There are some interesting examples of this principle in action. The UK government established the Business Innovation Facility,⁴⁵ a market systems development program that aims to improve the lives of the poor by identifying and addressing constraints in selected emerging and developing countries, providing technical assistance to business and other market players, and replicating business models that make markets more inclusive.

In Germany, government policy ensures the same level of infrastructure (broadband, roads, etc.) across different regions to drive private-sector and small- and medium-sized enterprise (SME) activities outside of primarily large, urban centers, and to create more opportunities in all regions of the country. This has enabled specialized enterprises to prosper in remote areas as well as urban centres and has also led to most German citizens living in small- and medium-sized towns, rather than large cities, with a correspondingly high standard of living.⁴⁶

These two examples also highlight the growing reality of differing political systems around the world that are using common approaches to leverage market economies but based on very different political

models. China is an obvious example, of course, but by no means the only one. The Belt and Road Initiative (BRI) has been called a Chinese Marshall Plan, echoing the effort made at the end of the Second World War to regenerate Europe. Covering over 70 countries, 65% of the global population and 30% of global GDP,⁴⁷ the BRI is a state-led programme (enshrined in the constitution) that is simultaneously stimulating economic activity, providing a strategic vision for the alignment of public authorities and business to deliver and potentially creating the world's largest platform for regional collaboration. The implications of such a large-scale investment continue to be debated, but BRI nonetheless provides an interesting example of how a country or a region can establish a vision in which economic activity is intentionally used to deliver broader outcomes, rather than as an end in itself.

As political systems wrestle with the implications of a globalized, technology-enabled world, combined with the power of market economies, we are very likely to see further variants of these models emerge.

9. LEVERAGING – AND MANAGING – TECHNOLOGY

Technology is neither inherently good nor bad – but its deployment is having an unprecedented impact on human beings and society more broadly. The blistering speed with which technological developments have unfolded has left no time for citizens, governments, academics, business leaders – or even the tech architects themselves – to consider what we are gaining and losing as a result of new technologies coming into play. The cultivation of tech-

nology within the context of a new societal framework that puts people first, locally and globally, would create a new platform for discussions over the boundaries, principles and ethics associated with technological advancements. It would also underscore the huge opportunity that exists to use technology to facilitate businesses and therefore economies addressing social needs.

The Fourth Industrial Revolution (4IR)⁴⁸ offers huge potential to transform and realign economies and societies. 3D printing can be used by suppliers of school cafeterias and hospitals to make the mass production of meals more wholesome or by construction companies to produce affordable, disaster-resilient homes in just 24 hours. Firms that supply medical equipment or machinery parts can do so at low cost and to a high degree of personal specification.⁴⁹ Some Fintech companies are identifying products and services that meet the varied needs of their consumers and delivering them in a tailored way – for example, mobile wallets and digital lending platforms are enabling customers to pay their bills, carry out peer-to-peer lending and use their mobiles without even having a bank account. This is having a particularly profound impact for many of the “unbanked” communities in developing countries while at the same time potentially providing early warning signals of systemic financial strains. In transport, advanced materials, including graphene and nanosolutions, are close to underpinning battery breakthroughs for inexpensive, quick-charging, energy-dense batteries that could make new products – electric cars – viable and both performance and cost competitive.⁵⁰

Equally, technology presents significant risks and challenges, both in relation to the implications for employment and, more broadly, in terms of data acquisition and usage, as we have seen. It is critical, therefore, to ensure that technology is actively managed to align with societal needs. There is, of course, an ongoing debate in this area. Concerns over upheaval in labor markets, growing inequality and declining trust in dominant companies and their use of data are catalyzing discussions over the regulatory and other tools that should be introduced to shape the digital era.⁵¹ Current lags are creating tensions between traditional and digital firms, and between digital firms and policymakers,⁵² and may also result in public frustration.

From a broader economic perspective, the scale of disruption that new technologies will certainly catalyze for many traditional jobs will be hugely significant. PwC UK's analysis suggests that a significant percentage of jobs could potentially be at high risk of automation by the early 2030s – specifically, 38% of US jobs, 35% in Germany, 30% in the United Kingdom and 21% in Japan.⁵³ In fact, 60% of people PwC surveyed think few people will have stable, long-term employment in the future.⁵⁴ This factor alone will require significant policy, economic and business planning and response. It is true to suggest that many new jobs will be created, and indeed, many more existing jobs will likely be augmented by technology, rather than replaced. We see both factors in play already. But these new and augmented jobs will typically require very different skill sets on the part of those already in employment, or hoping to join the workforce. Governments and businesses will need urgently to work closely

together to plan for these skills, for the disruption; to encourage and facilitate the innovation needed to allow new businesses to be created at enormous scale to replace major job losses; and so on and so on. Many of the elements of systemic change described in this article will be needed to orient our economies to respond to these changes – including the element which immediately follows: the need to protect people, not jobs.

10. PROTECT PEOPLE, NOT JOBS

We are living through a fundamental transformation in the way we work. Automation and “thinking machines” are replacing human tasks and jobs, and changing the skills that organizations are looking for in their people. These momentous changes raise huge challenges at a time when business leaders are already wrestling with unprecedented risk,⁵⁵ disruption and political and societal upheaval.

Many analysts focus on technology itself and the role that automation is predicted to have on the workplace. But the picture is far more complicated. The real issue is less about technological innovation and more about the manner in which humans decide to use that technology. The shape our future will take will be the result of a range of competing forces, all of which are unfolding at a speed that is hard to predict.

As more and more individual tasks become automated through artificial intelligence and algorithms, jobs are becoming redefined and recategorized. Some sectors and roles, even entire sections of the workforce, will lose out, and others will be created. PwC research in this area revealed that 37% of people surveyed⁵⁷ are

worried about automation putting their jobs at risk, reflecting a growing sense of anxiety that may continue to take hold around the world.

It is highly likely that automation will not only alter the types of jobs available but also their number and perceived value. The replacement of workers doing routine tasks will increase the comparative advantage of those workers with problem-solving, leadership and creative skills. These skills will be prioritized by employers, and yet CEOs believe finding the right skills they need has become one of the biggest threats to their business – 79% of CEOs in PwC's 2019 CEO survey⁵⁶ say they are worried about finding the skills they need, and 62% are saying they find it more difficult to hire workers in their industry. There is no doubt that we need adaptability – at both an organizational and individual level – to navigate the inevitable scale of change that we have ahead.

This implies that we need to be deliberate in the way we allow technology to develop, recognizing and managing, at all stages, how it affects society. Mass unemployment is a deep concern, and 56% of people surveyed think governments should take any action needed to protect jobs from automation. However, it is arguably important in this context to go one step further. The labor market will change radically, and organizations cannot protect jobs that are made redundant by technology. But they do have a responsibility to their people. It will be critical to nurture agility, adaptability and reskilling in the workplace of the future.

The education system also must evolve to equip people with the skills they need to succeed, placing greater emphasis on in-

demand skills and encouraging people into patterns of lifelong learning. When asked, the majority of people (74%) said they are ready to learn new skills or completely retrain to remain employable in future.⁵⁸ As individuals express their willingness to do what they can to remain relevant for the future, there is no doubt that education and training as a whole will need to be rethought to equip them with the skills to work in a global, interconnected labor market and, increasingly, a technology-enabled environment.

»It will be critical to nurture agility, adaptability and reskilling in the workplace of the future.«

11. RELEVANT GOVERNANCE FOR RELEVANT GEOGRAPHIES

I have highlighted the risks of polarizing the debate between global versus local – in fact, a focus on both is needed and valuable. The same logic applies to governance arrangements.

There are a range of hugely significant issues which require countries of the world to participate in global or regional multilateral institutions. The degree of interdependence in our global economy

is both significant and complex, and cannot function without a common framework supported by common rules and resolution mechanisms, as well as the supporting institutions. The same logic applies to a range of issues that cross national boundaries, from terrorism to migration to health. And a highly compelling example is, of course, the sustainability of our planet in response to climate change.

In all these cases, however, we must be willing and able to articulate the value of these multilateral approaches in terms that resonate with individual communities and in individual countries. This cannot be a philosophical debate about the merits of an approach – it must reflect the needs of the societies and communities it is intended to serve. The nature of the governance must reflect the nature of the challenge to be addressed – which also means that for the many issues which can and should be addressed at a more local or regional level, so too should the governance for such issues be more local or regional. The purpose of multilateral institutions must be clear in terms of their purpose, and this must align with the needs of the societies which they support. For example, the imperative of global free trade must explicitly intend to address societal interests and must be intentionally designed to do so and actively facilitate identifying and addressing any downside risks or issues, and then communicate accordingly.

This proactive and explicit emphasis on the principle of subsidiarity may seem obvious. Unfortunately, however, the urgent and compelling need for multilateral institutions and approaches to deal with the complex global challenges we now face is under real threat in many places. It is more

important than ever to be able to articulate the importance of international cooperation in terms which reflect the real concerns of individuals and local communities, and to ensure that such cooperation is executed and communicated accordingly.

»Rewiring our system based on this principle may appear complex, but it is possible.«

CLOSING REMARKS

The key message of this article is simple. Our market economies have been the most successful means of delivering social progress for many decades and beyond. This premise is now challenged with growing misalignment between economic activity on the one hand and outcomes that are both sustainable and acceptable for societies on the other.

The most basic principle that pervades each element of the thinking described is to refocus our economic and business activities on outcomes that are human rather than primarily financial. For the reasons I have described, this is not the design principle embedded in our current system – it needs to change.

Rewiring our system based on this principle may appear complex, but it is possible. Our economic engine to match

human needs and opportunities has the potential to adapt and evolve to ensure that the profit motive is oriented in alignment with societal progress and sustainability.

The various elements of such an evolution and the related examples described earlier are certainly neither wholly complete nor wholly correct. The changes

envisioned will require imagination and collaboration on the part of many different stakeholders, a willingness to debate and challenge, to listen and learn and to experiment and iterate. The task is both urgent and important. I hope this article makes some contribution to stimulate and support the progress needed.

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Multilateralism

We need to strengthen free, rules-based trade to the benefit of everyone

The author:



Peter Altmaier

Federal Minister for Economic Affairs and Energy, Germany

The institution:



The major trends of the 21st century, notably globalization, digitization, demographic change, recent developments within the EU, and the energy transition all represent major challenges for German business to tackle. If we are to successfully address these issues, we need to make our social market economy shipshape for the future. This is the over-arching task for the Federal Ministry for Economic Affairs and Energy.

Multilateralism is not an end in itself: it is a necessary response to the global challenges of our time. This is true of almost all policy fields. As the Economic Affairs Minister, I am particularly working toward deeper international cooperation on energy policy, digitization and – especially – trade policy. This is because, while international trade can only function on the basis of common rules, open markets and free trade are coming under increasing pressure.

A growing challenge here derives from the way certain countries are deploying state-subsidized companies to build up their position on the world's markets. This is already resulting in overcapacities and distortions of competition in some sectors. And it is eroding confidence in the principles of rules-based, multilateral trade, not least because instruments currently available to the World Trade Organization (WTO) do not offer an adequate response to these developments. Partly in response to these trends, other countries are resorting more frequently to unilateral trade barriers and tougher rhetoric in order supposedly to protect their economies. And they are paralyzing the WTO dispute settlement process – the very system that ensures that the multilateral rules can be upheld.

I am firmly convinced that unilateral trade barriers will not solve the current

problems – they won't even tackle the symptoms, let alone the causes. Increasing isolationist tendencies and escalating trade conflicts damage all countries – including those who make protectionism their choice policy instrument. This is shown very clearly by the current economic forecasts: tariffs and other import barriers are creating uncertainty among investors, and pose a risk to jobs and growth.

»Today's economies are more interconnected than ever via global value chains. No country's economy can survive on its own.«

Today's economies are more interconnected than ever via global value chains. No country's economy can survive on its own today. So we all suffer when countries place the achievements of free, rules-based trade at risk. The WTO is a success story. Since the 1990s, it has integrated developing and emerging economies into

international trade, and thus made a major contribution to the reduction of global poverty.

Rather than opting for unilateral measures which undermine the WTO, we need to join forces to modernize it. In particular, we need to close gaps in the WTO's rules. In addition to the way we handle state-owned enterprises, we also need to look at forced technology transfer and needs-based special and preferential treatment for developing countries. Also, we need to make sure the dispute settlement system can continue to function in future. With a view to these and other challenges, the European Union has made proposals for a modernization of the WTO which, as Germany's Economic Affairs Minister, I fully support.

The G20 also bears a responsibility to address impediments and conflicts in international trade and to send out clear signals about the need to uphold effective and efficient multilateralism. For example, the G20 heads of state and government recognized the need for WTO reform at their summit in Buenos Aires at the end of November 2018 and agreed to review the process at their next summit in Osaka. Also, an important contribution is being made by the G20 forum on reducing global overcapacities on the steel market, which is also open to interested OECD countries. In times of increasing tensions in the field of trade, we should bear in mind that it was the global economic and financial crisis of 2008 which resulted in the G20 becoming the central informal forum for intergovernmental cooperation, because the economic interrelationships reached far beyond the G7. It is as true today as it was back then: in a globalized world, we can only master the challenges by working together.

Realizing the sustainable future

How to put the G20 on the right track?

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ABSTRACT

Greater G20 measures countering the effects of carbon emissions and stronger efforts to achieve the ambitious sustainable development agenda are what most of the world wants to see from G20. Many think that in their role as global guardians of economic governance, the G20 countries should show they can achieve their national carbon emissions targets and help to realize a resilient economy. But there is a distinct risk that such exaggerated ambitions could set that G20 down the wrong track. The costs of promoting sustainability through these actions must be justified at the global level, and the G20 should look toward integrating environmental markets. This article looks at where the risk lies and what can be done to increase the effectiveness and efficiency of the current G20 sustainability action agenda.

1. AN EVOLUTIONARY, NOT REVOLUTIONARY, SUSTAINABILITY AGENDA WITHIN THE G20

The International Energy Agency estimates that energy demand will increase in G20 countries by roughly a third by 2030 compared to 2013 levels, which corresponds to a 16 percent greenhouse gas (GHG) emissions increase in the energy

sector (IEA, 2018). Recently, other sustainability issues have also gained importance in a growing number of G20 states, such as China, India, South Africa and Saudi Arabia. For instance, issues with water and local pollution, together with dysfunctional state structures in these countries, are likely to become more pronounced in terms of their impact on the economy and human security. Table 1 illustrates the varying levels of sustainability performance in G20 countries. This led the G20 members to adopt an Action Plan on Sustainable Development at the 2016 Hangzhou Summit. But the most important reason for the successful conclusion of the Paris Agreement and Sustainable Development Goals (SDGs), both with a target year of 2030, was the non-binding and procedural character of the participating countries.

The Paris Agreement was an evolution from COP 15 in Copenhagen that failed to transfer the top-down approach modelled on the Kyoto Protocol, splitting a joint emissions budget into tradable emission rights. Consequently, a bottom-up model was developed that does away with a joint concrete emissions budget in exchange for voluntary Nationally Determined Contributions (NDCs). (Table 2). The NDCs are meant to be as ambitious as feasible, within each country's capabilities, and shouldn't fall short of previously promised goals. These goals are now being translated into national actions. In 2017, during the Hamburg Summit, G20 members committed to taking concrete action on climate and SDGs, such as launching an Africa Partnership and the effective use of Multilateral Development Banks (Anbumozhi et al, 2018). This means that every G20 country remains in charge of its own goals and

need not pursue cooperative agendas such as emission trading platforms across borders. And, there is no attempt to establish collective targets or impose "hard" sanctions if they are not reached. The only "soft" sanctioning tool is naming and shaming, but judging from previous experiences in setting fiscal targets for green stimulus, naming and shaming has not proven a very effective tool for the G20.

»These G20 action plans mark a significant evolutionary step for global climate governance.«

The fact that that, except for the United States, all G20 members joined together in an action plan on global sustainability goals means that the strict division of the contracting states into developed and developing countries has finally been abandoned, with only the former assigned responsibility for critical issues like climate mitigation. The idea that members must now take some responsibility for climate action is a break-through, although the so-called industrialized G20 countries are meant to continue taking the lead in abso-

Table 1: Environmental Performance Scores of G20 Countries

| Country | Current Score | Baseline Score | Rank |
|----------------|---------------|----------------|------|
| Argentina | 59.3 | 55.11 | 74 |
| Australia | 74.12 | 70.94 | 21 |
| Brazil | 60.7 | 55.79 | 69 |
| Canada | 72.18 | 73.1 | 25 |
| China | 50.74 | 45.13 | 120 |
| France | 83.95 | 80.67 | 2 |
| Germany | 78.37 | 78.23 | 13 |
| India | 30.57 | 30.59 | 177 |
| Indonesia | 46.92 | 45.49 | 133 |
| Italy | 76.96 | 75.17 | 16 |
| Japan | 74.69 | 76.81 | 20 |
| Mexico | 59.69 | 52.26 | 72 |
| Russia | 63.79 | 64.56 | 52 |
| Saudi Arabia | 57.47 | 53.25 | 86 |
| South Africa | 44.73 | 40.64 | 142 |
| South Korea | 62.3 | 65.81 | 60 |
| Turkey | 52.96 | 51.13 | 108 |
| United Kingdom | 79.89 | 77.24 | 6 |
| United States | 71.19 | 70.7 | 27 |

Source: EPI, 2018

lute emissions reductions, while the so-called emerging G20 economies have been granted more time. Both the Paris Agreement and SDG agenda do not pursue climate action as the one and absolute goal, but place it in context with inclusive principles such as poverty reduction and food security. In this regard, the Paris Agreement emphasizes that the climate ambitions of developing G20 countries depend on the amount of assistance they receive from richer states, particularly in terms of financial resources, technical equipment and expertise. Thus, these G20 action plans mark a significant evolutionary step for global climate governance, albeit not a revolutionary one because of the lack of a binding character and sanctioning mechanisms. It would, in fact, be unrealistic to have more far-reaching expectations, as

G20 members are not known for their willingness to restrict their sovereignty voluntarily when key global sustainability issues are at stake. Against this backdrop, it would not be surprising if the entire G20 NDCs and their action agendas would clearly fail to meet the agreed climate targets.

2. TRAILBLAZING CLIMATE AND SUSTAINABILITY POLICIES OF THE G20

Since COP 21, the climate and sustainability debate within the G20 has been dominated by urging governments to pursue the national climate mitigation goals more forcefully, particularly by making greater efforts to implement renewable energy and energy efficiency policies with measurable targets (Arent et al, 2017). There is a demand within the G20, for instance, to facilitate the decarbonization of economies.

Figure 1: Sample size of carbon markets in G20 countries

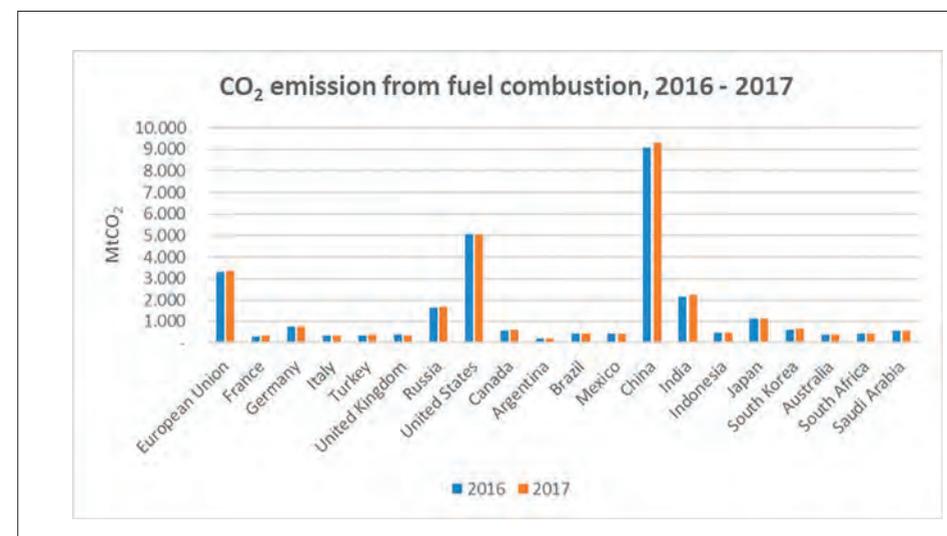


Table 2: Paris Climate Targets of G20 Countries

| Country | INDC Targets |
|------------------------------|--|
| Argentina | Reduce emissions 15% and 30% conditionally by 2030 |
| Australia (Dec 9, 2016) | Reduce emissions 26-28% by 2030 (reference: 2005) |
| Brazil (Nov 28, 2015) | Reduce emissions 37% by 2025; 47% by 2030 (reference: 2005) |
| Canada (May 15, 2015) | Reduce emissions by 30% levels by 2030 (reference: 2005) |
| China (Nov 4, 2016) | Reduce emission intensity by 60-65% by 2030 (reference: 2005) |
| India (Nov 4, 2016) | Reduce emission intensity 33-35% unit of GDP by 2030 (reference: 2005) |
| Indonesia (Nov 30, 2016) | Reduce emissions 29% and 41% conditionally by 2030 (reference: BAU) |
| Italy | |
| Japan (Dec 8, 2016) | Reduction 26% by 2030 (reference: 2013) |
| Mexico (Mar 30, 2015) | Reduce emissions 22%, and 36% conditionally by 2030 (reference: BAU) |
| Russia (Apr 1, 2015) | Reduce emissions 25-35% conditionally by 2030 (reference: 1990) |
| Saudi Arabia (Nov 10, 2015) | Reduce emissions annually by up to 130 MtCO ₂ e in 2030 |
| South Africa (Sept 25, 2015) | "South Africa is firmly committed to working with others to ensure temperature increases are kept well below 2-degree Celsius above pre-industrial levels" by 2030 (reference: 2020) |
| South Korea (Dec 3, 2016) | Reduce emissions 37% by 2030 (reference: BAU) |
| Turkey (Sept 30, 2015) | Reduce emissions up to 21% by 2030 (reference: BAU) |
| United States (Mar 31, 2015) | Reducing emissions 26-28% by 2025 (reference: 2005) |
| European Union | Reduce emissions 40% by 2030 (reference: 1990) |

Source: UNFCCC, 2019

For example, Germany decided on the total replacement of fossil fuels by 2050, mainly by changing over entirely to renewable energies for electricity generation. The hope is that Germany will then be perceived as a "reliable and credible G20 leader" and an "honest broker" in international environmental and economic governance. Japan has introduced the "Actions for Cool Earth 2.0" plan, which defines "the further emission reduction steps in light of global targets and the results of the Paris Conference 2015 up to the global target value of 50% in 2050 through innovations. The long-term goal of China's 13th five-year plan is ambitious in setting the peak targets for carbon emission and energy consumption, as well as goals for increasing energy efficiency of industries and eliminating outdated production facilities. To reduce emissions by 80 to 95%, fast growing economies like China and India would have to reduce its CO₂ emissions by an average of 3.5 % a year as of now.

Industrialized G20 countries like Germany and Japan were able to reduce GHG emissions in the course of the last 25 years through structural change. Since then, emissions have remained more or less steady. While GHG emissions are declining slowly in most G20 industrialized economies, hardly any progress has been made in the other relevant sectors such as transport and agriculture. The development of emissions in the EU illustrates that uncoupling economic growth from emissions is anything but easy, even if a group of countries possesses top-class technologies in this area.

According to experts (Sachs et al, 2018, Gardiner et al (2015); Anbumozhi et al (2017); Schmidt et al (2018)), what is needed to achieve this uncoupling is "not

only a gradual transition to the use of low or zero carbon energy sources but also the creation of the necessary political, institutional, cultural and social framework. This includes both behavioral changes as well as acceptance by the public. Whether G20 citizens are prepared to support such fundamental changes seems uncertain. While still in the early stages rather than close to completion, the implementation of the energy efficiency and renewable energy programs are meeting with increasing resistance among the large G20 population because of rising electricity prices.

»However, hardly anything has happened at a practical level to date within the G20.«

According to the findings of the barriers to cost-effective sustainability solutions survey (ERIA, 2018), the majority of private-sector stakeholders are not willing to endure noticeable economic disadvantages in the transition to sustainability. In this survey, the respondents are divided according to their investment behavior as follows: Individuals "focused on sustainability" (14% of respondents), who play a pioneering role with their sustainability-aware thinking and actions and who are convinced fundamental social transformation is required;

businesses “concerned about low carbon” (25%), who consider the climate risks to be very worrying and would like to see ecological modernization, where economic growth and sustainability should be linked; banks (20%), who are convinced that “continuing as usual” is not an option, but are unsure as to what can be done in concrete terms; institutional investors “focused on growth” (17%), who have total confidence in market mechanisms and economic growth and who are convinced that G20 economies are on the right path as regards climate mitigation; environmentally passive” individuals (27%), who have little interest in environmental issues or in engaging in sustainable behavior. The implementation of the German Energiewende, Japan’s Cool Earth, China’s ecological modernization, India’s smart cities programs will therefore only be possible and legitimized by society and the private sector if the move to a low-carbon economy is not detrimental to economic activities.

3. G20 EMISSIONS MARKET INTEGRATION: KEY TO GREATER EFFECTIVENESS AND EFFICIENCY TO INDIVIDUAL EFFORTS

There is a consensus that in order to facilitate the successful implementation of sustainability programs, pioneering individual efforts like Germany’s Energiewende must be embedded in a G20 context. However, hardly anything has happened at a practical level to date within the G20. As regards the European Emissions Trading Scheme, the G20 view is that this will require stronger energy policy coordination as well as improved information. Particularly from the perspective of climate policy, a coordinated G20 approach appears to be more

promising than focusing on a national solution, if only because the G20 “not only” contributes close to 70% of global emissions. The entire EU accounts for some 10%, behind the USA with just under 16% and China at the top with some 28% (Fig 1).

»To provide additional emission reductions with a global impact, the G20 should focus its cooperation efforts more on the major emitter countries.«

In the context of the Paris Agreement, this is significant. In other words, under the Paris Agreement, there are separate climate mitigation targets that could be made collective of G20 states. The search for compromise is unavoidable if the G20 wishes to act effectively in pursuing a progressive climate policy. As things stand, the climate targets of the EU have been set along with the Emissions Trading System

(ETS) and will probably not be reviewed soon. The EU ETS covers the energy and manufacturing sectors, which jointly account for around half of all EU GHG emissions. According to the Paris Agreement, however, the climate mitigation contributions of the contract-of emissions certificates are matched to the EU’s emissions reduction targets. The ETS represents a basically effective policy tool on sustainability, which is also preferred by most industry representatives as a comparatively uncomplicated, market-relevant and cross-border scheme (Hongo, 2016). From a business perspective, a G20-wide trade in emissions would be ideal to create a level playing field for all. This could be achieved in the longer term by successively linking existing trading systems with some member countries like China, India, Korea and Brazil. Until this widening of the scheme has been achieved, other G20 members should focus their NDC efforts more strongly on the sectors not covered by the EU ETS. No doubt that would be a more effective way to provide leadership by the G20 in Global Environmental Governance, than merely playing the role of model pupils no-one wants to emulate.

In any case, countries like Germany, Japan, and China will only be able to make a significant contribution to sustainability if their national action succeeds in presenting them as an attractive economic model for other countries. If their NDC degenerates into a national end instead, it will not benefit global climate mitigation. It would also be tragic insofar as countries like Germany and Japan could benefit enormously from climate mitigation measures taken by other countries thanks to their excellent technological capabilities. For countries such

as Brazil, China, India, and South Africa, significant factors include environmental and health-related aspects, technological development and economic modernization.

To provide additional emission reductions with a global impact, the G20 should focus its cooperation efforts more on the major emitter countries. The four largest emitting countries, China, USA, India and Russia alone, are responsible for roughly half of all global GHG emissions and can, thanks to their economic, political and cultural importance, become drivers for change toward lower emissions, and more resource-saving economic activities and lifestyles. Consequently, offers of stronger cooperation from the among the countries should concentrate as much as possible on the predominant motivations for market based mechanisms.

4. CONCLUSION: LESS UNILATERAL ACTION WITHIN THE G20, MORE TOWARD INTEGRATED MARKETS

In view of the urgency of taking action to mitigate global warming and achieving Sustainable Development Goals (SDG), G20 policies should be revolutionary but follow a more evolutionary course. Global environmental governance over the last 20 years has clearly demonstrated the practical limits of normative argumentation in the case of a complex challenge such as climate change. The current debate in the G20, however, is dominated by the idea of a pioneering role by individual members, favoring unilateral action and hoping that other countries will follow a forerunner example. This approach harbors the risk of having the opposite effect of a race to the bottom and ultimately resulting in the failure to meet targets in time, due to a lack

of coordination and cooperation within the G20. This is because so many G20 countries look at these issues within national economic interests. Countries outside the G20 expect they must to act responsibly and offer non-members greater lessons

on cost-effective sustainability solutions. It is worth it for the G20 to look beyond their national horizons and engage in integrating markets for environmental goods, services and other supporting mechanisms at the global level.

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Solutions for a paradigm shift toward sustainability

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The Deutsche Bundesstiftung Umwelt DBU (German Federal Environmental Foundation) funds innovative, exemplary and solution-oriented projects for the protection of the environment. Its focus is on promoting innovation within small and medium-sized companies. The funding activities cover environmental technology and research, nature conservation, environmental communication and protection of cultural assets.

Right now, at the start of the 21st century, we are grappling with a fundamental question: is it possible for every human being on Earth to live a life of dignity without destroying the planet? The impacts of climate change, the loss of biodiversity, changes in land use, the global material flow of substances such as nitrogen and phosphorus, increasing consumption of raw materials – all of these issues have already begun to have financial consequences.

Take climate change, for example: according to the World Economic Forum's Global Risks Report 2019¹, climate change poses a particularly serious risk to the world. Extreme weather was the risk of greatest concern, being not only the most likely but also resulting in the greatest impact. Failure of climate-change mitigation and adaptation came in second place, while natural disasters ranked third. This means that for the first time ever, the three top risks outlined in this annual report in terms of likelihood are all environmental. These risks pose a threat not only to the prosperity, but also to the welfare of mankind.

International agreements such as the United Nations' 2030 Agenda for Sustainable Development with its 17 Sustainable Development Goals (SDGs), the Paris Agreement, and scientific findings on the

limits of our planet are all key elements that serve as the compass that guides us here at the German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt, DBU) through the 21st century.

»Even as the world's population continues to grow, we have to work to reduce our ecological footprint on a global level.«

The rise in populism is one of the largest hurdles when it comes to finding global solutions to our environmental problems. Populism is a political ideology that claims to have simple answers to complex problems, and the current rise in populism is also linked to a rise in both nationalism and isolationism. At a time when we need to work together to strengthen the international relationships and multilateral organizations required to address these global issues, right-wing populist parties are growing in popularity and gaining political power. These political parties renounce scientific findings and either ignore or sabotage international agreements. In

order to put a stop to this trend, we need transparency, reliability and accountability, democratic values and concern for the common good – and, not least, a rational approach to politics rooted in scientific fact.

Organizations have already identified and defined global problem areas and have outlined and agreed upon targets and measures to be implemented; however, what is missing is the political will and motivation to actually put these measures in place.

This would require key scientific, societal, political and economic actors to assume responsibility and take initiative to shape policy. These people are the role models in our society. They must therefore not only contribute to solutions, but also take action within the scope of their capabilities. This could also help to restore peoples' faith in their government and mend the rifts in our society.

Environmental policy is social policy and vice versa. The current challenges facing our society, such as education, justice and participation, can only be solved over the long term if they are viewed systematically – for example, the link between climate change and human displacement, between the rise in renewable energies and social issues, and between emissions and public health.

Scientific, societal, political and economic actors all have different roles to play. It is the role of the scientific community to identify facts and conflicts of interests, demonstrate alternatives, and to develop realistic, workable solutions. It is the role of society and politicians to discuss, negotiate, and assess these different facts and conflicts of interests, and

to convert them into actions. It is also the responsibility of politicians to establish a framework to allow for viable solutions to be implemented in a way that goes hand in hand with sustainable development. Major corporations and economic players must align their actions and business models with this framework while also contributing to these solutions.

This kind of development requires competent, credible, neutral bodies, such as charitable foundations or think tanks, for example, that can help people to form opinions and offer facts as the basis of societal discussions.

The German Federal Environmental Foundation views itself as a partner that can serve as both a moderator and mediator that can demonstrate what solutions could look like in the real world through supporting and financing projects and initiatives.

The DBU funds exemplary interdisciplinary projects that offer solutions to tangible issues with a focus on promoting innovation within medium-sized companies.

We also pursue objectives that benefit the common good in terms of our institutional activity such as investments. With an endowment capital of around EUR 2.24 billion, the DBU has been dedicated to socially responsible investing since 2005. Experience has shown that sustainability does not result in lower returns. Non-profit organizations can and should be focussed on socially responsible investing as a way to achieve their goals. Moreover, on the whole, the financial sector can and needs to do more to develop the economy in an environmentally friendly way. Shifting investments away from fossil fuels (divestment) and toward renewable energies

(investment) can accelerate the transition toward a sustainable energy industry. At the same time, the prices of shares in businesses concerned with climate protection are rising faster than the market average, which means that investing in these companies pays off².

Energy is a key aspect of sustainability. Limiting global warming to 1.5 degrees Celsius can only be achieved through a rapid transformation of the energy industry in terms of electricity, heat and mobility. Global carbon dioxide (CO₂) emissions must reach zero by 2050.

The energy system of the future will be more de-centralized, more elastic and, as a result, more complex. Demand will have to adapt to production, while storage, availability, environmental compatibility and production costs will also need to be taken into account. Energy and resource consumption are two sides of the same coin. The technology required to generate, transport and store renewable energy already exists. Any components that have not yet been developed will be created without favoring any one particular technology. The energy revolution will not fail due to a lack of technology.

At the same time, converting the entire electricity infrastructure by 2050 will cost a lot of money. And yet, this does not necessarily have to overwhelm national economies, especially if this shift means that more value will be created within the country itself in the future. The alternative – inaction – would be much more expensive.

Effective CO₂ pricing schemes are one way to distribute costs more fairly – the more you emit, the more you pay. The greatest challenge is the risk to social acceptance during the conversion of the en-

ergy infrastructure, stemming from a lack of confidence that the design is sufficiently socially acceptable and fair, or from a failure to grasp the consequences of inaction. No one should become a victim of the energy revolution. High-income households will face a greater challenge when it comes to renewables, not least because they consume significantly more energy than those with lower incomes. This shift will require people to change and adapt their consumption habits – especially in the West. Despite the fact that the world's population continues to grow, we have to work to reduce our ecological footprint on a global level.

The construction industry faces similar challenges to those of the energy sector. Global urbanization and mobility trends have brought about a sharp increase in resource consumption worldwide – especially among the rapidly growing global middle class. In the next 30 years, these trends will effectively double our current infrastructure. At the same time, the majority of existing infrastructures must be renewed. This calls for a paradigm shift both in terms of building technology and in terms of planning and implementation processes. To this end, sensible enhancement and modernization of existing buildings is just as important as planning new buildings in an energy- and materials-efficient manner. New buildings must be multifunctional and durable, and at the end of their life cycles, it must be possible to effectively recycle and reuse these building materials. With this in mind, we need to develop recycling-oriented designs that use the smallest amount of materials possible, and preferably renewable raw materials. By using renewable raw materials, wood construction can play an important role in

supporting efficient use of resources and climate protection. Switching to renewable energy and improving the energy efficiency of buildings makes the construction sector another key element to ensuring a sustainable energy revolution.

»Agriculture and conservation must go hand in hand instead of competing with one another.«

The creation of infrastructure, whether for energy systems or to meet growing housing demands, generally goes hand in hand with the utilization of vacant spaces. However, especially in a densely populated country such as Germany, open space is a rare commodity. As a result, a wide variety of sustainability concerns are projected onto the countryside. The key here is land use competition. After all, the protection of biodiversity, sustainable agriculture, and the use of land for the necessary expansion of renewable energies places competing demands on these areas and brings together a wide variety of competing interests and objectives. If these sustainability goals are pursued simultaneously, are considered to be of equal importance, and are not properly coordinated, available space can quickly become the limiting factor when it comes to achieving these

targets. We cannot simply pass sustainability targets on to other regions, or even to other countries. This means that, in the foreseeable future, we will have to make trade-offs between extremely varied sustainability interests that are all competing for the same space.

This applies to agriculture in particular. In Germany, the amount of land available for agricultural use has declined over the years due to an increase in the land required for housing and transport. This in turn increases the pressure on farms to produce more crops with less space.

This is not just a local phenomenon: as the world population grows, demand for sufficient quantities of high-quality, affordable food rises as well. At the same time, the demand for feedstuffs and plant-based raw materials for industrial use and for use as an energy source continues to grow. And yet, the amount of space available for agricultural production around the world is steadily shrinking.

The decline in biodiversity in agricultural areas is primarily linked to the rise of continuous monocultures. The use of fertilizers and pesticides serves to ensure consistent production conditions, but at the same time, it has caused less competitive species to lose their habits, allowing pests and foreign species to proliferate.

A paradigm shift is needed in order to usher in the agriculture of the future: agriculture and conservation must go hand in hand instead of competing with one another. Rotating crops, reintroducing polycultures, and increasing the natural habitat in and around agricultural areas can provide living spaces for local species common to agricultural areas and help to establish a sufficiently large network of habitats to

maintain biodiversity and prevent extinction. It is also possible to introduce natural farming practices such as livestock grazing. These practices help to preserve the natural landscape. The DBU is also actively involved in finding solutions for these issues through its Natural Heritage branch. One important objective is expanding forests and wilderness areas. In order to preserve biodiversity, agricultural areas are needed as just as much as wild tracts of land.

The paths to greater conservation always differ from region to region depending on the natural landscape, local traditions and cultural awareness. We already have a number of good examples for businesses and for regions, but this is only the beginning. The number of solutions must increase significantly. This means that knowledge about sustainable solutions must be followed up with consistent action. At the same time, the agricultural sector is just one example.

Environmental education and the communication around environmental issues are essential tools for us to move from awareness to action and solution- and consumer-oriented products.

In light of the growing lack of trust in science and politics in our society, it is particularly important that we encourage systematic thinking, credibly inform people regarding issues of sustainability, and establish trust. Innovative educational and communicative approaches can help us to do this. One major challenge in terms of communication and education on the issue of sustainability is reducing the complexity of the topic in order to make it understandable to the layperson without sacrificing professionalism or eliminating scientific

evidence. At the same time, sustainability-related topics must be handled in such a way that they arouse interest, can be linked to everyday issues, and offer concrete options for action. The aim is to point out ways in which people can help shape the future.

The energy revolution and changing approaches to agriculture are examples of important environmentally relevant socio-economic transformations in our society. They are linked to a number of challenges that we currently face, including the areas of technical innovation and the conservation of species and habitats.

Necessary paradigm shifts, such as those presented by the energy revolution and changing approaches to agriculture, go hand in hand with the issues of acceptance and participation of the population, and are usually accompanied by uncertainty.

Yet, if we wait until all of these uncertainties are addressed, we will be inviting a host of new ecological and social catastrophes, therefore allowing irreversible damage to occur. The evaluations and accompanying research necessary to eliminate all possible uncertainty would be too much for the scientific community alone, and would also exhaust any available budgets for accompanying research.

When you take this into consideration, the concept of 'citizen science' becomes particularly relevant. The goal of citizen science is to actively involve interested, dedicated citizens to carry out scientific research, and also to involve them in the process of formulating questions and processing data. As part of the cooperation and collaboration process, they can then bring their knowledge and experience to their communities, meaning that they can actively shape both scientific and

public debate. At the same time, they can also become agents of change by helping to structure socio-ecological transformations in an evidence-based manner. However, this will change the role that scientists play as well: working together with citizens will force them to change their perspectives significantly. When discussed with involved citizens, questions that are relevant from a scientific point of view must also prove their usefulness to society. This would represent a paradigm shift in terms of the division of roles between science and society.

CONCLUSION

Solving the issues of sustainability is not an end in itself. It also necessitates a paradigm shift in terms of both our thinking and our approach: environmental protection and sustainability are not additional burdens that the world has to shoulder alongside many others. Sustainable development is the key to maintaining and establishing prosperity and social harmony. However, in order to increase acceptance of this viewpoint, in the future we will need to shift our focus to the distributional and socio-political dimensions of environmental policies. One clear example of the need to consider these impacts are the 'yellow vest' protests in France, which were caused in part by the increases in fuel prices introduced as an ecological measure by French President Emmanuel Macron.

We must reverse the global trends of climate change, loss of biodiversity and consumption of resources if we want our planet to be liveable for future generations.

At the same time, a paradigm shift toward sustainable development does not mean a return to a pre-industrial world.

On the contrary, it represents the path to modernization, for example by modernizing our energy, transport and housing infrastructures. The key element for this shift is digitalization. Digitalization allows us to increase efficiency and intelligently manage energy, transport and production, while also allowing us to reduce the use of fertilizers and pesticides in agriculture. It also has the potential to spark social innovation and change our consumption habits. During the digitalization and modernization process, we must take negative effects such as rebound, increased consumption, and increased energy and resource consumption due to ever-faster innovation cycles and planned obsolescence into account. Issues such as privacy and data security need to be considered as well. Corresponding incentive systems and regulatory measures can provide us with a suitable framework. Thanks to modern technology, it has never been easier to gain access to education and culture or develop business models from anywhere in the world.

The challenges of sustainable development are also incredible opportunities: for supply chains, for a better life, for a more cohesive society. One of the most important tasks of the future will be to define these opportunities in more detail and to take advantage of them. This is where politicians need to identify solutions and lay the groundwork. They have a wide range of tools at their disposal: from regulatory laws to market-based and cooperative instruments. As a result, politicians have the

means to provide incentives for greater sustainability on both the public and private levels. Advanced climate change and mass extinction have shown us that it will be extremely difficult to effect change unless politicians are willing to set price signals for common goods that need to be protected.

»The challenges of sustainable development are also incredible opportunities.«

In many ways, the challenge is not a lack of innovation or knowledge, but rather a lack of consistency in terms of implementation of the available solutions in order for these solutions to become the norm. This requires finding political and societal solutions based on scientific fact rather than on ideological principles. Environmental problems are global issues. This means that we can only come up with solutions by working together and through multilateral cooperation. The path ahead of us is clear – we need to find the courage and strength to pursue it.

¹ http://www3.weforum.org/docs/WEF_Global_Risks_Report_2019.pdf.

² See the latest CDP study at <https://www.cdp.net/> [22 January 2019].

Innovation toward a platinum society

Proposal for a community energy system based on renewable energy

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During the twentieth century, energy-supported material civilization advanced significantly. This brought about resource depletion and climate change. How should material and energy be utilized in future to bring about global sustainability? In 1999, Vision 2050 was depicted as a model that should be pursued half a century into the future. Twenty years have elapsed since the first description of Vision 2050. Fortunately, the world is moving toward Vision 2050.

The twenty-first century will probably be a century in which we will seek qualitative affluence with Vision 2050 as a materialistic base. This lends itself to the specific image of a platinum society replete with resource self-sufficiency, coexistence in harmony with nature, life-long self-reliance, diverse options, and free participation. We have added the viewpoint of a platinum society to Vision 2050, and produced New Vision 2050¹.

In this article, we introduce some points of New Vision 2050 and would like to briefly introduce the proposal we are considering at T20 Japan TF3.

THE TWENTY-FIRST CENTURY IS A SPECIAL ERA

Figure 1 shows the global average per

The institution:



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capita of GDP, life expectancy, and CO₂ concentration levels from the year 1000 AD to the present. The three lines depict similar trajectories that rise rapidly upon entering the twentieth century. Given the pace of expansion of human activity, the twentieth century stood out as a very special era.

For the most part of their long history, human beings have developed very slowly. During the Greek and Roman eras, humans lived to about 24–25 years of age, and even after the passage of more than 2000 years in 1900, the average life expectancy was still only 31 years, an increase of only a few years. However, the average life expectancy has now come to exceed 70 years. The greatest reason for this has been the gains

in material wealth – a marked change from the past, in which people lacked clothing, housing and food. As a consequence, however, human beings now face various problems such as an aging society and have started to alter the Earth itself, resulting in such changes like global warming.

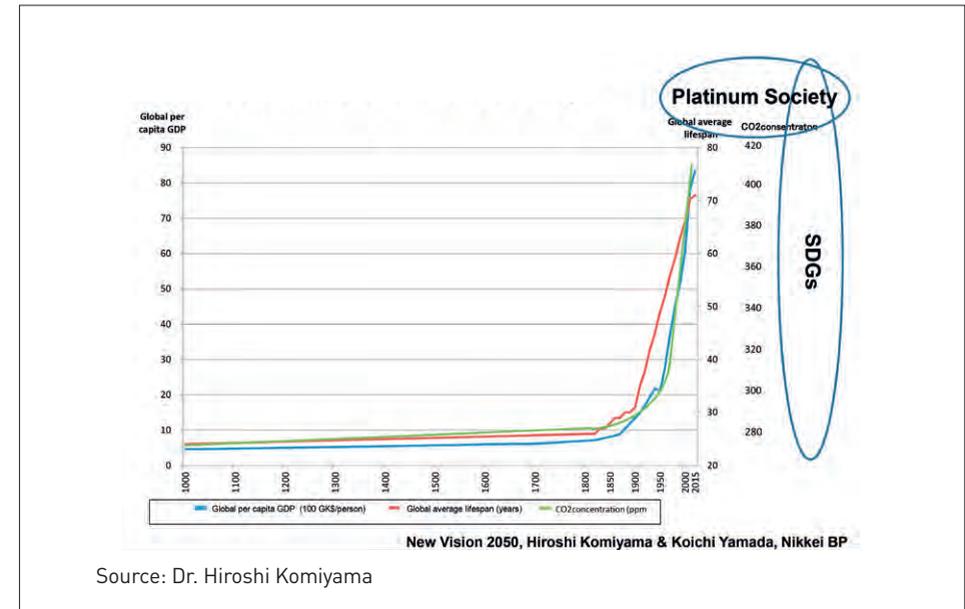
We are living in a special era of human history.

ESSENCE OF THE ERA OF SATURATION

In this finite Earth, human activities cannot expand indefinitely. Saturation would thus be a fitting term to describe the twenty-first century.

Will population explosion lead to the destruction of mankind? According to reliable

Figure 1: SDGs and a platinum society



forecasts, the world population will peak at about 9.6 billion people in the second half of the 21st century. But rather than worry about population explosion, we must shift toward expanding efforts to maintain the population. Many developing countries have done so, not to mention developed countries.

The twenty-first century is a century in which the population will become saturated.

»A platinum society is a diverse society in which individuals, communities, or organizations can make choices freely.«

SATURATION OF MAN-MADE OBJECTS

Man-made objects have also been saturated in developed countries.

For example, let us consider the ratio of automobile ownership to the population. A ratio of 0.5 indicates that one car is owned by every two persons, a level at which car ownership reaches a saturation point, regardless of the country. In developed countries, the sales volume of man-made objects has reached a saturation point.

This essentially explains the low growth rate of advanced countries.

It is a matter of course that things will become saturated on this finite Earth, but perhaps it is also matter of course that we tend to overlook this obvious fact.

SATURATION OF MINERALS

Iron, produced from iron ore, is the most important material in terms of both quality and quantity. It is produced from iron ore. Once made, iron will never be discarded. When buildings are dismantled, iron materials such as steel frames are recovered as scrap, melted, and supplied to society once again.

In Japan, the total amount of iron has approached about 14 billion tons, and the amount accumulated every year has been approaching zero (Figure 2). In fact, the amount of iron used in man-made objects in Japan every year and the amount of scrap iron have become equal at about 30 million tons each.

Therefore, in Japan’s case, the iron supply from recovered scrap is sufficient, and hence it is no longer necessary to produce iron from iron ore. It turns out that this is not unique to Japan; many developed countries no longer require iron ore. Nearly all regions of the world will likely approach this state around 2050.

By around 2050, mankind will be bidding farewell to the era of metal mining, and transitioning to a society where metals excavated in the past will be recycled. These are “urban mines”.

“PLATINUM SOCIETY”: A VISION IN THE TWENTY-FIRST CENTURY

During the Edo period, for example, when food was in shortage, it was not necessary to

come up with a vision. As people wanted to be able to eat, they had no choice but to diligently engage in farming. During the age of industrialization, people wanted to buy televisions or cars, and for that, they hoped for better salaries. In other words, becoming affluent must have been the implicit vision.

The vision in the twenty-first century must be one of a high-quality society. To be precise, it must be a society where people can maintain quantitative affluence, enhance it if necessary, and enjoy a better-quality life and living situation. Or in other words, a society where they can enjoy a better quality of life (QOL). Let us define such a society as a platinum society.

The image of a global community that we should aim for is one in which every-

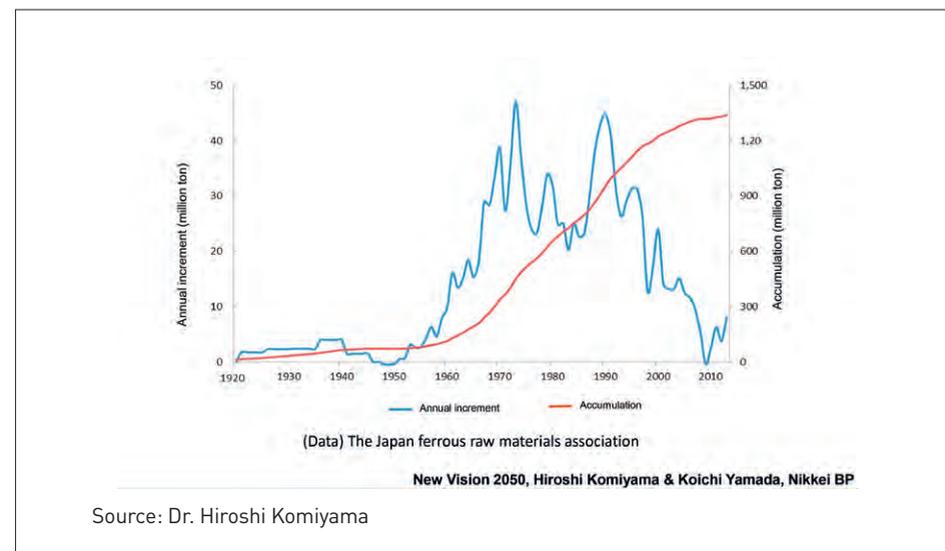
one, and not just those in developed countries on this Earth, is living in a platinum society. As declared in the SDGs, we should “leave no one behind.”

ESSENTIAL FACTORS FOR A PLATINUM SOCIETY

If we want to improve our QOL, we first need to understand the present status of our QOL. In the first place, individuals are free to decide what quality is. Therefore, a platinum society is a diverse society in which individuals, communities, or organizations can make choices freely. However, there must be common qualities on which most people agree.

Here are some qualities on which many people agree:

Figure 2: Iron acumulation in Japan (total and incremental)



1. No anxieties about resources and energy
2. No pollution and the maintenance of the global environment
3. Symbiosis (coexisting) with diverse and beautiful nature
4. Long-term health and self-reliance to be achieved for a long time
5. Opportunities for lifetime social participation
6. Ability to continue lifetime development
7. Employment opportunities
8. Cultural and material affluence

THE INDUSTRIAL STRUCTURE OF JAPAN AS A “LEADING COUNTRY IN RESOLVING SOCIETAL PROBLEMS” AND ENERGY

Let us next discuss the major role that Japan has played globally in making progress on Vision 2050. Figure 3 shows the data on per capita GDP and energy consumption from 1965 to 2017, with the data for all three categories in 1973 designated as 1.

GDP and energy consumption both increased in unison until 1973. Those were the years of high-speed economic growth, with industry (especially the heavy and chemical industries) at the core.

The first energy crisis occurred in 1973. The cost of petroleum rose sharply and all at once to 10–20 times its previous level. However, Japan’s core industries of the day – steel, chemicals, ceramics, and paper pulp – pushed forward vigorously on reducing power use and succeeded at converting a crisis into an opportunity, simultaneously achieving economic growth without increasing energy consumption.

Incidentally, in 1973 the GDP stood at about ¥200 trillion and grew to ¥330 trillion

by 1985, but energy consumption remained completely the same.

Energy consumption reached its peak in the years from 2000 to 2005, and since then it at long last has been falling. The phenomenon of energy consumption finally falling due to saturation of man-made objects and energy-saving as laid out in the scenario for Vision 2050 is actually underway in Japan.

»Japan is entering an age in which energy consumption falls even as its economy grows.«

In recent years, the economy has been growing only slightly, but nevertheless continues to grow. During the last ten years, we see that GDP grew at an annual rate of 0.5% while energy consumption declined at an annual rate of 1.6%.

In Japan today, we are approaching saturated demand for those man-made objects that consume large amounts of energy like factories, automobiles, homes and buildings, and when they are updated, we are improving their energy efficiency.

As a result, Japan is entering an age in which energy consumption falls even as its economy grows. Japan has been

leading the world in translating into reality how to address the issue of simultaneously achieving the economic growth required so that all the world’s peoples can lead affluent lifestyles while dealing with the need to cut down on CO₂-emitting energy sources.

RENEWABLE ENERGY

Renewable energy sources such as hydro, wind, and solar power have become the most economical choices for building new power plants in the world average.

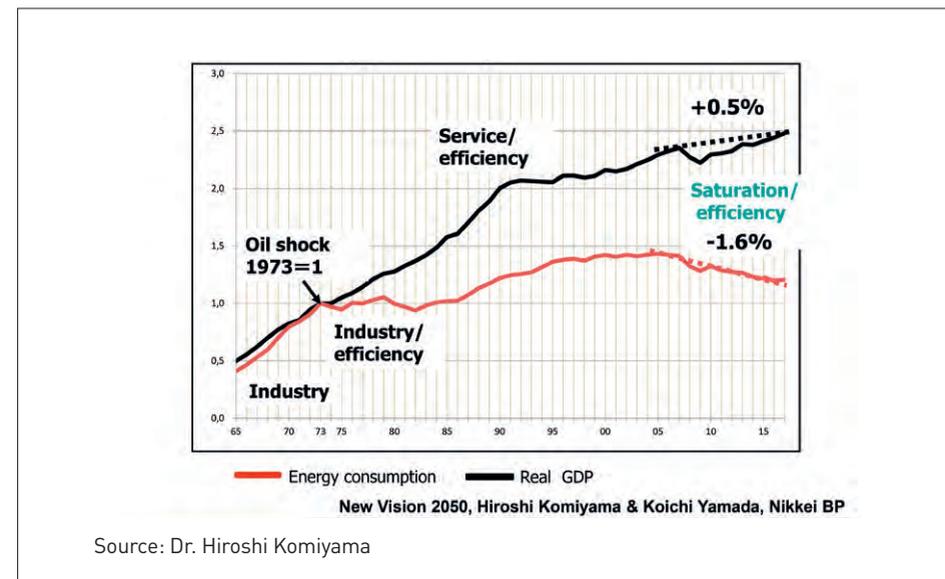
All renewable energies, except for geothermal and tidal, are forms of solar energy. The amount of energy from sunlight that hits the Earth is 10,000 times more than we need. Since it is practically

infinite and the cost to harvest its energy has already become the cheapest among energy sources, there is no doubt that renewable energy will become the energy of the future.

JAPAN WILL BECOME A RESOURCE SELF-SUFFICIENT SOCIETY

Renewable energy will replace fossil resources, and urban mines will replace natural mines. The result is a resource self-sufficient society. Japan will turn toward achieving self-sufficiency in resources from the traditional import and process of resources and export as finished products, which has been the national policy since the Meiji era. With people beginning to live in affluence although packed

Figure 3: Decrease in energy consumption is real and will continue



together in a limited geographic area, Japan provides us with an early image of Earth in 2050. Therefore, Japan's journey to achieving resource self-sufficiency as a problem-solving developed country presents a vision of the future of our Earth for the future.

»The image of a global community that we should aim for is one in which everyone, and not just those in developed countries, is living in a platinum society.«

If Japan's resource self-sufficiency is extended to the world, the world will be-

come sustainable in terms of energy and other key resources. Specifically, this means a recycling-oriented society based on energy conservation, renewable energy, and urban mines.

These points so far are the key of New Vision 2050. From here we would like to briefly introduce the proposal we are considering at T20 Japan TF3.

PROPOSAL OF A COMMUNITY ENERGY SYSTEM BASED ON RENEWABLE ENERGY

Construction of a new system is much easier than changing the existing systems. This is another reason why a platinum society should be the aim of developing countries as well.

We aim to realize the platinum society across the globe, and as a policy brief for T20 Japan, we are considering the potential of various types of renewable energy and policies to introduce them in South-east Asia.

Details will be described in the policy brief paper, but we assume the following as the main proposal.

- Accumulation of data to identify potential sites and resources for community-based RE projects.
- Capacity-building to manage community-based renewables.
- Innovative financing, including use of mobile payments and crowdfunding.

Regarding the activities of TF 3 as a whole, please also refer to Mr. Matsushita's article in this journal.

Toward a climate-resilient and sustainable future

T20 Japan TF3 on Climate and Environment

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The Institute for Global Environmental Strategies (IGES) was established in March 1998 under an initiative of the Japanese government and with the support of Kanagawa Prefecture. It aims to achieve a new paradigm for civilization and conduct innovative policy development and strategic research for environmental measures, reflecting the results of research into political decisions for realizing sustainable development both in the Asia-Pacific region and globally.

1. BACKGROUND AND CHALLENGES: ACCELERATING THE TRANSITION TO A CARBON-NEUTRAL AND SUSTAINABLE FUTURE

The year 2015 can be considered a turning point in international environmental diplomacy, symbolized by the adoption of SDGs and the Paris Agreement. Subsequently, with the entry into force of the Paris Agreement in November 2016 and adoption of the Implementation Guidelines of the Paris Agreement at COP24 in December 2018, the global community has to accelerate their efforts toward building a carbon-neutral and climate-resilient society. However, recent climate related disasters around the world indicate that the impacts of climate change do not wait for our efforts any longer. Thus, now is the time to enact a major paradigm shift, aimed at ultimately bringing about a new civilization with carbon neutrality and sustainability.

Climate change is an issue the international community must address collectively, and the steadfast implementation of the Paris Agreement is urgently needed. Since climate change is accelerating more swiftly than expected, we must urgently

¹ <https://www.springer.com/jp/book/9784431566229>

take more robust action. At the same time, investment in sustainable energy sources, clean energy technologies and infrastructure brings opportunities for innovation, sustainable and inclusive growth, competitiveness, and job creation. Moreover, addressing climate change is a critical pillar for achieving the Sustainable Development Goals.

In addition to climate change, environmental pollution of air, water, and soil remain problems that have to be addressed seriously. Moreover, marine pollution due to marine litter including microplastics attracted global attention as a serious is-

sue, while global pollution due to anthropogenic emissions of mercury and other persistent, highly accumulating hazardous chemical substances into the environment are becoming more serious. Thus, there is a global concern that human health and ecosystems are seriously affected by pollution through water, air, and food chains.

In this context, some notable research on "planetary boundaries"¹ by Johan Rockström et al. is worth mentioning. This research has clearly indicated that human society could continue to develop and prosper, as long as human activities remain within the "safe operating space"

of the Earth's systems. Yet, the research also underlines that if such thresholds are crossed, irreversible changes may take place, which will totally transform the natural environment on which human beings safely depend. The research poses an important question – how will human beings pursue wealth and affluence within the limits determined by the planetary boundaries?

Kate Raworth, a UK economist, pointed out a donut-shaped space between "improvement of social foundations from the viewpoint of basic human rights" which the SDGs advocate and the "planetary boundaries" which Rockström et al. proposed. She identified this space as "an environ-

mentally safe and socially just space for humanity"²(Fig.1). Thus, the new future visions that the SDGs and Paris Agreement present can be defined as the one in which all people on Earth can pursue their well-being within an environmentally safe and socially just space for humanity.

Based on these ideas, accelerating the virtuous cycle of environmental protection and economic growth are urgently required.

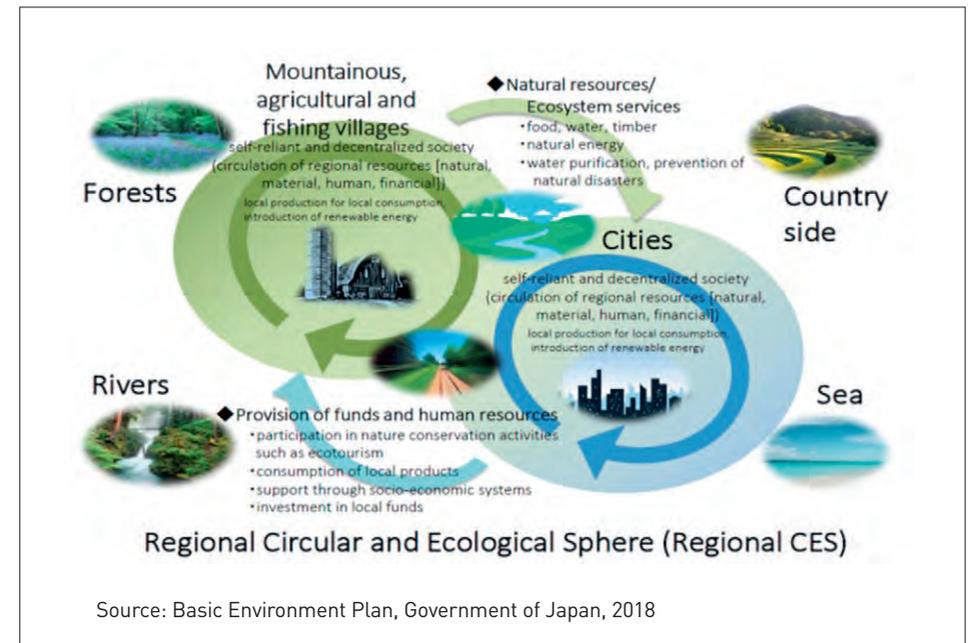
2. POLICY PROPOSALS FRAMEWORK OF TF3 ON CLIMATE AND ENVIRONMENT

The government of Japan has put forward the concept of a Regional Circular and Ecological Sphere (Regional CES) in its Fifth

Figure 1: Donut Economy



Figure 2: Regional Circular and Ecological Sphere (Regional CES)



Basic Environment Plan³ in 2018 as key to realizing a paradigm shift toward a model sustainable society, fully compatible with the Paris Agreement and the SDGs. The concept of Regional CES underlines the importance of promoting resource circulation at optimal scales according to the characteristics of regions concerned, and the nature of resources to be recycled. Basically, resources suitable for circulation in a small area should be circulated in the smallest zone possible, while resources suitable for circulation in a larger area should be circulated in a much more expanded area, thereby resource circulation could be optimized with a combination of overlapping circular areas according to resources to be circulated.

Regional CES produces new value chains, complements and supports regional resources by building broader networks, which is composed of natural connections (connections among forests, the countryside, rivers and the sea) and, economic connections (composed of human resources, funds, and others), while making full use of mountainous, agricultural and fishing villages, and cities. Each region will demonstrate its strengths by utilizing its unique characteristics, thereby building a self-reliant and decentralized society where different resources are circulated within each region, and there is symbiosis and exchange with neighboring regions according to unique characteristics (Fig.2).

Regional CES emphasizes sustainable and optimal utilization of regional resources to form a self-reliant and decentralized society. The concept of Regional CES is relevant not only for Japan but also for other G20 members for implementing the Paris Agreement and the SDGs.

One important role that future environmental policies can serve is to create innovations across all perspectives including those concerning socio-economic systems, lifestyles, and technologies. Such innovations include incremental improvements of existing goods and services, as well as those that are outside the reach of conventional technologies and systems. For this to be realized, it is first necessary to present a vision of what a sustainable society might look like for society as a whole, then share it among all stakeholders including citizens and businesses. This will hopefully lead to a shared understanding that it is not only relevant to research and development for purposes of promoting future technology innovations, but also to facilitate greater financial investment from business. As such, the following measures are considered critical: provision of incentives to reward early movers of innovation; creation of market demand for environmental conservation; generation of new employment opportunities and equitable systems for transition of the labor market; internalization of externalities by imposing responsibilities on polluters in line with the polluter-pays principle; incorporation of environmental considerations from the planning stage; promotion of environmental awareness through environmental education and Education for Sustainable Development (ESD), as well as introduction of measures to promote partnership with a wide range of stakeholders. Taken together, these measures will contribute to building mechanisms to support more sustainable societies.

Task Force 3 (TF3) plans to develop such recommendations underpinned by the following key ingredients of a Regional CES:

- an economic system and rules to establish a decarbonized and climate-resilient society,
 - sustainable community development using local resources,
 - improving the value of land as stock, and a circular economy.
- Based on these concepts, TF3's policy briefs may include:
- policies for a decarbonized and climate-resilient society,
 - resource efficiency and a circular economy at multiple levels,
 - revitalizing local economies in harmony with nature, and
 - promoting renewable energy.

»Now is the time to enact a major paradigm shift, aimed at ultimately bringing about a new civilization with carbon neutrality and sustainability.«

3. POLICY BRIEFS IN PREPARATION

Followings are some of the policy briefs in preparation and possible policy proposals.

Policy brief 1: Constructing inclusive, prosperous and sustainable future

This brief emphasizes the importance of inclusive and prosperous aspects of a sustainable future underpinned by technological and social innovations. Investment in sustainable energy sources, clean energy technologies and infrastructure brings opportunities for technological and social innovation, sustainable and inclusive growth, competitiveness, and job creation. Policy recommendations may include the following:

- Establish a scheme that quantitatively predicts future technological and social innovation and provides necessary information, such as timing and scale, of infrastructure investment for low-carbon society, accelerate the technology transfer speed, and introduce appropriate technology systems through international cooperation.

Policy brief 2: A decarbonized and climate resilient society

Decarbonization required by the Paris Agreement calls for substantial mitigation actions at all levels. This proposal will address this issue at the international level (rules under the Paris Agreement), at the individual level (decarbonized lifestyle), and in terms of market rules (carbon pricing) and technological innovations. In addition, the importance of climate fragility and climate security is introduced in the context of a climate-resilient society. Policy recommendations may include the following:

- Scale up the efforts to assist developing countries in providing tailored climate risk information, and capacity-building for policy and project formulation in order to

strengthen the social infrastructure and social capital through the combination of scientific knowledge and socio-economic activities in developing countries. In this regard, it is important to develop threshold indicators of natural disasters for each developing country capacity and preparedness to cope with natural disasters, especially those closely related to extreme weather and the accurate and sophisticated analytical tool of vulnerability assessment.

- Design the transparency framework such that the PDCA-cycle of domestic actions will be materialized. In addition, the reporting guidelines for parties can be designed to enhance their capacities through drafting the biennial transparency report. Sharing experiences and lessons through the biennial transparency reports among parties with similar situations should be strengthened by suitable analyses of applicability conditions by the country.

- Recognize the recent trend to positive introduction of carbon pricing (carbon tax and ETS) and of voluntary introduction of internal carbon pricing by individual companies, promote internationally coordinated carbon markets (such as linking regional ETS), and take supporting measures for individual companies to introduce internal carbon pricing. To fully utilize the price signal effect without causing excessive economic shocks, the carbon price must be sufficiently high with the clear announcement of pricing schedules with gradual price escalation.

- Examine lifestyle carbon footprints and reduce them toward the level of well below 3 t/cap by 2030 and 1 t/cap by 2050. G20 governments and businesses should take a lead in enabling decarbonized lifestyles of citizens, with more research and

development of common methodology and pathways on lifestyle carbon footprints, and with strategic investment and planning for decarbonizing provision systems and infrastructure.

»Each region will demonstrate its strengths by utilizing its unique characteristics, thereby building a self-reliant and decentralized society.«

Policy brief 3: Resource efficiency and a circular economy at multiple levels

This brief introduces actions toward resource efficiency improvement and the establishment of a circular economy at various levels. It also discusses the appropriate circulation system of plastics to address the marine plastic waste problem. Policy recommendations may include the following:

- Establish robust circular economy policies that cover the whole life cycle of materials and products to maximize the po-

tential of effective utilization of used materials and encourage a less-consuming type of business model. Economic instruments to incentivize circular economy acceleration have high potential for such policies.

- Identify the characteristics of a product-service bundle that would reduce resource throughputs in each region, promote the expansion of the “right bundle for the right place”, and encourage product design and development for sharing; for instance, improve durability, integrate universal design, and facilitate concurrent use, based on accumulated consumption pattern data.

Policy briefs 4: Revitalizing local economies utilizing local resources

Local areas are connected to national and global markets. For instance, these areas buy energy, infrastructure, etc. from outside, making the local society, economy and environment vulnerable. This brief highlights how to revitalize local economies utilizing local natural resources and improving the value of land as a stock. Policy recommendations may include the following:

- Promote community-based renewable energy development with capacity development in project operation, and innovative financing and payments to facilitate the installation and operation of renewables.

- Formulate the platform of multi-stakeholder dialogues (exchanging of knowledge, money, etc.) for a multi-layered circulation of resources (biomass and some food, for instance), based on the analysis of local conditions including economic structures, socioeconomic challenges and opportunities, and available resources. Such a multi-layered circulation goes beyond the administrative boundaries and requires the active collaboration of and co-creation by many stakeholders with different expertise.

- Apply new wealth measurement in stock value to improve policy decisions on local level resource allocation.

CONCLUSION

G20 member countries have to take the lead in making a transition to a climate resilient and environmentally sustainable future through transforming their economic and social activities fundamentally. Although scientific evidences on climate and environmental issues that humanity faces today have accumulated, introduction of effective policy measures have been lagging behind. T20 Task Force 3 on climate and environment will continue to work together with various contributors and stakeholders to come up with robust policy proposals through an open and inclusive process.

APPENDIX

List of Task Force 3 co-chairs

Following is a list of six co-chairs in the Task Force 3 on Climate and Environment.

- Prof. Kazuo MATSUSHITA (IGES) (Lead co-chair of Task Force 3, Prof. Emeritus, Kyoto University, Senior Fellow, Institute for Global Environmental Strategies (IGES))
- Prof. Hiroshi KOMIYAMA (Chairman, MRI, Former President, Tokyo University)
- Mr. Gabriel LANFRANCHI (Cities Program Director of CIPPEC, Argentina)
- Prof. Miranda SCHREURS (Prof. for Environment and Climate Policy Bavarian School of Public Policy, Technical University of Munich, USA/Germany)
- Prof. John KIRTON (Director, G7 Research Group, Co-director, G20 Research Group, Co-director, BRICS Research Group, Co-director, Global Health Diplomacy Program, Munk School of Global Affairs, Canada)
- Dr. Ajay MATHUR (Director General, The Energy Resource Institute (TERI), India)

¹ Johan Rockström et al. "A safe operating space for humanity", Nature, September 24, 2009, Vol 461, and Will Steffen et al. "Planetary boundaries: Guiding human development on a changing planet", Science, February 13, 2015, Vol347, Issue6223.

² Kate Raworth "A Safe and Just Place for Humanity", Oxfam, 2012.

³ https://www.env.go.jp/en/policy/plan/5th_basic/plan.pdf, https://www.env.go.jp/policy/kihon_keikaku/plan/plan_5/attach/ref_en-02.pdf

FABLE and Argentina's food and land-use systems

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Fundación Bariloche, created in 1963, is a non-profit private academic institution devoted to education and scientific research in several areas of Economy, Energy Planning, Socio-ecological Modelling, Human Development, Philosophy & Environment.



INTA is the National Institute for Agricultural Technology, a decentralized organism under the Secretary of AgroIndustry founded in 1965. Its objective is to develop innovations for commodities, value chains and territories, to foster rural productivity, competitiveness, equity and sustainability through research, extension and communication.

Is it possible to provide healthy food to all humanity, respecting the planetary limits, the Paris Agreement and the Sustainable Development Goals (SDGs)?

»The challenges of unequal access to food and the negative effects on the environment are expected to be exacerbated in the near future.«

“Over 800 million people are undernourished, some two billion suffer from micronutrient deficiencies, and an estimated two billion are obese or overweight”¹. “Plus, the current food system is vastly inefficient, with up to one third of food lost or wasted. It is also highly unequal, with a surplus of calories available for many, while the poor go hungry: food can be abundant and scarce at the same time in different parts of the planet”¹.

On the other hand, food production is one of the greatest threats to the environment. Deforestation, agriculture, and other land-use changes account for a quarter of

global greenhouse gas emissions (GHGs). It threatens freshwater supplies, drives an unprecedented loss of biodiversity, and contributes to large inflows of nitrogen, phosphorous and other nutrients into freshwater and marine systems. “Many countries experience large-scale degradation of agricultural lands and air pollution that is partly driven by land clearing and poor agricultural practices. Unsustainable land-use also drives habitat loss, and reduces the biosphere’s ability to store carbon from the atmosphere”¹.

As if this were not enough, the challenges of unequal access to food and the negative effects on the environment are expected to be exacerbated in the near future, as most population growth occurs in areas with low-yield agricultural production¹. The global target of ending hunger and other food problems, the second of the UN 2030 Agenda’s SDGs², implies a profound transformation of the world’s food and land-use systems. It is evident that these issues must be jointly addressed by all the countries if we also want to achieve agendas like the Paris Agreement, the Aichi Biodiversity Targets and most of the SDGs (2, 3, 6, 7, 12, 13, 14, and 15).

The challenges of unequal access to food and the negative effects on the environment are expected to exacerbate in the near future.

The Food, Agriculture, Biodiversity, Land Use and Energy Pathways (FABLE) Consortium mobilizes top knowledge institutions from the G20 and other countries to support the development of data and modeling infrastructure for long-term pathways toward sustainable food and land-use systems. The consortium’s aims are (i) to promote more ambitious, inte-

grated national strategies, and (ii) to ensure alignment with the global objectives of the 2030 Agenda and the Paris Agreement¹. It provides a sharing platform, training, technical support, and modeling approaches, like an Excel-based tool (the FABLE Calculator), as well as sophisticated geospatial economic models (e.g. the GLOBIOM model). The rationale behind this modeling approach is to make international markets and trade more efficient, under diverse scenarios, so as to be able to feed the world’s population by 2050, but without surpassing certain environmental boundaries, like “well below 2°C”, “no biodiversity loss”, etc. (Figure 1).

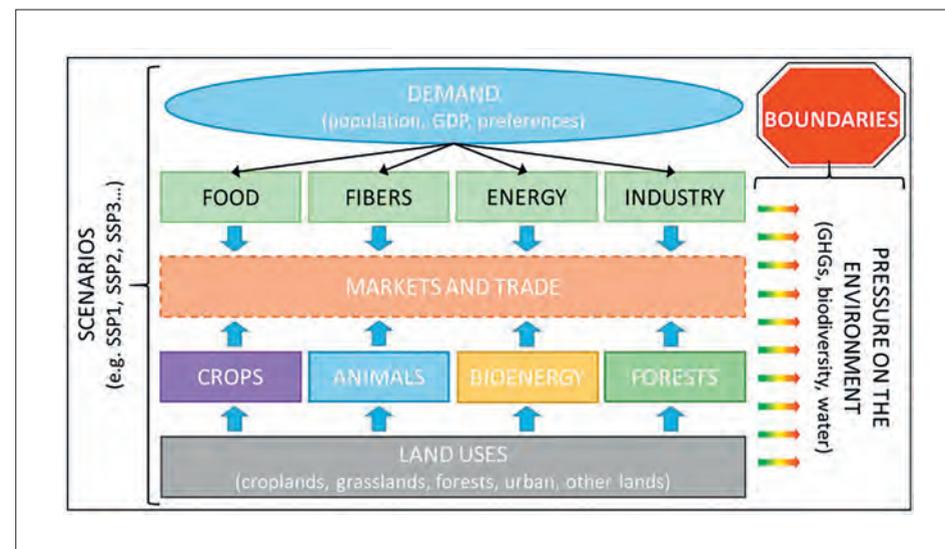
Each country team is expected to undertake its own analyses as part of the global consortium. This ensures local ownership, but also ensures that projec-

tions of trade in agricultural products are in balance, and that the sum of countries’ pathways will achieve the SDGs and the objectives of the Paris Agreement. The International Institute for Applied Systems Analysis (IIASA) and the UN Sustainable Development Solutions Network (SDSN) coordinate the FABLE Consortium¹. Fundación Bariloche (FB) and Instituto Nacional de Tecnología Agropecuaria (INTA) constitute the FABLE country team for Argentina.

FABLE supports the development of data and modeling infrastructure for long-term pathways toward sustainable food and land-use systems.

Argentina plays an important role in the global food and land-use system, since it is one of the main producers and exporters of agricultural products. Driven by the

Figure 1: Modeling logic of the FABLE Consortium.



international price of commodities, the country increased the proportion of land devoted to agriculture in the last 30 years (Figure 2), with soybean playing the leading role in these changes. Following Brazil and the United States, Argentina is now the third-largest producer and exporter of this commodity and its associated products (soy oil, cake and biodiesel), thanks to the country's considerable endowment of natural resources and an efficient low-input agro-industrial system. Consequently, the cultivated area has grown steadily since the introduction of a technological package in the mid-nineties, which combines genetically modified soy, agrochemicals (mainly glyphosate) and direct sowing practices. Since then, it spread reaching up to 20 million hectares, nowadays representing more than 50% of the area of all cash crops (Figure 3). These changes have

brought about a profound transformation in the land-use system in Argentina, impacting the economic activity, human health and the environment³.

For Argentina, like for the rest of South America, contributing to global sustainability and at the same time maintaining or increasing its income represents a source of controversy, with the central point being the asymmetry between global and local sustainability goals. Must global sustainability goals (like the SDGs) be fulfilled by sacrificing local or regional ones? That is what is happening nowadays, with high-income countries like France or Germany on the top of the SDG Global Rank, while Argentina and Brazil have much lower scores. However, should we consider the "spillover effects" of food consumption, that is, the effects (positive or negative) of the decisions in one country or region,

that spread to other countries or regions, the perspective could be much different. If we consider that most of Argentina's soy is consumed (or used as animal feed) elsewhere, it is only logical to assign the environmental impacts of this consumption to the consumer (the importer), not the producer. Although this criterion is not universally accepted, efforts are being made to "correct" the SDG's performances to account for such spillovers.

Must global sustainability goals be fulfilled by sacrificing local ones in low-income countries or regions?

In ecological terms, it makes far more sense to address sustainability at biome- or eco-regional scale, since most ecosystems' natural borders don't always match national margins. Maintaining the functionality of ecosystems and the provision of their services to humankind is a key aspect of sustainability, so a multi-national governance of shared biomes is essential

to achieving the SDGs (e.g. 14 and 15). With this in mind, FB and INTA teamed up with their FABLE South American counterparts, creating the ABC FABLE Team (standing for Argentina, Brazil and Colombia) within the consortium. The purpose of this coalition is to address these issues at a continental scale, since most of the biomes are shared between these and other countries (which would be incorporated in the future).

With this in mind, the ABC FABLE Team is working with the FABLE models to simulate possible scenarios and their effects on the countries' food and land-use systems. Preliminary results from the FABLE Calculator for Argentina can be used to analyze, for example, land use and GHG emissions under different global scenarios (Figure 4). In this exercise, two contrasting scenarios were considered: a) an unrestricted projection of food production with high importing demand from the rest of the world,

Figure 2: Recent expansion of main crops (soybean, maize, wheat and sunflower) in central and northern Argentina. Each dot equals 500 ha.

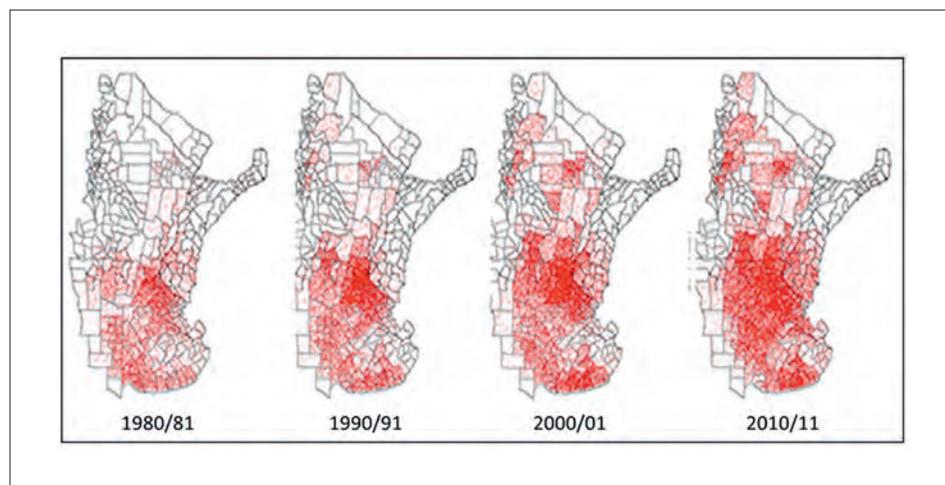
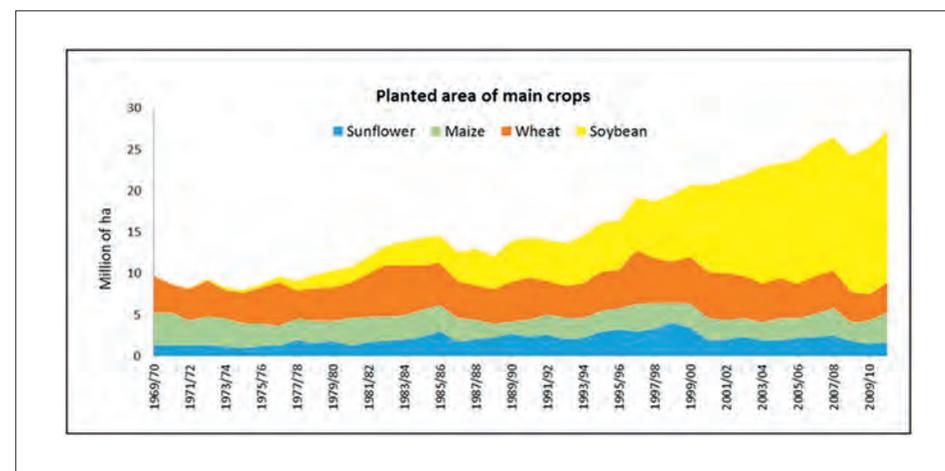


Figure 3: Cultivated area of main cash crops in Argentina in the recent past.



and b) a sustainable projection, restricted by ambitious country-level emission goals and zero deforestation. As can be seen, Argentina's contribution to achieving some of the global SDGs (e.g. 13, "climate action") may not be compatible with its contribution to achieving other goals (e.g. SDG 2, "zero hunger"). Moreover, if global versus regional (or national) trade-offs within these SDGs were considered, a whole new level of complexity and uncertainty would arise. For example, if Argentina were to follow a "sustainable scenario", international demand could pressure Brazil, Paraguay and other countries to increase their production. This other type of spillover effect can also be analyzed through the models used in the consortium.

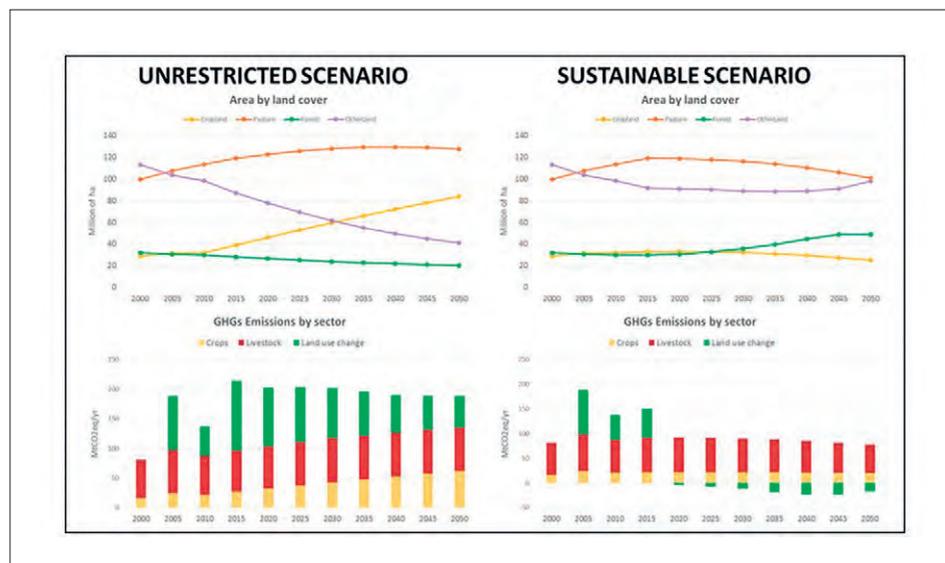
The results from the countries (or groups of countries) in the FABLE Consortium are then integrated in a platform called Scenathon (coined as a blending of the words "scenario" and "marathon"), in which the global demands, exports, imports and environmental performances are combined to check if global targets are accomplished. This process is iterative, and currently under validation, but preliminary outcomes show the possible effects of decisions in one country on others. For example, given the previous sustainability scenario for Argentina, other countries are expected to increase their own production of commodities to satisfy their demand. On the other hand, if Argentina were to opt for an unrestricted production of food,

this could allow other countries to be more concerned about their GHG emissions, biodiversity, protected areas, etc. The capital achievement of these exercises is the capability to put numbers to these trade-offs (with a reasonable level of confidence), in order to inform decision makers about the effects of their decisions on their own country, on other countries, and on the planet as a whole.

In parallel, the team has started working with the GLOBIOM model, whose objective is to incorporate a spatially explicit approach to the modeling that is being carried out. However, considerable effort is needed to collect, sort, and manage the data needed to run this model. Thanks to financial support from the German Society for International Cooperation (GIZ), a

coalition of institutions joined the Argentina FABLE team to address the soybean value chain as a study case (SDSN Andes, INPADE, Instituto Balseiro, ISA, PIK, SEI). Soybean is a source of strong controversy between two opposing groups, one holding that it allowed Argentina's economy to blossom, and the other asserting that it is responsible for the rapid deforestation of native forests, favoring the concentration of wealth, destroying rural employment, and deteriorating environmental quality. Hence, it is an excellent example for use with the modeling tools and collective knowledge of the FABLE Consortium, to assess the previously mentioned subjects, including the spillover effects of Argentina on other countries, and vice versa.

Figure 4: Layouts of the FABLE Calculator corresponding to a) unrestricted and b) sustainable scenarios, showing land use and GHGs projections up to 2050.



¹ FABLE Consortium Concept note. Internal Draft.

² Sachs, J., G. Schmidt-Traub, G. Kroll, G. Lafortune, G. Fuller (2018). SDG Index and Dashboard Report 2018, New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

³ Viglizzo, E., F. Frank, L. Carreño, E. Jobbagy, H. Pereyra, J. Clatt, D. Pincén, F. Ricard (2011). Ecological and environmental footprint of 50 years of agricultural expansion in Argentina. *Global Change Biology* 17: 959–973.

Think 20 Japan 2019

The “Japan SDGs Model” and the Task Force on the 2030 Agenda for Sustainable Development

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2019 is a highly important year for Japan, as the country will host both the Group of Twenty (G20) Osaka Summit and the Seventh Tokyo International Conference on African Development (TICAD 7). There will also be the High-level Political Forum on Sustainable Development (HLPF) in September 2019, under the auspices of the United Nations General Assembly (the so-called “UN SDG Summit”), where Japan plans to share the outcomes of these efforts and the progress of its own implementation of the Sustainable Development Goals (SDGs).

As the current G20 President, Japan is actively engaged in the Think 20 (T20) 2019 process. T20 is the research and policy advice network for the G20. In view of the vital importance of providing policy inputs to the progress of the SDGs which were endorsed by all 193 UN member states in September 2015, the Task Force on the 2030 Agenda for Sustainable Development was established within T20 Japan.

Being universal goals, the SDGs are relevant and applicable to both developed and developing countries. In this regard, the SDGs mark a big departure from the Millennium Development Goals (MDGs) which focused on the challenges facing developing countries. For Japan, the SDGs are a main pillar of the national strategy for creating Japan’s future, and also pro-

vide an overarching vision for international cooperation: toward improving people’s lives and prosperity on a healthy planet, through partnership and peace. Bearing these points in mind, this article discusses: (i) Japan’s approach to promoting the implementation of the SDGs; and (ii) the key features of the T20 Japan Task Force in relation to the 2030 Agenda for Sustainable Development.

»The SDGs mark a big departure from the Millennium Development Goals which focused on the challenges facing developing countries.«

1. HOW IS JAPAN IMPLEMENTING THE SDGS?

Pursuing a “Japan SDGs Model”

The Japanese government is endeavoring to develop a distinctive “Japan SDGs Model”. In my view, there are three notable aspects of this model.

The first is about tackling country-specific, domestic challenges as a mature economy and society in light of the SDG vision that “no one is left behind.” Japan today faces pressing problems such as aging and depopulation, the continuing need to revitalize local economies, the need to elevate women’s role in society, and promoting a work-life balance with improved productivity and innovation. The nature of these challenges is quite different from those found in developing and emerging economies, which typically struggle with rapid population growth and urbanization.

The second aspect is about active engagement in international cooperation to contribute to the solution of global challenges. Japan is one of the largest development aid donors in the world, and also the first non-Western country to have built an industrial society through catch-up efforts after the Meiji Restoration. It is also an experienced solution provider for various development challenges. Japan confronted a number of environmental and social problems during its high-growth period and found out the hard way that the solution to these could be achieved by making societal efforts involving local government, industry, academia and NGOs, and by developing leading technologies in the relevant areas (Ohno 2016). In this regard, Japan is well positioned to share its own development experiences and frontier challenges through international cooperation.

The third aspect is about the efforts to link domestic policy and international cooperation and to facilitate mutual learning between Japan and other countries (see below). While Japan has been actively sharing its knowledge and expertise with developing countries, it is also possible

The institution:



The Japan International Cooperation Agency (JICA) Research Institute (JICA-RI) conducts policy-oriented, academically solid studies that address the important issues faced by developing countries. JICA-RI was established in October 2008 as the research arm of JICA, an organization that is responsible for Japan’s bilateral development cooperation.

and useful to learn from their innovative ideas and experiences and draw new insights for its own domestic reforms.

National implementation framework and guiding principles

Following the UN adoption of the 2030 Agenda in September 2015, the Japanese government established an SDGs Promotion Headquarters (HQ) in the Prime Minister’s Office (PMO) in May 2016. The SDGs Promotion HQ is chaired by the Prime Minister and is composed of all cabinet ministers. Meetings are convened bi-annually.

In December 2016, it adopted the Implementation Guiding Principles (hereafter, Principles), which articulate a vision, priority areas, specific policies and follow-up mechanisms, as well as the SDGs Action Plan (subject to annual updates). It is expected that such a whole-of-the government approach will ensure integrated and effective implementation of the SDGs domestically and globally.

Under the SDGs Promotion HQ, multi-stakeholder roundtable meetings (SDGs Promotion Roundtable Meetings) are convened to review and comment the gov-

ernment’s policy proposal and overall direction. 14 members participate in the meetings, representing NGOs/NPOs, academia, the private sector, international organizations, and other concerned organizations.

Eight priority tasks

The Principles have established eight priority tasks and 140 measures relevant to the economy, society and the environment. These priority tasks cover five pillars of the SDGs—namely, People, Prosperity, Planet, Peace and Partnership (5Ps).

As part of the government’s efforts to raise awareness of the SDGs, the “Japan SDGs Award” was launched at the third meeting of the SDGs Promotion HQ to recognize outstanding initiatives implemented by the Japanese private sector and various organizations that contribute toward the realization of the SDGs. Notably, there is growing interest among major stakeholders to make best use of the opportunities of the 2020 Tokyo Olympic and Paralympic Games, and the 2025 World Expo in Osaka, to promote the implementation of the SDGs in Japan and abroad.

Figure 1: SDGs National Implementation Framework

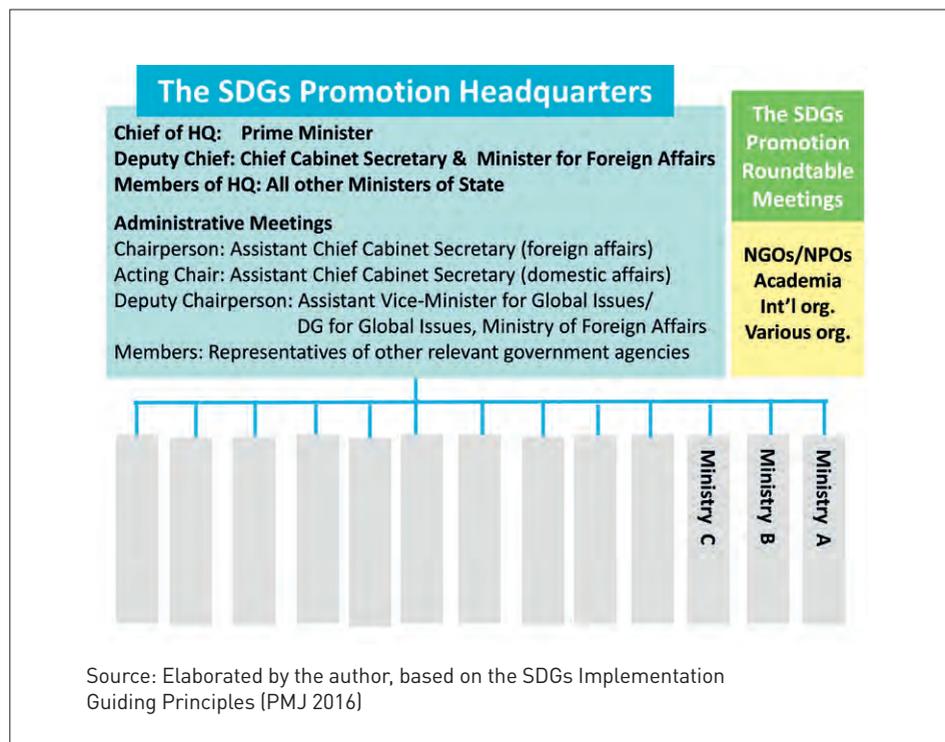
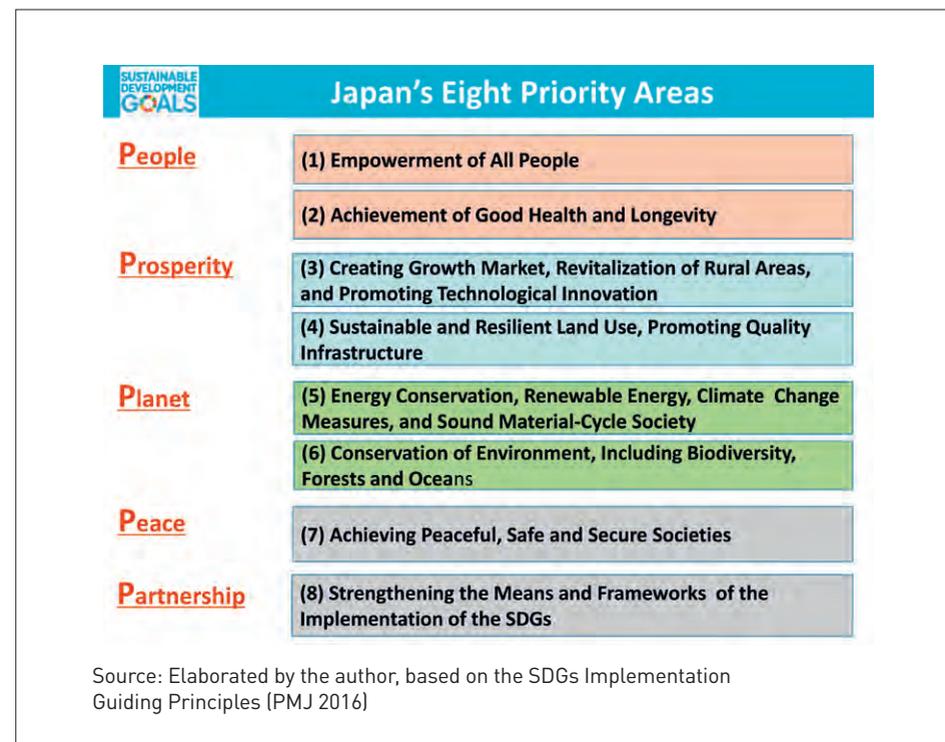


Figure 2: SDGs Implementation Guiding Principles and Eight Priorities



Linking domestic policy and international cooperation

As stated earlier, the eight priority tasks serve as a good platform for connecting domestic policy and international cooperation priorities. Each priority includes country-specific challenges, as well as global issues and challenges faced by developing countries to be addressed through international cooperation.

»The eight priority tasks serve as a good platform for connecting domestic policy and international cooperation priorities.«

For example, priority (2) is about the “achievement of good health and longevity” (corresponding to goal 3 of the SDGs). This is an important agenda for everyone on Earth. Domestically, we need to tackle the issues associated with a rapidly ageing society (e.g., the health and nursing care needs of the elderly). Such demographic changes have significant implications for

health finance in urging Japan to build a sustainable health-care system for all. Globally, Japan has one of the most established national health insurance systems, and it has been actively engaged in international cooperation, for example, by promoting the effective use of a maternal and child health (MCH) handbook and universal health coverage.

Regarding priority (4), Japan is prone to natural disasters such as earthquakes, tsunamis, typhoons and floods. Therefore, domestically, it is very important to continue efforts to create resilient communities and promote disaster risk reduction. At the same time, Japan has been actively engaged in sharing its expertise and know-how with developing countries in the area of disaster prevention and reconstruction.

Here, I would like to touch upon the role of the Japan International Cooperation Agency (JICA), with which I am affiliated. JICA is a governmental agency responsible for the implementation of bilateral development cooperation. Guided by the Development Cooperation Charter (MOFA 2015), JICA has been working toward realizing “human security” and “quality growth” to contribute to peace, stability and prosperity in the international community (JICA 2016). In this light, JICA assumes a key role in promoting the SDGs by: (i) assisting developing countries to implement the SDGs; (ii) sharing Japan’s own experiences in socio-economic development and in international cooperation; and (iii) sharing its experiences with tackling frontier challenges with those countries and organizations which have shown interest. JICA aims to enhance the impact of cooperation on the SDGs and play a facilitator’s role in linking global and domestic challenges by

connecting various stakeholders in Japan and abroad. These directions are clearly articulated in the JICA Position Paper on SDGs, formulated in September 2016.

2. TOWARD THE G20 JAPANESE PRESIDENCY: ISSUES TO BE ADDRESSED BY THE T20 JAPAN TASK FORCE ON THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Recent discussions on the 2030 Agenda at G20 Summits

Since the adoption of the SDGs in 2015, the G20 has sought effective means of implementing the SDGs using various frameworks and fora, such as the G20 Action Plan on the 2030 Agenda for Sustainable Development, and the G20 Development Working Group (DWG). Major agreements and actions include the following¹

- The 2015 Antalya G20 Summit (Turkey) confirmed the strong commitment of the G20 leaders toward implementing the 2030 Agenda and building an inclusive and sustainable future for all, as highlighted in the Low Income Developing Countries Framework. Furthermore, the G20 DWG endorsed the Antalya Development Roadmap, which promotes actions that will have a positive impact on low income and developing countries through inclusive growth and development;
- The 2016 Hangzhou Summit (China) endorsed the G20 Action Plan on the 2030 Agenda for Sustainable Development and its High-Level Principles by committing to place sustainable development high on the G20 agenda, to enhance policy coherence on sustainable development, and to further align the G20’s work with the implementation of the 2030 Agenda. With the

adoption of the G20 Action Plan, DWG was mandated to act “as a coordinating body and policy resource for sustainable development across the G20,” thus ensuring continuity in the G20’s contribution to its implementation;

- The 2017 Hamburg Summit (Germany) adopted the Hamburg Update of the G20 Action Plan on the 2030 Agenda and decided to establish a voluntary peer learning mechanism on the 2030 Agenda, as a complementary process to the UN-led follow-up and review process at the High-Level Political Forum (HLPF). This was the first step in putting the G20 Action Plan into practice by making more visible the G20’s collective and concrete actions that contribute to the implementation of the 2030 Agenda. The update outlines all concrete collective actions agreed upon in Hamburg and includes a repository of all relevant actions agreed by the G20 in its prior summits;

- Maintaining this international momentum, the 2018 Buenos Aires Summit (Argentina) adopted the Buenos Aires Update of the G20 Action Plan on the 2030 Agenda, which compiles the new comprehensive and collective actions the G20 decided on in 2018. The Buenos Aires Update reflects the “whole-of-G20” approach to strengthening coherence and coordination on sustainable development across all G20 working groups and work streams. The second round of the voluntary peer learning mechanism was undertaken.

G20 Japan 2019 and the 2030 Agenda

Japan assumed the one-year G20 Presidency in December 2018, succeeding Argentina. At the sixth meeting of the SDGs Promotion HQ (held on December 21,

2018), Prime Minister Shinzo Abe stated his commitment to leadership in promoting the SDGs to the international community by making full use of such opportunities as the G20 Osaka Summit and the TICAD 7. He emphasized that Japan will lead initiatives on the creation of high quality infrastructure, disaster prevention, measures against plastic waste in the oceans, dealing with climate change, and others, and that high priority will be placed on women, health, and education as the foundations for human security and human resource development².

Immediately after the handover, the T20 Japan Inception Conference was held in Tokyo on December 4-5, 2018. On this occasion, Foreign Minister Taro Kono and Vice Minister Kenji Yamada respectively shared their perspectives of the G20 Osaka Summit, with specific reference to the SDGs as one of the topics Japan intends will lead their discussions.

The Sustainable Development Goal is to realize a society “that leaves no one behind”, and this shares much common ground with the concept of human security that Japan has been promoting for many years. In order to achieve the SDGs and human security, Japan will accelerate its efforts in areas such as health and education through next year’s G20 Osaka Summit and TICAD 7 which will be held in August in Yokohama. We look forward to presenting concrete outcomes from these initiatives at the SDG summit meeting in New York in September 2019. [Speech by Foreign Minister Taro Kono December 4 2018]³

Looking ahead to the G20 Osaka Summit next June, Japan will make every effort to realize a vision of a “human-centered future society” that is free, open, inclu-

sive and sustainable. We will contribute to achieving economic growth and reducing disparity at the same time, as well as addressing global issues with a focus on the SDGs. [Speech by Parliamentary Vice-Minister for Foreign Affairs Kenji Yamada December 4 2018]⁴

Key features of the T20 Task Force in relation to the 2030 Agenda

In alignment with the Japanese government’s priorities for its G20 Presidency and considering the impact of the achievements of the recent G20 Summits on the 2030 Agenda, the Task Force on the 2030 Agenda for Sustainable Development (hereafter, T20 Japan SDGs TF) has been established within T20. T20 SDGs TF has chosen the following six topics to make policy recommendations for G20. These topics are critically important for advancing SDG implementation:

- Universal health coverage (UHC);
- Education in development;
- Sustainable finance for development;
- The role of the private sector in achieving the SDGs;
- Technology cooperation; and
- Gender.

We consider these topics a balanced mix and highly relevant in light of: (i) giving special attention to “human security” and the human-centered approach, as well as the areas where Japan has accumulated knowledge and expertise (i.e., universal health coverage, education); (ii) combining sector-specific topics with cross-cutting topics (i.e., sustainable finance, the role of the private sector, technology cooperation, gender); (iii) maintaining the continuity of the past T20 discussions, while addressing new topics (i.e., universal health coverage,

the role of the private sector, technology cooperation), and (iv) ensuring complementarity with the other task forces (such as Climate Change and Environment, and the Future of Work and Education for the Digital Age).

In each of these topics, the drafting of policy briefs is underway (a total of ten policy briefs are expected). While much work needs to be done as of this writing (end of January 2019), the preliminary direction of the six topics is shown below.

In health, the T20 Japan SDGs Task Force will focus on Universal Health Coverage. This is the first time that T20 will discuss this as the major topic. Health has been discussed at the G20 Summit since 2017, and during the last two years the main focus was on the response to health crises (such as the Ebola outbreak, antimicrobial resistance (AMR)) and the need for coordinated approaches to emergency preparedness and response. This year, the policy brief will address the role of the G20 in building a sustainable health system for all, and deliberate next steps toward a new globalism for universal health coverage. In doing so, we will give due consideration to the discussions at the Health Working Group (Sherpa Track) and the Finance Track.

Education has been discussed intensively at past T20s, and recent years have seen growing interest in the topic of the Future of Work and Education for the Digital Age (which is closely related to the 4th industrial revolution). While this topic continues to be discussed in the other task forces, the T20 Japan SDGs Task Force will highlight education in development as an enabler to achieve the SDGs. We will compile several policy briefs, addressing qual-

ity education, socio-emotional skills, early childhood development (ECD), science, technology, engineering and mathematics (STEM), girls education, professional development, and so on.

»The T20 Japan SDGs Task Force will highlight education in development as an enabler to achieve the SDGs.«

On finance and governance, there have been active discussions on the topic of a global financial architecture for sustainable development. This year, the policy brief will recommend concrete measures on how to drive capital at scale toward sustainable development, ensure more equitable access to finance, and build standards for transparency and impact.

The role of the private sector is a new topic at T20, and the policy brief will address how to scale up the business impact on the SDGs. It will analyze the challenges that restrain corporates from making full-fledged contributions to SDG acceleration and will provide specific policy recommendations. These include: (i) encouraging corporates to embed the SDGs into their

core business strategy and operations; (ii) redesigning the current economic system to deliver societal progress through a common purpose; (iii) creating a “sustainable ecosystem” for fostering mutually beneficial relationships among corporates, citizens, and other stakeholders; and (iv) upgrading the enterprises and policy/regulatory capabilities of developing countries to maximize the potential benefits of their participation in global value chains.

Technology cooperation is also a new topic. Science, Technology and Innovation (STI) have been identified as the most important instruments to achieve the SDGs globally along with adequate level of development finance. STI solutions need to be embedded in all strategies for sustainable energy, agriculture, industrialization, as well as other actions on climate change mitigation, human health, sustainable urbanization, and protection of terrestrial and marine ecosystems. However, there are global asymmetries in the availability of technology and barriers to technology flows that foreclose options for resource-poor economies. The policy brief will highlight the need to mainstream the principles of access, equity and inclusion in the context of STI and advocate capacity building for science diplomacy to promote effective global partnerships.

Gender is an important cross-cutting issue, and past T20 meetings discussed intensively the issue of gender economic equity by organizing a dedicated task force. This year, two policy briefs will be prepared within the T20 Japan SDGs Task Force with the following working titles: (i) A Gendered Perspective on Changing Demographics: Implications for Labor, Financial and Digital Equity; and (ii) Women's Economic

Empowerment: Strengthening Public and Private Sector Accountability, Measurement and Impact. The governance policy brief is new and will focus on the governance frameworks for the public and private sectors and their respective mechanisms for monitoring and measuring the impact of gender economic equity progress. In doing so, we will collaborate with Women 20 (W20) to ensure alignment with the W20 areas of focus.

»The Summit is a very important opportunity to reinvigorate international commitment to the 2030 Agenda.«

The way forward

2019 marks the fourth year since the adoption of the SDGs by world leaders, and in September the UN SDG Summit will be convened under the auspices of the General Assembly to followup and review the progress of the 2030 Agenda for Sustainable Development. The Summit is a very important opportunity to reinvigorate the international commitment to the 2030 Agenda, showcase areas of global progress, and raise awareness on the impor-

tance of the SDGs globally. It will also help to leverage progress in key areas to kick-start an acceleration process⁵.

Given the significant impacts G20 countries could have on global economic and social progress, the T20 Japan SDGs TF is

determined to make concrete and workable policy recommendations for the G20 Osaka Summit to be held in June. These should in turn serve as useful intellectual contributions to the subsequent UN SDG Summit.

¹ This section draws on “Buenos Aires Update: Moving Forward the G20 Action Plan on the 2030 Agenda for Sustainable Development,” November 2018.

² See Prime Minister Abe’s speech at the sixth meeting of the SDGs Promotion HQ. https://japan.kantei.go.jp/98_abe/actions/201812/_00046.html

³ See Foreign Minister Kono’s speech at the reception of the T20 kick-off meeting. <https://t20japan.org/wp-content/uploads/2018/12/Japan-Foreign-Minister-Kono-Speech.pdf>

⁴ See Vice Minister Yamada’s speech at the T20 kick-off meeting. <https://www.mofa.go.jp/mofaj/files/000425460.pdf>

⁵ This draws on the UN Sustainable Development Goals: Knowledge Platform.

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There are no jobs on a dead planet

Trade unions as agents of social and environmental transformation

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The institution:



Friedrich-Ebert-Stiftung (FES) is the oldest political foundation in Germany, with a rich tradition in social democracy that dates back to its founding in 1925. Our work is devoted to the core ideas and values of social democracy – freedom, justice, and solidarity. This is the mandate the foundation has adopted in its programmes for political education, international cooperation as well as scholarship programmes and research. And this connects us to social democrats and free trade unions. Friedrich-Ebert-Stiftung maintains its own representations in over 100 countries of Africa, Asia, the Middle East, Latin America, Europe and North America.

Aside from digitalization, climate and environmental change is the major transformation issue of our time. How we live and organize the economy in future, how we create justice and organize participation and hold societies together, will depend crucially on the answer we find to the major challenge currently facing us: How can human social development be reconciled with the ecological limits of the Earth system?

A few cosmetic corrective measures will not be sufficient. But our predominant patterns of economic activity and consumption, not to mention our cultural strategies and political practices, are in many places exhausted. Not only are they giving rise to social inequality and insecurity, they are also placing the Earth's environmental stress limits under massive pressure. Business as usual is no longer an option.

It is equally clear, however, that every meaningful socio-environmental alternative represents a threat to established systems of order backed by powerful interests, so that changing these systems will produce new winners and losers. Among other things, a global energy transformation will inevitably lead to a shift in mar-

ket shares and change property relations; serious attempts to address inequality will shake financial capitalism to its foundations; restrictions on the access of the countries of the North to the labor, raw material and land resources of the South will have consequences for the production and consumption patterns of the industrialized countries; and the global enforcement of labor rights will shift the balance in favor of workers and trade unions whose rights have been marginalized for years. The issues raised by a just transition toward new socio-environmental, economic and social structures are therefore being decided primarily in political (distribution) battles.

TRADE UNIONS VERSUS THE ENVIRONMENT?

Trade unions can play an important role in these transformation processes. On the one hand, strong and free trade unions have at their disposal a wide variety of power resources for shaping the economy and society in the workplace, as an organized workers' movement, as stakeholders in state structures and as partners in broad social alliances.

On the other hand, the issue of "sustainable work" – that is, the question of how meaningful, safe, fairly paid and rights-based work for all can be integrated into sustainable value-creation processes in the economy and society – must be at the heart of any social and environmental transformation. Both work and the environment involve the danger of overuse and exploitation, and they must be shaped in accordance with criteria of sustainability. Work is also influenced in a variety of ways by natural conditions or affects them in turn. Many sectors of relevance for em-

ployment depend directly on the availability of natural resources or ecosystem services, and, like agriculture, are at the same time among the main causes of climate change. But employment and the quality of work are also decreasing, and the (health) risks for workers are increasing as a result of heat stress, extreme weather conditions and environmental pollution. Women and those in precarious employment are particularly vulnerable to these factors, especially in those regions that are already most dependent on natural resources but are least able to adapt.

»The issue of sustainable work« must be at the heart of any social and environmental transformation.«

When it comes to the environment, trade unions were and are widely regarded as structural conservatives who, where they still have sufficient power, often form a corporatist alliance with employers to block an environmental transformation. Although the attitude of trade unions toward environmental issues certainly remains ambivalent, there has been movement in recent years. From the alliances between "Teamsters and Turtles" during

the anti-WTO protests, through the extensive involvement of the International Trade Union Confederation in the climate negotiations to numerous local initiatives: the motto of the ITUC is “There are no jobs on a dead planet.” While trade unions were still skeptical when the Kyoto Protocol was signed in 1997, now they are forcing the debate, primarily through their international umbrella organizations, by asking: How can combating climate change be used to anchor the principles of decent work – safe and well-paid work, social protection, respect for workers’ rights and social dialogue – in new and better ways? The Paris climate agreement and the 2030 Agenda for Sustainable Development contain goals that can only be achieved if the trade unions work intensively on their implementation.

To be sure, concrete trade union policy is not conducted in a vacuum. Trade union work in the bauxite mines in the Amazon and the wine harvest in Cape Town is a different matter from in the factories of the big automobile manufacturers in Germany. But the basic precondition for becoming an actor that shapes change is to abandon the long-cherished front lines between work and the environment and between prosperity and climate protection. Instead, the question of how environmental and social aspects can be combined must become part of the political self-understanding, organizational culture and strategic objectives of trade unions.

JUST TRANSITIONS

In order to develop a strategy for sustainable work, the trade unions must take their orientation from a variety of objectives: a) decent work, i.e. work that secures a liveli-

hood, reduces inequality, promotes gender equality and protects health; b) sustainable employment policy, i.e. restructuring the economy in light of environmental imperatives, but in ways that also create the prospect of employment for all in the medium term; and c) a sustainable approach to transformation, i.e. the claim of politics and society to shape change and to represent the interests of the environment, society and every individual also against business interests.

»A socially just and environmental transformation can only succeed if those affected become participants.«

The task of reconciling these different objectives is far from trivial for trade unions, since the concrete, mainly local transformation processes are riven by conflicts. In order to represent the interests of their members, the primary concern of trade unions must be to improve workers’ concrete and acute living conditions and the associated hardships and adversities,

and to defend jobs. Also at stake, however, is the restructuring of the economy in the medium term, since the status quo does not offer any prospect of securing decent work for future generations. But many workers have had the painful experience that structural changes over the past four decades were for the most part implemented without their say and against their economic interests, and often even against their vital interests. Jobs in the fossil industries may be harmful to the climate and may not be future-proof, but at least they ensure a livelihood for many in the here and now. According to rough estimates, 38 per cent of all workers worldwide work in emission-intensive industries, many of them in low-skilled jobs.

This is where the trade unions’ idea of just transition, which is also anchored in the Paris climate agreement, comes into play. The concept, which was first developed by Canadian trade unions in the late 1990s, takes as its starting point the simple question of who will pay for the environmental restructuring and – since the transformation cannot be left to market processes alone – how the change can also be shaped politically and socially. A just transition must reconcile apparently disparate imperatives: social development with environmental limits, local politics with global conditions, market elements with new, solidarity-based economic structures, traditional political hierarchies with “politics from below,” and short-term projects with longer-term objectives. The goal of all of the measures must be to reduce emissions, overcome inequality and poverty and create decent work. In contrast to other approaches that focus on harmonizing economic development with

climate protection, the focus of the just transition approach is on the social dimension: climate protection should be maximized, but at the same time the risks for workers must be minimized as far as possible. The social costs of transformation must be fairly distributed.

NEW STRENGTH?

The respective contributions of countries, regions, municipalities and companies to creating fair transitions will be very different. However, among the core elements of the approach are extensive investment in green sectors, formulating employment targets, fostering a stable macroeconomic environment, developing regional diversification plans, research and early assessment of the social and employment-related impacts of a sustainable transformation, and education, learning and skills offensives. Such an approach also embraces new flexible working time models and mobility concepts that facilitate sustainable lifestyles, the promotion of small and medium-sized enterprises, a regulatory framework for informal workers, flanking the transformation with social protection measures, and providing tangible direct assistance for those affected among the traditional sectors, including active labor market policies.

In order to implement these strategies in targeted ways, in many places new municipal or regional “transformation institutions,” in which trade unions also have their place alongside other actors, will have to be created or existing ones reformed. But in order to be able to exert pressure within these institutions, trade unions will have to strengthen their organizational power – in three directions, in particular: a) One of the

reasons why unions are hesitant about an environmental restructuring is also that in many countries their bastions are precisely in the fossil industries and, within these industries, in the large companies. Small and medium-sized companies in renewable energy sector, for example, are often “non-union,” so that their workforces will have to be reorganized under difficult

»The democratization of the economy is becoming a precondition for fundamental change.«

conditions. Nevertheless, gaining a foothold in the new green sectors through new organizing strategies will be of central importance for trade unions, not least in order to promote decent work. b) Because of the close global economic interdependencies, today decent work can only mean decent work on a worldwide scale. Trade union work is no longer confined to a single geographical location. In future, therefore, trade unions increasingly will have to organize along global supply chains in order to advance their interests in transnational company and sectoral networks, for example, in international framework agreements, but also with a view to trade

agreements. And c) today it is already foreseeable that the social basis of trade unions is destined to become more heterogeneous and fragmented. In many countries, therefore, trade unions’ ability to advance their goals will depend crucially on developing solidarity-based advocacy policies for core workers as well as for informal or precarious workers, clickworkers, landless people, domestic workers or migrant workers.

OVERCOMING THE PRESSURE TO GROW

In addition to their ability to mobilize, strike and organize, trade unions also need to improve their discursive capabilities. The question of growth will feature centrally in the coming years, especially when it comes to the ability of trade unions to form alliances with other social actors, such as environmental organizations, and to establishing the framework for a transformation. This question is addressed above all to the smallest and wealthiest portion of humanity, which is placing the heaviest burdens on ecosystems worldwide. If the countries of the Global South are not to be deprived of their opportunities for development, there has to be a change of policy in the North. And this will only be accepted if inequality is reduced. Therefore, the main focus of the trade unions cannot be on simple pleas for downsizing. Rather, they must ask how economic and social structures can be transformed in such a way that they are no longer subject to the pressure to grow: What can continue to grow because it contributes to the common good? What must be dismantled because it is detrimental to society and the environment? And how can growth be made more sustainable by combining in meaningful

ways the different concepts of efficiency, of compatibility between production methods and nature, and of achieving the correct balance in matters of growth, consumption and lifestyles.

DARE TO RISK MORE ECONOMIC DEMOCRACY!

It is obvious that such considerations quickly collide with the (profit) interests of powerful economic actors. Thus, the question of power has to be addressed. In the past decades, we have witnessed a shift in the centers of political power and decision-making and the outsourcing of central political control tasks to the economy. In “market democracy,” the outcomes of market-driven economic processes are no longer subject to political oversight, and if necessary corrected, but instead the political community is adapted to the needs of the markets. This is not a recipe for a successful transformation. The democratization of the economy – that is, the socialization of economic decisions – is becoming a precondition for fundamental change. What is required is not detailed planning,

but to strike a fundamentally new balance in the relationship between the economy and society. This can range from participation and co-determination in the workplace, from the role of the state in economic policy through approaches involving production cooperatives and solidarity-based economic forms, to the democratization of public services.

To be sure, after decades of neoliberalism, such interventions seem to be a very distant prospect. But a socially just and environmental transformation can only succeed if those affected become participants. Workers are the ones who will be most affected by climate and environmental change in the coming years. This is why they must also create opportunities for themselves to intervene and contribute to shaping change. If trade unions make use of their many opportunities to intervene while overcoming their tendency to see an opposition between work and the environment, then there is a good chance that, as organizations with roots in business, politics and society, they will be able to lend workers a strong voice.

The critical frontier

Reducing Belt and Road emissions

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UNDP works to eradicate poverty and reduce inequalities through the sustainable development of nations, in more than 170 countries and territories. It helps countries to develop policies, leadership skills, partnering abilities, institutional capabilities and build resilience in order to sustain development results and to support countries' efforts to achieve the Sustainable Development Goals, or Global Goals, which will guide global development priorities through 2030.

While every energy-saving bulb makes a difference, only a small number of frontiers in our efforts to deal with climate change are of existential importance. Focus to date has been on major emitting countries and the planet's carbon sinks. Under-estimated to date has been the critical importance of the so-called Belt and Road Initiative (BRI) to climate change, and our collective futures, involving over seventy countries from Central Asia to Latin America.

New infrastructure will be a major contributing factor to global carbon emissions over the coming decades, accounting for over half of new sources, according to the World Economic Forum. Such investments in countries involved in the BRI could make up as much as 60% of global infrastructure investments over the coming two decades. That is, these countries, taken together, could be the single largest source of growing carbon emissions over the critical period to the middle of the century, the time window during which climate change can be meaningfully moderated.

For the first time, aggregated growth and carbon scenarios for countries involved in the BRI have been developed. Notwithstanding data weaknesses and uncertainties, the modelling results indicate that these countries are currently on track to generate emissions well above levels required for the 2-degree Celsius scenario (2DS), based on current infrastructure in-

vestment patterns and growth projections. The analysis suggests that BRI-involved countries could exceed their 2DS carbon budget by 11Gt by 2030 and 85Gt by 2050. To place this in context, these countries would account with these numbers for 50% of global emissions by 2050, up from 15% in 2015, if all other countries succeeded in following a 2DS pathway.

»New infrastructure will be a major contributing factor to global carbon emissions over the coming decades.«

More optimistically, emissions would be 39% lower if BRI-involved countries achieved "historical best practices" (i.e., effectively deploying leading-edge green technologies already in use, particularly in OECD countries, at the pace compatible with their stage of development (income per capita). However, they would still fall short by 77% of the reduction required to align with a 2DS, resulting in their carbon emissions still exceeding the 2DS budget by a huge margin (38%) by 2050.

That is, for countries involved in the BRI to have any possibility of aligning with a 2DS requires that they leapfrog in adopting green solutions at much earlier stages in their development trajectory than today's more developed economies. Recent trends do not offer sources of optimism. Almost 400 GW of new, coal-fired energy generation capacity was built to completion in 2018, most of which was commissioned in countries involved in the BRI. Across 64 countries involved in the BRI, green loans accounted for only 9% of the global total, with green bonds issued across the same group of countries making up for only 1.75% of the roughly half trillion dollar issued. More or less 90% of carbon emissions in countries involved in the BRI are not covered by carbon trading mechanisms.

To make matters even worse, carbon emissions are usually locked in at the contractual stage of an investment. Indeed, infrastructure development planning involves long lead times that pre-determine technology choices, which in turn shape institutions, behavioral norms and outcomes, including carbon emissions, for decades to come. This means that carbon emissions in BRI-involved countries will become largely locked in over the coming two to three decades, with considerable lock-in even earlier.

Considerable efforts in recent years to raise awareness among investors about climate risks are to be applauded, but are unlikely to be effective alone for carbon-intensive investments in BRI-involved countries. First, carbon and climate-related regulations in Belt and Road countries are scarce, and where they exist are often inadequately enforced. Strengthening these institutional arrangements are essential, but would in most instances take too long to

prevent the flow of carbon-intensive investments. Second, many carbon-intensive assets in countries involved in the BRI are less sensitive to economic stranding as they will sit on public balance sheets. While public financiers are expanding their renewables portfolios, they are unlikely without considerable external support to mothball technically productive, carbon-intensive assets. Third, many cross-border, carbon intensive infrastructure investments are de-risked by public institutions. Many energy and infrastructure projects, in particular, receive additional policy and publicly funded risk-underwriting support, for example, from Export Credit Agencies (ECAs) and development banks.

»Carbon emissions are usually locked in at the contractual stage of an investment.«

REDUCING BELT AND ROAD EMISSIONS

There is an urgency to act at scale to ensure that low-carbon infrastructure investment becomes a norm in countries involved in the BRI. Of course, this would be the case for these countries even if the BRI did not exist. The BRI, however, makes a difference in at least two ways. First, it increases the scale

and pace of infrastructure investment, although to varying degrees in different countries. Second, and perhaps more contentiously, it raises the possibility of a more focused, leveraged set of climate-related interventions given the high concentration of financial flows and associated policy interest and influence.

There are many factors that will influence the carbon footprint associated with the development trajectory of countries involved in the BRI, and of course both involve much diversity across countries and uncertainties over time. Proposed here is a series of interconnected interventions at three levels, in countries involved in the Belt and Road Initiative, in China, and internationally.

Countries involved in the BRI are the ultimate decision-makers in matters concerning their own development, including infrastructure choices with their associated carbon and environmental outcomes. A recent study by the OECD, the UN Environment Programme (UNEP) and the World Bank Group, 'Financing Climate Futures', highlighted the many possible, positive choices that could deliver climate and development win-wins. At the same time, it pointed to the many reasons that such choices were not being taken, including gaps in human and institutional capabilities, perverse incentives, and behavioral factors.

First, investing across countries involved in the BRI to address these gaps and weaknesses is clearly essential. Carbon pricing through one or more of many possible routes must be an objective, and there is much being done in this respect. How to green procurement is now well-understood, and there are many international programs designed to support this for governments and private actors. Greening finance, simi-

larly, although a more recent catalyst of low-carbon development, can be advanced systematically across countries involved in the BRI.

Such country-level work is essential, but takes time. It is important to recognize that such efforts are unlikely to bear sufficient fruit in the time window available to ensure the essential bend of the carbon curve. The unique influence of China over infrastructure investments in countries involved in the BRI is therefore the second aspect of the proposals set out here. Applying mandatory environmental assessment requirements for all Chinese investments in countries involved in the BRI could make a significant difference. China could extend and strengthen its existing, domestically focused policy emphasis on green finance, currently championed by a number of ministries and financial regulators. Environmental risk assessment of major BRI investments by Chinese investors would become required as part of the approval process. Specific emphasis could be placed on carbon emissions as this is an unregulated and de-risked pollutant with systemic externalities.

Risk assessment would not, however, be sufficient. For low-carbon development across countries involved in the BRI to be a serious proposition, China needs to desist from exporting coal-fired power generation technology. Such a prohibition would be a challenge on many fronts, without doubt. Yet it would be entirely consistent with China's international leadership on climate, and consistent with its domestically focused move toward green energy.

Such a decision could be unilateral, but would be far more productive if linked to three other developments. The first would

be a pluri-lateral agreement to do likewise with other, major exports of coal-fired power generation technology, including India, Japan and South Korea, an agreement that could perhaps be brokered with help from other G20 countries. The second would be an agreement from major countries involved in the BRI to move away from purchasing such technology, clearly linked to the first set of proposals for country level work. The third would be to engage key parts of the non-financial Chinese business community to strengthen their interest and capacity to advance greener infrastructure offerings, particularly major construction and technology companies that account for a major part of the Chinese business community's involvement in the BRI.

China is clearly a, and in some cases the most, significant investor in countries involved in the BRI. Yet it is far from being the only one. International capital, in particular, will increasingly be crowded into these countries, often encouraged and even de-risked by Chinese financial flows and institutional arrangements. While such international capital might in principle flow from any non-Chinese financial institution, most in practice will emanate from a small number of regional and global financial centers, notably Hong Kong, London, New York, and Singapore.

So, the fourth piece of the interconnected proposal is to work directly with leading institutions in these major financial centers, including policy-makers, financial regulators and of course leading financial institutions themselves, including asset owners such as pension funds. This would build on considerable progress already made in engaging such actors, such as the CalPers-led Climate Global 100, the

Network of Central Banks on Greening the Financial System, the Financial Stability Board's Task Force on Climate Related Risk Disclosure, and the UN Secretary General's Task Force on Digital Financing of the Sustainable Development Goals.

Several actions can be taken through this engagement with major actors across the international financial system, who would be increasingly motivated not only because of domestic pressure but because of the interests and prospective actions by China. Most immediately, a cross-financial center agreement could be reached to require all financial institutions making infrastructure investments in countries involved in the BRI to report on the associated, expected carbon footprints. This would go beyond risk-based analysis and public reporting in requiring absolute, life-cycle, carbon emissions to be reported on. Existing institutions, such as the Carbon Disclosure Project, could be asked to develop a program to measure/estimate and report on the carbon implication of these projects, as a way to incentivize self-reporting by project owners.

Building on this move toward enhanced, carbon emissions reporting, proposed would be to agree across major financial centers a set of green infrastructure investment principles that would be a requirement for all licensed financial institutions. Such principles would of course in part focus on a risk-based approach, but would integrate broader policy considerations aligned to domestic and international commitments made by countries and regions in which these centers are based. Existing

initiatives, again, would provide a starting point for such an ambitious development, including the Green Investment Principles (GIP) for the Belt and Road developed by the City of London and the Chinese Government, to which a growing number of major Chinese and UK lenders and investors are already being attracted to.

»»We do not have the luxury of being distracted by interesting and often easy side exercises.««

INTEGRATING AMBITION

Testing the seriousness of moves to address the climate challenge leads to an intolerance of low-ambition, incremental initiatives. Rightly, we do not have the luxury of being distracted by interesting and often easy side exercises. The Belt and Road Initiative is a case in point. It will shape the development of a major part of the world. Its many challenges and complications are matched only by the opportunity it offers to dramatically alter the scale of carbon emissions in the short time window available. The proposed approach at least offers a way forward commensurate with both the challenge and the opportunity.

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The US-China trade war

Technological roots and WTO responses

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The outbreak in 2018 of a rapidly escalating trade war between the United States and China is a watershed event that is reshaping the global economic and political order. The main complaints made by the United States against China, while increasingly widely accepted and repeated, do not individually or collectively provide a compelling *casus bellum*. We must look to technological developments that induce strategic trade and investment policies to find a sufficiently valuable bone of contention to explain the conflict. By the same token, solutions framed around the US complaints will fail to restore trade peace. The necessary response is to reform the multilateral trade and investment framework to constrain the strategic behavior induced by the emerging data-driven economy and to channel the rivalry into constructive technological competition – for all parties.

THE OSTENSIBLE CAUSES OF THE TRADE WARS DO NOT MEASURE UP

The *casus bellum* advanced by the United States that is easiest to dismiss is the bilateral goods trade imbalance. Bilateral imbalances are the norm in a multilateral trade setting – only in primitive barter trade would trade be balanced on a bilateral basis. A generous interpretation of the

US position is that it is a negotiating tactic to force China to open up its economy on a multilateral basis. However, China's trade is reasonably well balanced with the world as a whole. Since 2011, China's current account surplus has averaged 1.8% of GDP, hardly a source of massive distortion to the global economy.

As regards forced technology transfer, a second major complaint, China uses the leverage provided by its large market to get companies to share more technology than they might like in joint ventures. Since companies are not coerced into investing in China, this is a market transaction. To be sure, China is driving a hard bargain; that's capitalism – and a page out of the Trump Administration's playbook for negotiating trade agreements with smaller economies where it holds the whip hand. And belying the grumblings, China was the leading destination for foreign investment in the first half of 2018 (UNCTAD, 2018).

As regards trade secret theft, the claims of large amounts being stolen rest on analogies that are dubious at best rather than on empirical evidence (Roach, 2018). And the evidence is thin despite a long-standing concerted effort by US authorities targeting Chinese individuals (Kim, 2018), including most recently through the so-called "China Initiative" (Department of Justice, 2018).

More fundamentally, China's singular focus on technology acquisition is sound policy and beneficial for the global economy. As Romer (1990) compellingly argued, the advance in living standards in the West was through technological advance; the same is true today for developing countries trying to catch up. China's technological advance is also the fundamental

reason for its rise as a destination market for Western products ranging from soybeans to Boeing aircraft, Apple iPhones, and GM automobiles. Indeed, GM now sells 70 percent more vehicles in China than in the United States (Richter, 2017). Thwarting China's technological advance thus amounts to thwarting one's own export ambitions.

»The current US-China rivalry layers on a geostrategic element since dominance in data and artificial intelligence promises military dominance.«

Finally, as regards the concerns about China's backsliding on liberal market-oriented reforms (e.g., *The Economist*, 2018), it is an open question as to how much this is ideological and how much is due to the global financial crisis of 2008-09. Following China's WTO accession, its

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The Centre for International Governance Innovation is an independent, non-partisan think tank. Their research programs focus on governance of the global economy, global security and politics, and international law.

exports soared, rising from 19.8% of GDP to almost 35% in 2006, at the height of the 2000s boom. During the ensuing crisis and the subsequent protracted period of slow growth in the advanced economies, this share fell back to the 18% range – below its share prior to WTO accession. During this period, China faced growing barriers to its exports abroad (including some China-specific Safeguard Measures allowed under its WTO accession agreement) and necessarily turned to domestic sources of growth. Where Western countries used massive fiscal and monetary stimulus, China used its SOEs to sustain growth. In the context, this looks more like pragmatism not ideology; tactics, not strategy.

Trade economics establishes that, in general equilibrium, taxes on imports are equivalent to taxes on exports. The barriers put up to China's exports during the past decade were equally powerful de facto barriers to other countries' exports to China. In other words, trade economics predicts that Western exporters would sense new trade barriers – and explains that these were erected by their own governments.

THE EMERGENCE OF THE DATA-DRIVEN ECONOMY EXPLAINS THE TRADE WAR

While the charges fail to make the case to launch a trade war, the war is real and there are powerful reasons for its eruption. The trade war is predicted by the explosive emergence of the data-driven economy based on big data, machine learning and artificial intelligence. Several features of this new economy make global rivalry inevitable, both in geo-economic and geo-strategic terms.

As regards the economics, the data-driven economy features large economies

of scale and scope – often accompanied by network externalities – and pervasive information asymmetry (Ciuriak, 2018a). These characteristics result in “winner take most” dynamics. The international rents at stake promise to be very large and serve as an inducement for strategic trade and investment policy (Ciuriak, 2018b). This is already well advanced: worldwide, governments are pouring massive sums into development of technology in the digital space to capture these rents.

»Since trade wars are a manifestation of strategic trade and investment policies, the solutions should be addressed through the multilateral trade system.«

Perhaps the most comparable historical episode was the digital random access memory (DRAM) war between the United States and Japan in the 1980s. The US-Japan rivalry was fought with trade remedies, managed trade through instruments such

as voluntary export restraints, exchange rate agreements such as the Plaza Accord of 1985, and bilateral measures such as the Structural Impediments Initiative of 1989. The terms of trade peace were developed within a US-led institutional framework, namely the GATT Tokyo and Uruguay Rounds. For the most part, these measures were ultimately trade liberalizing, promoting production integration and mutual interdependence within the US-led system.

The current US-China rivalry, however, layers on a geostrategic element since dominance in data and artificial intelligence promises military dominance. The most comparable historical episode from this perspective is the Cold War between the United States and the Soviet Union – indeed, the term “cold war” has already come into play with respect to the US-China rivalry (e.g., Friedman, 2018), as observers draw the obvious parallels. The US-Soviet Union conflict played itself out through strategic denials of technology and markets to the opponent, rivalry to expand spheres of influence, flipping of unfriendly governments, and proxy wars.

This is the direction the US-China rivalry is taking, most notably through the proliferation of measures to deny US technology to Chinese firms, including the following:

- adoption of the US Foreign Investment Risk Review Modernization Act (FIRRMA), which greatly expanded review of Chinese investments in the US technology sector;
- expansion of the list of Chinese firms on the US export ban of sensitive technology; and
- imposition of a new ban on Huawei's US subsidiary exporting technology that it developed in the United States back to China (Durden, 2019).

As well, the US has rolled out new Indo-Pacific and Africa strategies to counter China's Belt and Road Initiative and the China-based Asian Infrastructure Investment Bank and has included a new measure in the Canada-United States-Mexico Agreement, Section 32.10, which signals risk to partners' trade with the United States if they enter into trade agreements with China. The United States has indicated that it will make this a standard feature of its trade agreements, which signals the intent to disrupt China's ability to forge new trade agreements of its own.

This has major implications for the organization of global trade going forward, given the preparation of trade negotiations by the United States with Japan and separately with the European Union. This is not the Thucydides' Trap – it is driven by technology and can only be contained by an agreed framework for sharing the economic benefits that channels the state-level competition into constructive forms.

POTENTIAL WTO RESPONSES

Since trade wars are a manifestation of strategic trade and investment policies, the solutions lie fundamentally in the economic sphere and thus should be addressed through the multilateral trade system through what might be labelled a new “digital round” of WTO negotiations. Following Ciuriak (2018c), an indicative list of issues that should be addressed should include:

- Strengthened competition policy measures: Competition policy was a minor, if thorny, issue in the Uruguay Round and hived off as one of the so-called “Singapore Issues” for later negotiation. Today, in the context of “winner takes most”

economics, it is perhaps the most important economic framework issue to be addressed. For example, three prominent issues are competitive neutrality in technology-intensive sectors, competitive access to proprietary data of companies that provide Internet “platforms” (e.g., Google and Facebook and their Chinese counterparts), and the need to shift regulatory attention on mergers and acquisition activity from implications for current market shares (big companies buying big companies) to pre-emptive take-out strategies of established companies buying out upstart technology firms that pose future competitive challenges.

»A framework must be created in which all countries have a mutual stake in ensuring its integrity.«

- New international conventions on intellectual property: There is a plethora of issues raised by innovation in the data-driven economy to be addressed, including ownership of intellectual property created by artificial intelligence and machine learning; shortened protection terms, given the acceleration of innovation; transparency rules related to secrecy of algorithms; and

conditions of access to proprietary data.

- New conventions for rules on data flows across borders: These rules must reconcile the need to have free flow of data for commercial services (consistent with the WTO GATS) with the need for fair international sharing of the asset value of data generated by nations. Further, rules should support full security for data as infrastructure of the digitized economy; establish protocols for use of data to protect sovereignty (e.g., where data is deployed for manipulation of elections and the manufacturing of populism); and set norms to limit state surveillance and so-called “surveillance capitalism.”

- Reframed disciplines on subsidies and the economic role of the state: Huge investments are being underwritten by the state under alternative models of state support – specifically, state-owned or state-directed enterprises (the Chinese model) and state-fed enterprises (the American DARPA model). Given the potential for market failure in the data-driven economy, such investments make sense at a transformative moment of economic evolution. There is a much greater need for industrial policy space in this emerging economy, which also demands a rethinking of existing norms and the WTO rules that restrict such policies.

- An updated Agreement on Trade-Related Investment Measures (TRIMS): The new TRIMS should, among other things, distinguish between private investment and state investment; recognize that foreign direct investment into the knowledge-based economy aims to extract knowledge assets rather than introduce them; recognize the anti-competitive nature of foreign acquisitions of young technology firms by

cash-flush tech giants aiming to prevent the emergence of future competition; and provide for policy leeway for developing countries. It should also broker competitive access to the build-out of the digital infrastructure (5G networks, in particular, where national security grounds are being used to exclude China’s participation without adjudication), such that third countries are not caught in the vise of a US-China rivalry.

These negotiations would be premised on the understanding that the issues are larger than the US-China conflict, and that a framework must be created in which all countries have a mutual stake in ensuring its integrity – rather than a world of what might be termed “Digitalpolitik” (the digital version of realpolitik; see Xiao Mina, 2018), featuring walled-off and warring realms subject to mutual routine attack, with ruinous prospects for all.

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SMEs – Champions of sustainable business development

Lessons for a regulatory framework

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Jost de Jager is a German strategy consultant working at the interface of politics and business. He advises private companies and public institutions in strategy processes and political communication. By linking political, economical and social dimensions, the analysis of regulatory frameworks and their influence on business models are main activities of his advisory work. As an integral part, it covers relationship management in networks and the creation of synergies.

In order to find an economic model that creates sustainable wealth and growth in emerging and developing countries, experts and policymakers readily call for strengthening small- and medium-sized enterprises (SMEs). There are so many answers SMEs seem to give: they avoid economic dependencies on large corporations and foreign investment, they foster innovation and self-reliance, they give ecological business cases a chance and they even meet gender objectives. Often women are the more successful entrepreneurs in developing markets.

Many look at the German Mittelstand as a role model for commercial policies in different parts of the world. And writing as someone with a background as an economic policymaker and management consultant in Germany, I agree. The Mittelstand was one of the reasons why the German economy recovered faster than many other countries from the financial crisis of ten years ago. SMEs are still the backbone of the German industrial sector and have been for more than seven decades. Furthermore, family-owned companies tend to react differently in times of crisis. They

think in longer cycles and have a closer relationship to their employees.

And yes, small and innovative firms have been the early drivers of the German Energiewende and still account for a large share of renewable energy production. So, why not take the Mittelstand as a role model?

Because there is more to the prospect of small- and medium-sized enterprises than just cherry-picking best practice examples. Medium-sized companies, managed by their owners, need a strong regulatory framework and an active and efficient state. GIZ, Germany's central development aid agency, recently commissioned a study to outline the characteristics of the German social-ecological market economy and asked which features might be transferrable into developing countries.¹ Of course there is a whole mindset attached to the model of a social-ecological market model. But in a nutshell, it melts down to

- access to markets,
- access to funding,
- access to education and infrastructure and
- equal living conditions.

If you look at SMEs as enterprises in industry and production with a sustainable business case, they depend on a fair and indiscriminate access to markets. So in the first place there needs to be a market that is not dominated by state-owned companies and huge international corporations. That means, secondly, that a fair system of licensing, procurement laws and exports is essential if SMEs are not meant to operate on the fringes of the commercial activities of a country.

In order to invest, to drive innovation and to survive in volatile markets, these

enterprises need access to funding. Often commercial banks on their own cannot provide this due to their respective restrictions and policies. Here, the necessity of strong public structures comes into play. One striking characteristic of the German economic model is the existence of a decentralized structure of state-owned banks, business development agencies and guarantee funds, which ensure access to financing and the availability of commercial space. These are strictly not subsidies. To ensure market conformity of this way of financing small companies, these public support structures are obliged to cooperate with private partners in the financial sector in consortiums, financing the "last mile" in restructuring processes and investments.

»Many look at the German Mittelstand as a role model for commercial policies in different parts of the world.«

Of course there are small businesses in developing countries and in emerging markets. But very often they rather fill a service gap in the retail, trade, food sup-

ply or in the labor market without a distinctive business model. In some African countries, such as Ghana, this informal sector accounts for almost half of GDP, according to estimates. Skills – personal skills and the collective competence of the workforce of a company regardless of size – are a distinctive competitive factor for any enterprise in any economy. General education obviously is the foundation for that. But when it comes to business development, (basic) education needs to be supplemented by vocational training. Qualification of employees is an integral strategic objective for the management of companies. But in order to maintain a high level of technical competence of the workforce at large, the provision of vocational training ought to be a public task combining theoretical skills with practical knowledge. This pillar of the educational system should be ranked equal to schooling and higher education. It also needs some self-organization and qualification standards on the business side. But it guarantees the qualification of young professionals and high professional performance standards.

Economic performance fundamentally depends on another state provision – reliable and efficient physical infrastructure for transport, communication, energy and water supply. Whether this infrastructure should be financed and maintained by private investors or not, is an ongoing argument in advanced economies as well. But beyond doubt it is crucial that such infrastructure does not only exist but that it is also commonly available to everyone.² In the context of SMEs it means that infrastructure needs to be available outside of the big cities. When, as it is the case in My-

anmar, forty percent of the country's territory is not covered by an electricity grid, it is impossible to foster sustainable economic development in rural areas.

»In order to invest, to drive innovation and to survive in volatile markets, SMEs need access to funding.«

The aforementioned GIZ study of Germany examines wealth distribution and social cohesion in the vertical way as a characteristic feature. But there is also a horizontal wealth distribution which is at the same time cause and effect of the German economic model. In Art. 72 of the Grundgesetz (Basic Law) equivalent living conditions are laid down as an objective of legislative action of the Laender (states) and the central government.

This has two effects: One is that, authorized by the constitution, the state provides its services in the same quality even in peripheral areas and guarantees schooling, vocational training, transport, housing and energy supply in all parts of the country. This is the basis for comparable and compatible local conditions and

specifically for the availability of a qualified workforce in almost every corner of Germany, a very important reason why highly specialized enterprises can prosper in remote and rural areas as well.

Another effect of the legislature was and is the lack of big cities in Germany compared with international standards. In the late eighties, before German uni-

fication, equivalent living conditions had almost been achieved. Ever since, various social trends have changed this and we have seen a rapid growth of the seven largest urban regions in Germany and the contrary development in some rural areas. But still, most people in Germany live in small- and medium-sized cities and towns with a substantially high standard of living.

¹ The Social-Ecological Market Economy in Germany by Alexander Kritikos et. al, commented by Jost de Jager; published by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, 2018.

² Ibid.

SME finance using bank account information

Credit-risk reduction effect on small and medium-sized enterprise finance

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ABSTRACT

This paper verifies the impact of bank account information, such as information on deposits and withdrawals, that is not necessarily fully accounted for in conventional internal ratings and that can affect the accuracy of the default predictions of small and medium-sized enterprises (SMEs). The analysis demonstrates that the accuracy of default predictions improves when a model based on bank account information is used in addition to the default prediction model based on traditional financial information. The analysis also shows that the degree of improvement increases when the size of the company is small. For small companies, the quality of financial data is generally assumed to be low, but the bank account information model can complement the incomplete data. In addition, for small firms, the bank account information model shows better default prediction capability compared to the financial model, which implies the possibility that banks could extend loans even if only the bank account information is available. The correlation coefficients of the financial model and the bank account model are higher than 50% but not very high, suggesting that these models evalu-

ate borrowers from different perspectives.

This study suggests the possibility of analyzing credit risk more easily without past financial information, especially for small enterprises. If the bank account information model is utilized, banks can reduce credit costs and loan review times and costs, which will make SME financing more efficient and smoother.

Keywords: Small and medium-sized enterprise finance, credit risk analysis, big data, bank account information

»There are limits to internal ratings and scoring by banks.«

1. INTRODUCTION

The growth of small and medium-sized enterprises (SMEs) is a critical issue for the economic development of Japan and other Asian countries. SMEs rely on bank loans for their external financing, but they sometimes have difficulties in obtaining sufficient funds from banks in a timely manner.

The lack of public information on SMEs' corporate activities compared to large enterprises, and the large asymmetry of information between borrowers and lenders, makes it difficult for banks to manage the credit risk of SMEs (Yoshino and Yamagami 2013). Therefore, there is a tendency to rely on collateral, such as real estate, personal assets, and the guarantees of CEOs,

rather than judging the creditworthiness of the company itself (Financial Services Agency 2003).

Analysis of the creditworthiness of SMEs by banks has made much progress since the bad loan problems of the 1990s. One example is the implementation of the internal credit rating system that ranks companies according to financial strength. The scoring method does not manage risks on a case-by-case basis, but manages the risks on loans throughout the portfolio control based on the law of large numbers. Therefore, the accuracy tends to increase as the data pool becomes larger, so the construction of the database is important. The Japan Risk Data Bank (RDB), comprised of major banks and regional banks, was established in 2000 as the first data consortium in Japan. These data are used for loan reviews, interest rate setting, and portfolio management, etc. and have contributed to the advancement of credit risk analysis by banks.

On the other hand, there are limits to internal ratings and scoring by banks (Hirata 2005). First, in many cases, there are problems with the quality of the financial statements of SMEs. Second, there is a time lag of information. There have been many cases where the latest financial statements for the settlement dates acquired for examination were from 3–15 months ago, so the current state of the companies was unclear. In addition, monitoring after financing is not sufficient. With financial statements alone, banks have difficulties in grasping the situations of their clients, which can change daily throughout the fiscal year.

Utilizing bank account information, as considered in this paper, could increase

the ability of banks to analyze the credit risk of SMEs and contribute to reductions in the time and costs required for review. In Japan, most money transfers and settlements, which are the result of corporate activity, are done through bank accounts, and “account history information” contains abundant information on businesses – specifically, deposit account withdrawal information, inward and outward remittance data, bills for collection, and loan execution collection details, etc. By continuously monitoring these data, it is possible to continuously capture the actual business situations of clients over time and predict changes in their credit situations.

»Many studies have indicated that the accuracy of the credit risk model depends on the selection of the variables.«

If the utilization of the bank account information model spreads, banks can reduce their credit costs and review time and costs, and make loans to SMEs more efficiently. The empirical analysis in this

paper is targeted at SMEs in Japan, but the results could also be relevant for other countries, particularly in emerging countries in Asia.

SMEs in Asian countries have not obtained sufficient funds for growth, and according to a survey by the International Finance Corporation, the supply shortage of loans to SMEs as of the end of 2014 was \$706 billion for East Asia and \$2,060 billion for South Asia. In Asia, the loan balance for SMEs accounts for 19% of bank loans overall, which is lower than in other regions.

2. LITERATURE REVIEW

There have been many studies, inside and outside Japan, which introduce credit risk models for SMEs. Most of them demonstrate that credit risk models utilizing financial statements appear to be useful in differentiating SMEs according to their credit risk and thus in banks’ loan decisions (Behr, Guttler, and Plattner 2004; Yoshino and Taghizadeh-Hesary 2014).

Many studies have indicated that the accuracy of the credit risk model depends on the selection of the variables. However, the effectiveness of the utilization of dynamic bank account information has not been examined before this paper, despite the growing perception of its importance among bankers and financiers. Another new contribution of this paper is that it utilizes big data derived from the RDB’s database, which collects both financial and bank account information from Japanese banks. In addition, this paper applies principal component analysis, which has the advantage of reducing multidimensional datasets to lower dimensions of analysis while minimizing the loss of information.

3. ANALYSIS OF THE SME CREDIT RISK MODEL

For our analysis, we develop three credit risk models aimed at assessing the credit quality of companies: (1) a model using financial information, such as balance sheets and financial statements (financial model); (2) a model using bank account information (bank account model); and (3) a model using both financial information and bank account information (hybrid model).

We employ the logistic regression model to develop the credit risk assessment model in this paper. The logistic regression model has been used by previous research

(Behr, Guttler, and Plattner 2003) and for Japanese banks’ credit risk models.

Financial information refers to financial statements consisting of a balance sheet and an income statement, which represent a brief picture of a company’s operational performance and financial activities during a specific period. Bank account information refers to information related to deposit account balances, transaction amounts, outstanding loan balances, and loan extensions and collections.

The data for both financial information and bank account information for this statistical analysis were provided by the

Table 1: Accuracy Ratios of the Total Data

| Group Segment | Total | Non-default | Default | Default Ratio Total | Accuracy Ratio | | |
|---------------------------|--------|-------------|---------|---------------------|----------------|---------|-------|
| | | | | | Non-default | Default | Total |
| Less than ¥30 million | 5,398 | 5,318 | 80 | 1.5 | 61.0 | 61.2 | 66.9 |
| ¥30 million–¥100 million | 11,356 | 11,195 | 161 | 1.4 | 60.2 | 63.7 | 68.2 |
| ¥100 million–¥300 million | 12,445 | 12,322 | 123 | 1.0 | 72.6 | 67.1 | 78.4 |
| More than ¥300 million | 13,455 | 13,378 | 77 | 0.6 | 77.8 | 64.0 | 79.2 |
| Total | 42,654 | 42,213 | 441 | 1.0 | 68.3 | 65.7 | 73.9 |

Note: ‘Financial’ shows the results of the financial model using balance sheets and financial statements. ‘Bank account’ shows the results of the bank account model. ‘Hybrid’ shows the results of the hybrid model using both financial data and bank account data.

Source: Authors’ calculations.

RDB, one of the leading data consortiums in Japan.

4. ANALYSIS RESULTS

To compare the default prediction abilities of each model, we measured the accuracy ratios (ARs). The results are shown in Table 1.

The followings are evaluations that can be inferred from the results of the verification.

- The ARs tend to be lowest for the bank account model, followed by the financial model. The ARs for the hybrid model are the highest. The combination of the financial information with the bank account information produces a model that has the strongest capability to detect defaults.

- For those firms with sales less than ¥300 million, the ARs for the bank account model are higher than the ARs for the financial model. This shows that the bank account information is useful for smaller firms, which tend to have lower quality financial statements.

For the next step, we derived the Pearson correlation coefficients between the financial model and the bank account model. This suggests that both models have correlation, but the degree of correlation is not very high. This offers supporting evidence that the bank account model evaluates borrowers from a viewpoint that is different from that of the financial model. As a result, the credit discrimination capability may improve through the hybridization of the financial model and the dynamic

model. Additionally, banks will be able to expand their target area by adding the bank account information to the financial information (see Figure 1).

bank account information may not grasp the whole picture of the firm's business activities. However, recently, "cloud accounting firms", which can be classified as fintech companies, are providing automatic accounting services to banks. Cloud accounting systems enable accounting firms to have easy access to bank account information from various institutions. Soon, banks with small shares of deposits will not be significantly disadvantaged if they have tie-ups with those accounting firms or corporate customers.

The use of bank account information can be an effective tool for banks in analyzing the business and financial conditions of their customers and providing effective consulting services. In addition, it can identify commercial distribution and potential business opportunities for clients. The speed and accuracy of the data can also be useful for grasping the impact of macro shocks, such as currency appreciations or natural disasters.

The policy implications of this paper are that it is crucial for financial institutions to enhance their credit risk assessment and improve service quality by leveraging bank account information. It would be more efficient for financial institutions to have a common database and share information rather than developing systems on their own. This could be important for policy makers for providing good guidance to financial institutions and supporting the development of the credit information system. If the use of bank account information prevails, it could help SMEs have easy access to finance and enhance growth and productivity.

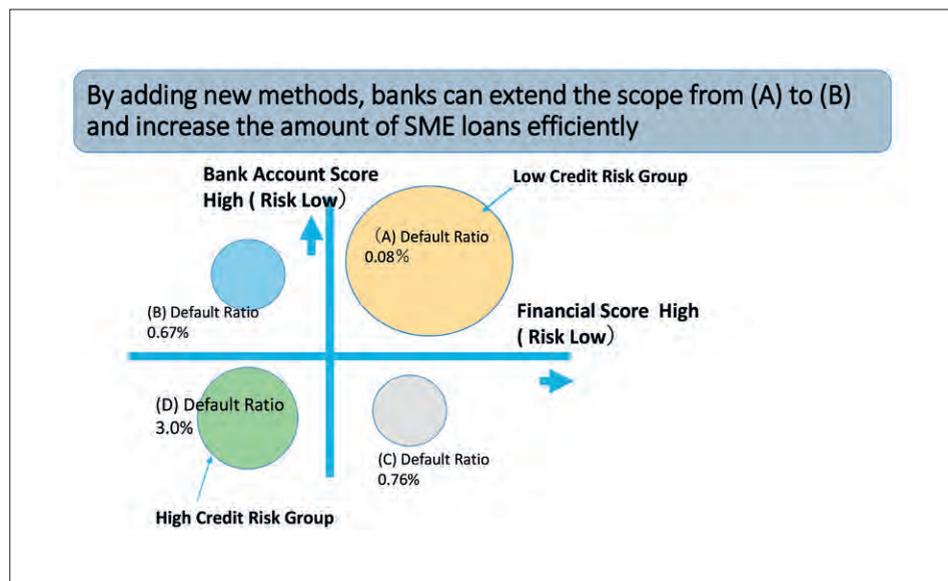
»It is crucial for financial institutions to enhance their credit risk assessment and improve service quality by leveraging bank account information.«

5. CONCLUSIONS

This paper demonstrates that the accuracy of default prediction improves when a model based on bank account information is used in addition to the default prediction model based on traditional financial information.

One of the limitations of the bank account model is that the level of information depends on the depth of relations between banks and corporate customers. If a bank has a weak relationship with a firm, the

Figure 1: Hybridization of the financial model and the dynamic model



Trade, food security and the comparative environmental advantage of food-producing countries

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The Group of Southern Producing Countries is a network of specialists and institutions of four countries (Argentina, Brazil, Paraguay and Uruguay) that, in 2012, committed their willingness to contribute to the construction of a South America capable of responding to the emerging global food demands in a sustainable manner, generating wealth, employment and social capital in the region. This network also aims for constructing greater negotiating capacities by the four founding countries in the international arena.



The Argentine Council for International Relations was founded in June 1978 as a private academic institution, created for the promotion of study and debate in foreign affairs. Its objective is the consolidation of peace and the development of peoples through greater knowledge. CARI has become the reference institution in the field of international relations in Argentina.

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ABSTRACT

While trade is recognized as a key factor in global food security, mainstream ecological thinking holds that increasing food trade can have a negative environmental impact in developing producing countries. In this context, commercial barriers have been seen as a way to avoid environmental misbehavior. We believe that this view is not necessarily sound. We hold that free trade can contribute significantly not only to global food security, but also to transferring environmental sustainability services from food-exporting to food-importing countries. The increase in Chinese soybean imports from the US and the MERCOSUR region is analyzed as a key case to support our thesis. We demonstrate that some countries that have adopted technology-based, sustainable-intensification schemes show a comparative environmental advantage to produce more food at a lower environmental cost. We recommend promoting food-trade systems that privilege the commercial flow from these countries to those that lack this advantage.

THE CHALLENGE

The impact of food trade on the rural environment in food producing countries has been extensively undertaken by scientific literature, but what about the environmental impact of food trade on food-demanding countries?

1. Trade, food security and environment

Trade is a key factor in global food security, but an increasing number of tariff and nontariff barriers constrain the international exchange of food. Barriers include, among others, environmental limitations (Po-

lain de Waroux et al., 2017), rural-worker rights (Willaarts et al., 2014) and sanitary measures (Huan et al., 2018). While some countries like China, Korea and Saudi Arabia have become net food importers because of their economic growth and expanding middle class, others like Brazil, Argentina and Thailand have become net exporters, supported by their modern agricultural technology.

»An increasing number of tariff and nontariff barriers constrain the international exchange of food.«

Mainstream thinking in ecological science holds that the growing free trade of agricultural products can have an undesirable environmental impact in producing countries, especially in developing ones. These include: 1) land deforestation, 2) habitat degradation and biodiversity loss, 3) soil erosion and degradation, 4) higher pesticide use, 5) increasing fertilizer application, 6) increasing carbon emissions, 7) soil, water and air contamination, 8) water withdrawal, etc. (Wiedmann & Lenzen, 2018). Well-founded or not, this view

can become a strong justification for implementing trade barriers (de Waroux et al., 2017). However, commercial sanctions driven by environmental motivations are not always sound. We hold that free trade can significantly contribute not only to supporting global food security, but also to avoiding environmental mismanagement and transferring environmental sustainability services from food-supplying to food-demanding countries. To support our thesis, we focus on the commercial soybean case between the US and the MERCOSUR region on the one hand, and China on the other. This example can be replicated for other agricultural commodity and food types.

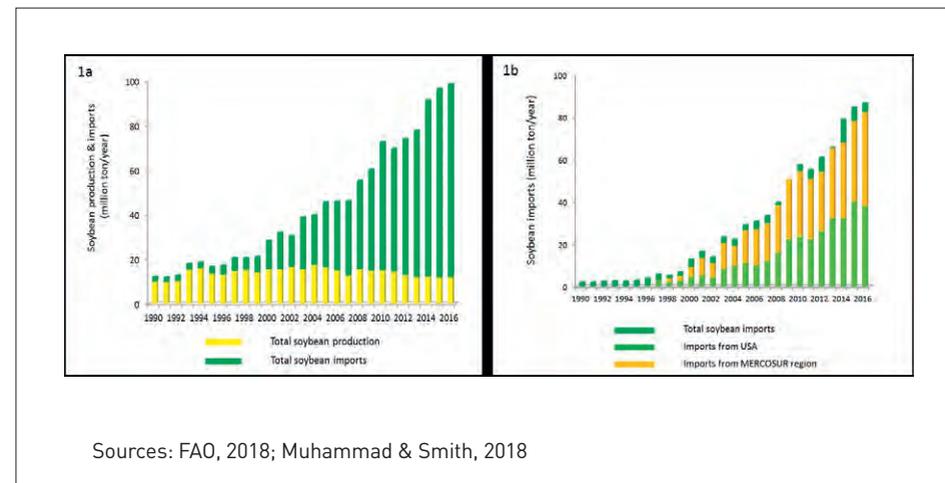
2. Study case: Soybean trade between China, US and the MERCOSUR region.

While soybean production in China re-

mains stagnant, imports from the US and MERCOSUR countries (Argentina, Brazil, Paraguay and Uruguay) grew at an exponential rate (Figure 1a). More than 95% of imported soy is provided by those five countries (FAO, 2018). The soybean export share between the US and MERCOSUR was 46% and 54%, respectively, in 2016 (Figure 1b).

During the last 70 years, China suffered a vast land and water resource degradation, resulting from an extensive development program that increased GDP many times over and the incorporated a large volume of the poor population into the middle class. Increasing soy imports dealt with a food-security plan together with a long-term restoration plan aimed at sparing land and recovering water resources. Sixteen large-scale sustainability programs

Figure 1: Fig 1a Total soybean production and imports of China. Fig 1b Relative participation of soybeans imported by China from US and MERCOSUR countries



Sources: FAO, 2018; Muhammad & Smith, 2018

addressing natural resource and environmental restoration started in 1998, involving an investment of US\$ 378.5 billion, 550 million people and covering 623.9 million hectares of land (Bryan et al., 2018).

2.1 The environmental profile of agriculture in China, the US and MERCOSUR

What are the main environmental attributes that differentiate China, the US and the Mercosur countries?

Comparing the environmental profile of the agricultural sector in the study countries, several indicators from different

sources show that Chinese agriculture has some environmental drawbacks compared to the US and MERCOSUR (Table 1).

The most obvious disadvantage is the extremely high consumption rate of inputs such as fertilizers and pesticides, the low percentage of soil loss reduction by adoption of conservation tillage, and the high water footprint of soy production. However, because of the growing percentage of sparing land due to the large-scale sustainability program, average soil erosion does not show worrying results (GLASOD measure). The indicator that emerged

Table 1: The comparison of agro-environmental indicators for China, the US and the MERCOSUR region. Negative figures in carbon emissions and balance indicate carbon loss (emissions); positive figures indicate carbon gain (sequestration)

| Environmental indicators | Units | China | USA | MERCOSUR |
|---|---------------------|--------|--------|----------|
| Soil loss reduction by conservation tillage | (%) | 2.50 | 12.80 | 23.83 |
| Soil erosion GLASOD | degree | 0.49 | 0.87 | 0.55 |
| Nitrogen fertilization | (kg/ha/year) | 422.20 | 78.00 | 47.44 |
| Phosphorus fertilization | (kg/ha/year) | 155.70 | 25.7 | 44.71 |
| Potassium fertilization | (kg/ha/year) | 66.00 | 27.50 | 41.87 |
| Pesticide consumption | (kg-liters/ha/year) | 13.06 | 2.59 | 4.95 |
| Protected area on total land | (%) | 17.00 | 14.00 | 20.57 |
| Forest land change | (%/year) | 0.00 | 0.082 | -0.512 |
| Carbon emissions from agriculture | (ton/ha/year) | -0.367 | -0.459 | -0.346 |
| Carbon emissions from deforestation | (ton/ha/year) | -1.056 | 0.142 | -3.272 |
| Carbon balance conventional method | (ton/ha/year) | -0.367 | 0.140 | -0.255 |
| Carbon balance revised method | (ton/ha/year) | -0.047 | 0.574 | 0.243 |
| Carbon intensity | (ton C/ton product) | 0.071 | 0.052 | 0.046 |
| Water footprint soybean | (m3/ton/year) | 3015 | 1662 | 2200 |

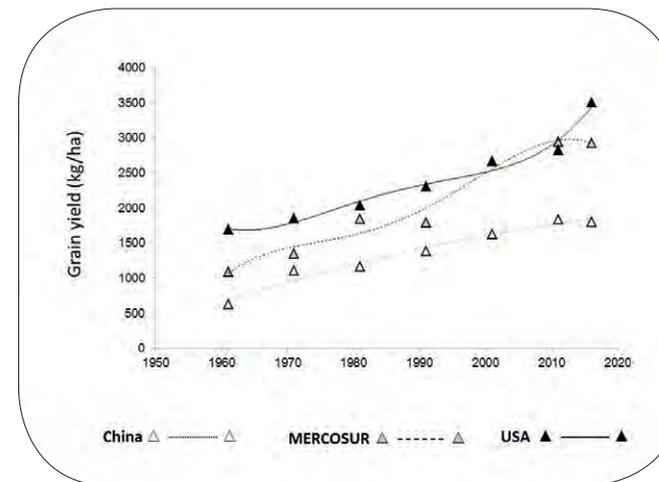
Sources: FAOSTAT [2018]; Borrelli et al. (2017); Mekonnen & Hoekstra (2011); Viglizzo & Piñeirof 2018)

from the Global Assessment of the Status of Human-Induced Soil Degradation (GLASOD) project (1987–1990) was based on expert opinions and intended to measure the amount of land affected by degradation in the national territory (<http://www.isric.org/UK/About+ISRIC/Projects/Track+Record/GLASOD.htm>).

The high rate of deforestation and carbon emission by deforestation in the MERCOSUR region is a major cause of global concern. However, emissions due to deforestation have persistently decreased in the MERCOSUR region since the beginning of the 21st century (Zarin et al., 2016). The calculation of the carbon balance in

national GHG inventories deserves a special mention. IPCC (Tier 1) guidelines assume zero carbon sequestration in grazing lands and, therefore, such biomes are not taken into account in the calculation of the carbon budget. However, if grazing lands can sequester carbon as much scientific evidence shows, a revision of national inventories seems to be necessary (Viglizzo & Piñeiro, 2018). The MERCOSUR countries, which have extensive areas of grazing land, can benefit from a revised calculation and convert their grasslands from emitting into carbon sequestering biomes. As Table 1 shows, a change in the calculation method can generate major shifts in

Figure 2: Historical trend of soybean yield in China, the MERCOSUR region and the US between 1961 and 2016



Source: FAOSTAT data, 2018

the carbon budget of countries that have extensive grazing areas.

The dominant drivers of native forest and carbon loss were attributed to the expansion of beef cattle, crops and forest plantation in the MERCOSUR region, while forest plantation and urbanization seem to be dominant drivers of native forest loss in China (Curtis et al., 2018). The largest agriculture conservation areas are allocated in the Pampas region of Argentina and the Cerrado in Brazil (Prestele et al., 2018). The MERCOSUR region globally leads the adoption of soil conservation practices (Borrelli et al., 2017).

As FAO statistics show (FAO, 2018), the US and MERCOSUR region have achieved soybean yields per hectare during the last

50 years higher than those of China (Figure 2). Because of its generalized adoption of agriculture conservation practices and its low use of inputs, the MERCOSUR soybean industry can be considered a large-scale experiment of sustainable agriculture intensification. This gives the region a clear comparative environmental advantage over many countries in the world.

2.2 The transference of food and environmental services to China

The contribution of soybeans from the US and MERCOSUR to food security in China is well documented. But how much is China saving today in land, water, carbon emissions and agriculture inputs by importing soy from the Americas?

Table 2: Inputs, water and emissions that China has saved by importing soy from the US and MERCOSUR region. MERCOSUR-US produced the Chinese imported soy (82.3 million tons in 2016) with substantially less resources and emissions than China

| Resources and emissions | Units | China | MERCOSUR + USA | MERCOSUR-USA/China (%) |
|-------------------------|--------------------|--------|----------------|------------------------|
| Arable land | (Million has) | 45,67 | 25,93 | 0,57 |
| Nitrogen | (Million ton) | 19,27 | 1,57 | 0,08 |
| Phosphorus | (Million ton) | 7,12 | 0,96 | 0,13 |
| Pesticides | (Million ton) | 0,60 | 0,10 | 0,17 |
| Carbon emissions | Million ton) | 16,76 | 10,95 | 0,65 |
| Water | (km ³) | 248,13 | 160,62 | 0,65 |

Data sources for calculations: FAOSTAT, 2018; Mekonnen & Hoekstra, 2011

Table 2 shows the volume of inputs, water and emissions that China avoids by importing soy from the US and the MERCOSUR region. The resources and emissions used by the US and MERCOSUR to produce soy that China imported in 2016 (82.3 million tons) were substantially lower than those China would have used to produce the same amount. The US and MERCOSUR countries used only 57%, 8%, 13%,

»Food-exporting countries that implement sustainable intensification schemes enjoy a comparative environmental advantage.«

17% and 65% of the land, nitrogen, phosphorus pesticides and water, respectively, than China would have used. Likewise, they emitted 65% of the carbon China would have emitted. On average, this amounts to land and resource savings of around 34%. So, in relative terms, China's savings by not producing soy in their own country are quite significant. This is well-founded proof that free soybean trade supports the Chinese large-scale program started in

the 1990s to restore its degraded land and water resources.

These savings range between 10% and 63%, but water savings amount to around 350%. No doubt the virtual water embedded in soy is the most important transference of water achieved by means of free trade.

3. Main conclusions

The mainstream thinking holds that trade and globalization have led to an increasing geospatial separation of production and consumption by displacing environmental and social impacts from developed to developing countries, counteracting mitigation programs in commodity-producing countries. In this study we demonstrate that this view is not necessarily true, and that food-exporting countries that implement sustainable intensification schemes enjoy a comparative environmental advantage in exporting food and ecosystem services to demanding countries that lack them. The old Ricardian notion of comparative advantage looks surprisingly current in times of global environmental stress, in which some developing countries, like those of MERCOSUR, can produce more agricultural goods and services with fewer resources and have a lower environmental impact than other countries. This view does not imply that the still-high deforestation rate of this vast region should be ignored. Our study, replicable for other food and agriculture products, shows that the globalization of free trade schemes can contribute not only to preserving food security objectives, but also to supplying intangible sustainability services and environmental security to food demanding countries that lack them.

PROPOSAL

High-tech adoption in producing countries that follow sustainable intensification schemes can have a comparative environmental advantage. These countries can thus increasingly contribute to global food security and, in parallel, to global climate and environmental security as far as free-trade is facilitated. Such transference includes tangible food, but also intangible services such as virtual water, avoided carbon emissions and agriculture input savings. Intangible environmental services can allow countries to replenish their degraded lands and water resources after decades of overexploitation.

In a world constrained by increasing stress on nature, the commercial flow from countries that can produce goods

and services at a lower environmental cost should be decisively promoted. When compared, some countries show an environmental advantage in producing food at low environmental cost. Within this framework, it seems highly advisable to privilege the international flow of food and other intangible goods and services toward demanding countries that lack them.

That free trade can be a vessel for balancing environmental sustainability between countries and contributing to global sustainability is a strong message for the international community. It provides an additional argument in favor of the WTO promoting free trade as a way to facilitate the global exchange of both food and sustainability services.

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High-quality infrastructure and land acquisition for infrastructure development through land trusts

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The Asian Development Bank Institute is an Asian think tank focused on identifying effective development strategies for Asia and the Pacific, and on providing support to ADB member countries in managing development challenges.

1. INTRODUCTION

Land acquisition is one of the main difficulties in infrastructure investment. When the construction of a road is planned, city officials must first negotiate with many landowners – a huge investment of time and money during periods of infrastructure construction. Japan experienced a massive problem building commercial building and condominiums, and as a result, started using land trusts extensively. Land trusts allow landowners to keep their property rights while leasing the land to commercial and condominium developers and collecting an annual rent.

In this paper, the quality of infrastructure investment can be measured by assessing how much each respective infrastructure helped develop the region. Two measures were used to evaluate the spillover effects of infrastructure investment: One is to examine the changes in GDP along

railways and roads compared to other regions where no impact of infrastructure investment can be observed. Another is to look at changes in tax revenue along the infrastructure investment compared to the region where no impact was created by the infrastructure investment.

High-quality infrastructure increases business activities and creates new employment in the region. It also provides opportunities to encourage more female participation in the workforce and to narrow income disparities. To increase spillover effects resulting from infrastructure investments, local government and railway companies must work together to further develop the regions found alongside these railways and roads. New depot stations must broaden opportunities for SMEs to start their business and by providing new residential districts, to also increase the

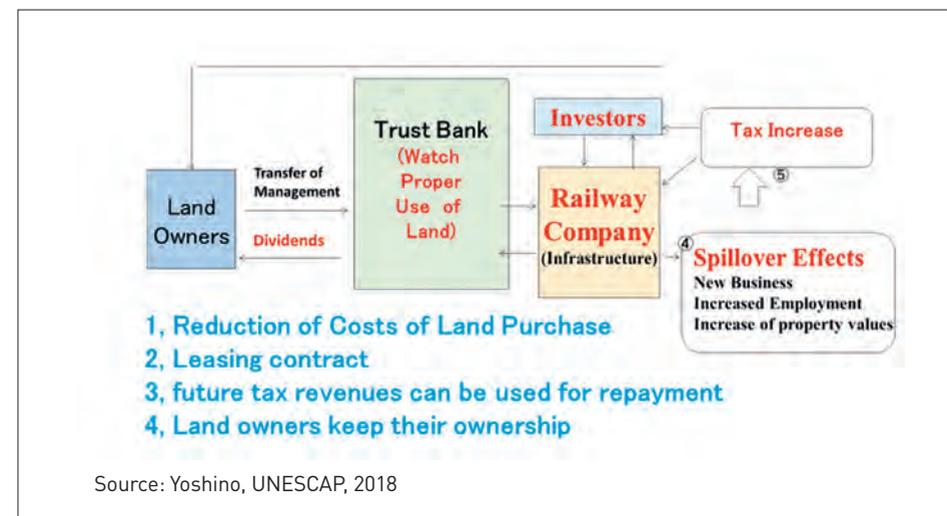
revenue collected from property and corporate taxes. Previous findings (Yoshino and Abidhadjaev (2016)) show that secondary school education and university education together with infrastructure development increases the spillover effects of infrastructure investments. Secondary school education provides workers with basic skills and a university education further enhances high-quality workers.

2. SCHEME OF LAND TRUST

The proposed land trust is shown in Figure 1. In Japan, landowners entrust the property to a trust bank. While many developing countries do not have trust banks, it is possible to give trust licenses to ordinary banks if their function as a trust bank can be established.

After landowners entrust their land either to a trust bank or the local govern-

Figure 1: Land trust for infrastructure investment



ment, these bodies ensure the land is used for developing infrastructure. They monitor the net revenue of the infrastructure entity and a portion of this net revenue is given back to the landowners every year as rent. In some cases, landowners lease the land for 99 years. Furthermore, if stipulated in the contract, landowners can also receive an additional monetary incentive, which is also drawn from the fixed entity's net revenue.

Land trusts work better than directly purchasing the property from landowners. When farmers sell their agricultural land they receive one lump sum of money, which is used to purchase any number of expensive items, like cars or home appliances. Within several years, all the money has been spent. Land trusts, on the other hand,

provide landowners with an annual payment that is generated by the net revenue of the respective infrastructure investment, be it roads, railways, water supply or electricity.

The trustee (in this case, the trust bank) must manage the entrusted land asset by following three rules:

- Manage with care and prudence. The trustee must manage the entrusted land prudently
- Duty of loyalty. The trustee must manage the entrusted land for the beneficiary as was outlined in the trust. The trustee must not use the land for his or her own benefit.
- An obligation to separately manage trust assets. The trustee must ensure management of the entrusted land is kept separate

rate from the beneficiary's property or from any other properties.

In developing countries that do not have trust banks, ordinary banks can obtain a trust bank license from a regulator.

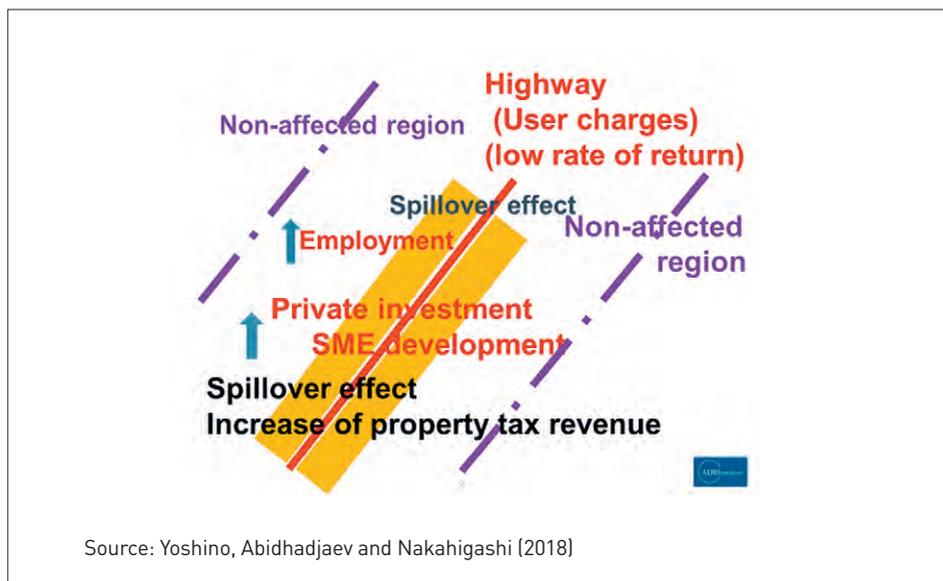
3. SPILLOVER TAX REVENUES AND HIGH-QUALITY INFRASTRUCTURE

Traditionally, infrastructure investors collected only user charges from the infrastructure, such as train tariffs or tolls. However, in this paper, we propose the spillover tax revenue, which is captured into infrastructure investments, be partly added to an infrastructure investor's revenue. Yoshino, Abidhadjaev and Nakahigashi (2018) and Yoshino, Helble and Abidhadjaev (2018) argue that infrastructure projects can generate spillover effects

through an increase in property tax, corporate tax, income tax and so on. This is also a potential incentive for private landholders. As demonstrated in Figure 2, the area highlighted in yellow benefits from a newly built highway (as shown by the red line). This positive spillover effect is possible if the new highway leads to more employment as private businesses and private investments along both sides of the highway increase.

In macro estimations, Nakahigashi and Yoshino (2016) used a trans-log production function in Japan to estimate the direct effect of infrastructure investment and spillover effects (i.e. indirect effects). The direct effect of infrastructure investment is created by the construction of infrastructure that will increase output

Figure 2: Expansion of infrastructure investment: Capturing spillover tax revenues.



Source: Yoshino, Abidhadjaev and Nakahigashi (2018)

Table 1: Spillover effect estimated from a macroeconomic trans-log production function

| | 1956-60 | 1961-65 | 1966-70 | 1971-75 | 1976-80 | 1981-85 |
|---------------------|---------|---------|---------|---------|---------|---------|
| Direct effect | 0.696 | 0.737 | 0.638 | 0.508 | 0.359 | 0.275 |
| Indirect effect(Kp) | 0.452 | 0.557 | 0.493 | 0.389 | 0.270 | 0.203 |
| Indirect effect(L) | 1.071 | 0.973 | 0.814 | 0.639 | 0.448 | 0.350 |
| 20% returned | 0.305 | 0.306 | 0.261 | 0.206 | 0.144 | 0.111 |
| % increment | 0.438 | 0.415 | 0.410 | 0.404 | 0.400 | 0.402 |

| | 1986-90 | 1991-95 | 1996-00 | 2001-05 | 2006-10 |
|---------------------|---------|---------|---------|---------|---------|
| Direct effect | 0.215 | 0.181 | 0.135 | 0.114 | 0.108 |
| Indirect effect(Kp) | 0.174 | 0.146 | 0.110 | 0.091 | 0.085 |
| Indirect effect(L) | 0.247 | 0.208 | 0.154 | 0.132 | 0.125 |
| 20% returned | 0.084 | 0.071 | 0.053 | 0.045 | 0.042 |
| % increment | 0.392 | 0.392 | 0.390 | 0.390 | 0.391 |

Source: Authors' estimation Nakahigashi and Yoshino (2017)

from the region. Spillover effects function via two channels. The first channel is that road and railways prompt the development of new office buildings and housing, which increases efficient use of the land. Furthermore, transport infrastructure invites manufacturers to settle alongside the fixed installation. The second channel is by increasing employment in the region. Or rather, that the infrastructure, such as water supply, railways and roads, increases employment in the region. New businesses bring new employment to the region, which contributes to increased consumption and housing. As a result, GDP in the region increases further.

Table 1 shows an estimate of the direct effects of infrastructure investment and its spillover effects, using macro data from

Japan. The detailed method of estimation can be found in Nakahigashi and Yoshino (2016). In 1966–70, the direct effect of infrastructure investment that increased output was 0.638 (the first row of Table 1). The spillover effect of increasing output induced by an increase of private capital was 0.493 (the second row of Table 1), and the spillover effect of increasing output by increasing employment was 0.814 (the third row of Table 1). The biggest spillover effect was to increase employment, which contributed to an increase in output (the third row of Table 1).

These increases in output will increase tax revenues whose average rate is 20% in Japan. The amount of incremental tax revenues is shown in the fourth row of Table 1. If 50% of the increased tax revenues were

returned to investors in infrastructure, how much would it increase the rate of return? The last row of Table 1 shows that the rate of return would have increased by 43.8%. In 2006–2010, if 50% of incremental tax return were returned to infrastructure investors, they would have increased the rate of return for infrastructure investors by 39.1%. These significant increases of the rate of return would have attracted private investors into infrastructure investments. In the past, these increases in tax revenues were simply taken by the government and not returned to infrastructure investors.

4. INCREASES IN TAX REVENUES BY NEW INFRASTRUCTURE INVESTMENT (MICRO DATA)

In microeconomic estimations, Yoshino and Pontines (2015) estimated the impact of highways in Manila, Philippines. Yoshino and Abidhadjaev (2017) also estimated the impact of the Kyushu rapid train in Japan. Both papers predicted what the spillover effects of the respective infrastructure investments would be and concluded that an increase in spillover effects raises tax revenue.

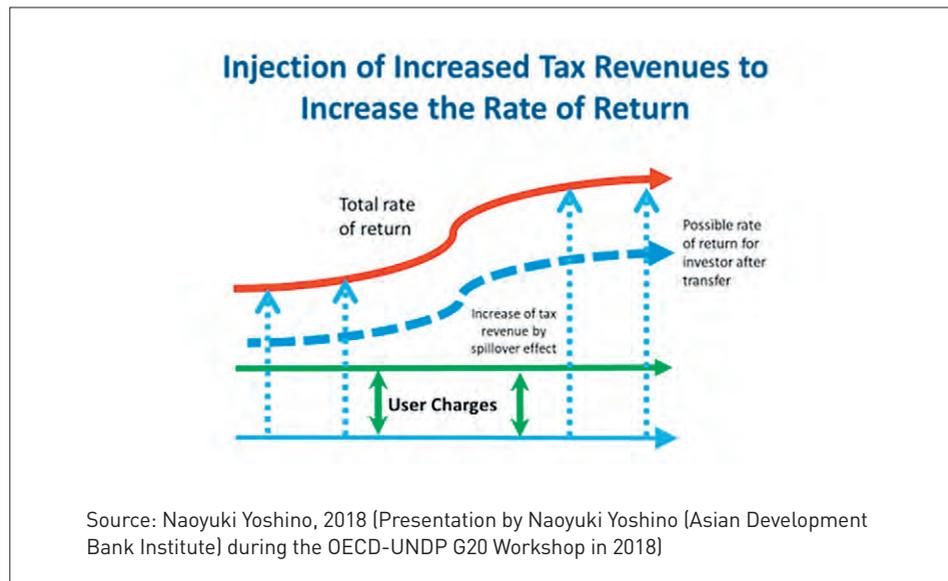
Figure 3 (opposite) shows usage fees and increased tax revenue created by infrastructure investments. The green line at the bottom represents usage charges. Traditionally, private investors for infrastructure relied only on charges, such as railway tariffs, highway tolls, water tariffs, and so on. As water and electrical supply are public and necessary goods for all members of society, the government regulates these infrastructure user charges in order to keep them as low as possible. However, water supply can generate big spillover effects in the region. An increase in regional GDP

will increase tax revenues, as shown by the red line. If we suppose that 50% or 60% of the increased tax revenue is returned to the investors, the blue dotted line becomes

»Land trusts allow landowners to keep their property rights while leasing the land to commercial and condominium developers and collecting an annual rent.«

the investors' total revenue, increasing the rate of return from the user charges (green line). This means if these spillover tax revenues created by the new water supply were partly returned to the infrastructure investors, then their actual rate of return on investment would rise significantly. This could entice private investors to participate in water supply infrastructure. Currently, Manila is the only example of a city where a water supply company is also benefiting from revenues that come from residential

Figure 3: User charges and spillover tax revenues



development. This water supply company benefits from the increase of property value after the infrastructure investment by purchasing the land before the water supply is completed, hence the increase in revenue. However, the land grab is a one-shot gain for the company. If the spillover tax revenues, which are collected by the government, were returned to the infrastructure investors, the rate of return would continue rising for the entire period.

Table 2 showcases the Star Highway in Manila (Yoshino and Pontines (2015)). The periods t-1 and t indicate periods under construction. At the end of t, the highway was completed and operation had started. In the last row, Batangas City, t-2 was a period when construction had not started, and t-1 and t were periods when construction had started. As indicated, tax revenues increased from 490 to 622 and 652 (last row). During the highway's construction, construction workers and other related construction works came to the region, increasing regional GDP. At the end of t, the Star Highway had been completed. Then at t+2, the tax revenue diminished compared to the construction period, but after the fourth year (t+4) the tax revenue increased

drastically: The tax revenue jumped to 1,208, about twice as much as before construction. This jump was caused by the spillover tax increases that resulted from the infrastructure investment, in this case, the Star Highway. If the highway had not been constructed, the tax revenues would have been 490 (t-2) because there would not have been an increase in economic activities in the area. If the part of these incremental tax revenues (1208 – 490) were returned to private investors, they would be incentivized to invest their money in building the highway. Similar effects are seen with the construction of a high-speed railway on Japan's Kyushu Island (Yoshino and Abidhadjaev (2017)).

CONCLUSION

In this paper, we have demonstrated two new ideas. One is to use land trusts for the construction of infrastructure: Landowners maintain ownership of their land but lend it to the infrastructure company for 99 years. Land trusts help simplify an infrastructure company's land-usage rights as they do not negotiate land prices or concern themselves with direct sales from landowners.

Table 2: Changes in tax revenues in three cities along Manila's Star Highway

| | t ₋₂ | t ₋₁ | t ₀ | t ₁ | t ₂ | t ₃ | PHP Million t ₄ forward |
|---------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------------------------------|
| Lipa City | 134.36 | 173.50 | 249.70 | 184.47 | 191.81 | 257.35 | 371.93 |
| Ibaan City | 5.84 | 7.04 | 7.97 | 6.80 | 5.46 | 10.05 | 12.94 |
| Batangas City | 490.90 | 622.65 | 652.83 | 637.89 | 599.49 | 742.28 | 1,208.61 |

Source: Yoshino and Pontines (2015)

Secondly, the paper proposes that investors who invest in infrastructure benefit from the increased tax revenues created by the infrastructure. Star Highway in Manila demonstrates a significant increase in tax revenue. If 50% of those increased tax revenues were returned to investors that invest in infrastructure, the rate of return would increase 40% according to data from Japan. Private investors, such as insurers

and pension funds, can put their money into infrastructure investment if the spillover tax revenues were partially returned to those who invest. Allowing private investors to contribute would increase efficiency and transparency of infrastructure investments. Furthermore, if these methods were used for green energy, the rate of return for energy investments would also rise (Yoshino and Taghizadeh-Hesary (2019)).

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Digital transformation

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HIIG

How are algorithms transforming our lives?

Welcome speech at the Global Solutions Summit

The author:



Katarina Barley

Federal Minister of Justice and Consumer Protection, Germany

More than a hundred years ago, the last German Emperor and King of Prussia, Wilhelm II, went on record as saying: "I believe in the horse. The automobile is just a temporary phenomenon." Today, technologies exist with the potential to transform human society even more fundamentally than the car ever did. And they are not going to be temporary phenomena either.

Change is happening at an incredible pace, impacting every aspect of our lives. Algorithms are transforming the world we live in and how we live in it. They have simplified many things, and much that was once impossible is now possible. In some cases, algorithms even seem to perform difficult tasks better than humans with years of academic training and professional experience.

We don't know if people will look back in a hundred years and laugh at our current statements. But we do need to position ourselves at this point in time. Because at the present moment, we still have a chance to influence the way things will develop in future.

The institution:



The Federal Ministry of Justice and Consumer Protection (Bundesministerium der Justiz und für Verbraucherschutz, BMJV) is primarily a ministry of legislation, also advising the other federal ministries in the preparation of legislative proposals.

HOW ARE ALGORITHMS TRANSFORMING OUR LIVES? WHAT ARE THE INHERENT OPPORTUNITIES AND RISKS?

Algorithms are transforming our world on various levels. They have gained a foothold in virtually every part of our lives. Yet in many ways, the inherent challenges and risks of using algorithms are impossible to quantify at present. I would like to illustrate this point in three different areas.

»Yet in many ways, the inherent challenges and risks of using algorithms are impossible to quantify at present.«

First: the individual level. Self-driving cars are currently among the most eagerly awaited developments of all. They can avoid traffic jams and may even help in reducing the number of accident victims. Furthermore, for people unable to drive a car themselves, they hold out the prospect of individual mobility. At the same time, however, they raise highly complex legal and ethical questions, while also creating

a complex range of risk scenarios. Take for example a conflict situation in which a choice has to be made between putting either the lives of the passengers or the lives of bystanders at risk: how should the algorithmic steering software be programmed?

Second: the business level. One way in which companies can profit from algorithms is by no longer having to drag job candidates through a protracted multi-stage recruitment process. An algorithm could potentially select the most suitable candidates by simply analyzing the submitted application documents. For their part, applicants could benefit from the use of algorithms too. As long as fundamental values such as equality were built into the system from the outset, algorithms would be able to screen applications in a neutral and unprejudiced manner. In an area where personal bias has often played a role in the past, the use of algorithms could help to guarantee equal opportunities and improve social inclusion.

But we are not there yet – as was seen from a well-known global corporation's attempt to develop recruitment software. The more realistic danger at present is that such algorithms will reinforce the patterns of discrimination contained in the training data used to "teach" them. For example, if the training data contains the fact that 80 percent of IT specialists are male, the algorithm could potentially reach the conclusion that applicants in the category "female" should not be selected. Moreover, in many cases, decisions made by algorithms are not reviewable as yet, making them extremely hard to challenge. While responsibility for decision-making is "delegated" to the software, it has be-

come virtually impossible for the individual concerned to prove that any discrimination took place.

Third: the level of society as a whole. Billions of pieces of information are posted online every day. Text, video, photographs, audio files, and so on. It's not humanly possible to sift through everything. Algorithms can analyze this material and then present us with the content that each of us is presumably interested in. And yet it is precisely this pre-filtering of news and information that represents a potential threat to the democratically organized, pluralistic society. Because societies of this nature thrive on the confrontation of different opinions and interests, on the freedom to conduct open and fact-based debate, on the ability to reach compromise and to find well-balanced solutions. Over the long term, these qualities could be degraded or even completely lost. Instead of enjoying a broad and healthy diet of pluralistic information, consumers would be fed a narrow regime of one-sided news. For a democratic society, this would be a highly dysfunctional state of affairs.

“I’M SORRY DAVE, I’M AFRAID I CAN’T DO THAT.”

If you have seen the film 2001: A Space Odyssey by Stanley Kubrick, you might feel slightly uncomfortable whenever you hear those words. It is the moment when HAL 9000 – an algorithmic computer – decides to stop following human orders. Algorithms haven't got that far yet and probably won't get there in the foreseeable future. But even today, programmers often don't know how certain types of algorithms such as neural networks arrive at their weighting of different characteristics. It used to

be that programmers could tell you exactly what their programme did and how it reached its conclusions. Now, some algorithms employ self-learning processes in order to continue developing on the basis of their own experience. And it is not always possible to get scientific insight into what exactly they are “thinking”.

»It is precisely this pre-filtering of news and information that represents a potential threat to the democratically organized, pluralistic society.«

THE PRICE OF PROGRESS

The benefits of an automated lifestyle in which algorithms relieve us of countless onerous tasks are easily appreciated. In future, algorithms will be capable of driving your car, watering your plants and booking your next appointment at the hairdresser. Things get more problematic, however, when the generated data is used in other processes without you being asked. Then

your eating and sleeping patterns could end up influencing your chances of getting insurance coverage, for example. Each of your consumer decisions would influence your personal score. Every car journey would be recorded.

The data generated whenever algorithms are used has become a highly desirable asset. Data is not called the “oil of the 21st century” for nothing. And yet the comparison is not entirely accurate because unlike oil, data is not consumed just once: it is reproduced. The same dataset can be sold to many different buyers.

Data can be used to train algorithms and to help systems evolve. Data can furthermore be used to get a clearer picture of consumer behavior so that advertizing can be tailored to individual preferences with ever-greater precision.

In the fields of artificial intelligence and algorithmic decision-making, international research and development is in full swing. Anyone drawing attention to the risks or attempting to set limits on algorithm research and use is often branded an enemy of progress and growth. It goes without saying that the competition is fierce and companies with no obligation to respect legal and ethical norms when developing their algorithms might be capable of getting their product to market more speedily, thereby allowing them to enjoy greater success. But this kind of attitude stands in conflict with our own fundamental values. It is clearly good for banks if they can evaluate the creditworthiness of their customers within a matter of seconds. But this could lead to certain customers suffering discrimination due to the way an algorithm evaluates where they live, for example. Indeed, for many people,

the thought of being entirely “transparent” is an uncomfortable prospect.

We must not allow a situation to arise whereby some and perhaps even all of us have to pay the price for excessively swift progress. Similar discussions were held in the 1960s and 70s when the issue of environmental protection first came up. “Environmental protection is bad for the economy” was the typical mantra. Some claimed that environmental protection would make German companies less competitive. Today, all industrial chimneys are fitted with particle filters as standard, while cars are fitted with catalytic converters. Equivalent progress has been made in the area of health and safety: it is no longer permitted to use asbestos in buildings. In many ways, German industry has actually gained a competitive edge in the global marketplace by incorporating environmental standards into research and production: green technology exports are booming. But when each of the relevant standards was first introduced, there was a massive political and social struggle which is only now paying off, several decades later. Perhaps we will notice a similar pattern when we look back in a few decades' time at the efforts currently being undertaken to regulate algorithms.

WE NEED TO BE SMARTER THIS TIME

Any meaningful political approach to algorithms has to start with a sober analysis of the technology's inherent opportunities and risks.

Algorithms have vast potential and this potential needs to be harnessed. Decision-making processes can be made more efficient if decisions are reached with greater speed and objectivity. But in order to pre-

vent humans from becoming mere objects controlled by technical systems, there is an increased need for principles and safeguards. In the European Union we have already taken a step in the right direction with the General Data Protection Regulation. This ensures transparency and accords people greater rights over their own data. But more still needs to be done. People should always be given the option of having algorithm-generated assessments or predictions scrutinized by a human reviewer and rectified if necessary.

For society in general, it means that clear standards for algorithms need to be established.

Discrimination cannot not be tolerated. Nobody should ever be disadvantaged on the basis of their skin color, gender, sexual orientation or any other characteristic. Anyone wishing to enhance their recruitment strategy by analyzing the performance data of their existing staff must ensure that an algorithm does not perpetuate existing prejudices. It also means that equal opportunities must continue to be guaranteed. But how do we achieve this?

PROPOSED RULES FOR ALGORITHMS

We have long since passed the point of asking whether or not we actually want this new algorithmic technology. It is now purely about the standards we wish to establish for its future development. It is too early for us to produce any conclusive list of specific criteria. As I mentioned at the beginning, things are developing at incredible speed and there is no way of predicting all the different aspects that may subsequently become relevant. On the other hand, we should not fall into the trap of waiting to see how algorithms develop

before setting about regulating them. I believe that our only chance of retaining control and ensuring that algorithms reflect our own democratic values is by establishing a clear legal framework and demanding compliance with legal and ethical safeguards. This also means reaching international agreement on the minimum standards that we wish to establish for algorithm design. I would like to offer five proposals for the discussion:

1. Humans must always retain ultimate responsibility.

Algorithms offer a major opportunity to improve decision-making processes. We have to harness this potential. At the same time, we need to recognize that our society is built on the principle of people taking responsibility. This means that ultimate responsibility must always be borne by humans – not algorithms. It follows from this that decisions of any significance must be made by humans. Or at least the possibility of obtaining a human decision must always be available. Wherever people rely on the help of algorithms, it would be conceivable to introduce a graded system of liability similar to the existing system where the work of staff members is relied upon. Anyone who relies on work provided by their employees has a duty to supervise the quality of that work, to exercise care in the selection of new employees, etc. Comparable rules for the use of artificial intelligence are conceivable.

2. Any use of algorithms must be indicated.

Wherever algorithms are deployed in sensitive areas involving fundamental rights, the persons affected must be informed of

this fact. Only if someone is aware that an algorithm was involved in a decision-making process can he or she assert a right to have this decision reviewed. This indication could be visualized by markings comprised of easily understandable symbols.

3. Algorithms must be transparent and comprehensible.

Insisting on transparency and comprehensibility is not a way of demanding that the code be disclosed to anyone who simply asks. If that were to be required, it would force companies to divulge business secrets that actually merit protection and would also result in the code being open to manipulation, which is not in anyone's interest. Operators will have to give experts and auditors the opportunity to test the way in which the algorithm functions. This could be done by using sample applications to test whether a recruitment software programme discriminates against people from socially deprived areas, for example. Furthermore, companies will have to be transparent about the training data used to teach their algorithms. And wherever technically possible, the criteria taken into account in a decision-making process will have to be disclosed.

4. Algorithms must be reviewable.

In order for algorithms to be reviewable, they have to be transparent. Having said that, the level of scrutiny to which an algorithm is subjected must be proportionate to its relevance. If an algorithm has the potential to change people's lives on a permanent basis, or if it has an impact on some particularly sensitive area, an independent body needs to be tasked with reviewing how that particular algorithm

works. If scoring companies are largely able to determine a person's creditworthiness via the ratings they award, it must be possible to review the scoring process. This role could be performed by consumer protection organizations, civil society, lawyers and possibly even public authorities.

»The international community needs to reach agreement about the standards to which algorithm-based systems have to comply.«

5. We need an international definition of quality standards.

The international community needs to reach agreement about the standards to which algorithm-based systems have to comply. In my opinion, the aspects I have just outlined should form part of this: indications, comprehensibility, reviewability and the observance of fundamental values. We also need

to develop and standardize test procedures in order to enable third parties to scrutinize algorithms (including self-modifying algorithms) and to assess their compliance with these basic requirements.

COALITION OF THE FUTURE

Algorithms are not a temporary phenomenon. Their influence on our lives is only going to increase. It is now up to us to establish clear rules that enable us to shape the world in a way that evenly bal-

ances the economic benefits offered by algorithms with the need to protect fundamental rights. In order to achieve these goals, we need to form a coalition made up of governments, civil society, companies and research – a coalition prepared to take a bold approach and work internationally in developing and finalizing proposals for tighter regulation and thereby to have a meaningful impact by setting a positive example. I hope the EU is prepared to move forward resolutely on this issue.

The digitalization of industries

Industrial policies for an inclusive and sustainable digital transformation

The author:



Christoph Beier

Vice-Chair of the Management Board, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Co-authors from GIZ are:

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The institution:



As a federal enterprise, GIZ has over 50 years of experience in a wide variety of areas, including economic development and employment promotion, energy and the environment, as well as peace and security. GIZ works in demand around the globe – from the German government to European Union institutions, the United Nations, the private sector and governments of other countries. The main commissioning party is the German Federal Ministry for Economic Cooperation and Development.

Digitalization is increasingly gaining momentum amid growing awareness of its potential and its risks. The digital transformation of industry – ranging from simple robotic-led automation to interconnected production in smart factories – has a significant impact on economies and societies worldwide. Linear global value chains become interacting networks. New platform-based digital business models alter the rules of competition. Data is omnipresent, even if we do not see it.

Estimates, which should be interpreted carefully, predict that China might lose 77% of its jobs to automation and India 69%, while 47% of US jobs are at risk and 41% of all work in South Africa is susceptible to automation. Technologies that are driving digitalization, such as Artificial Intelligence (AI), have a 50% chance of outperforming humans in all tasks in 45 years.

At the same time, governments worldwide are strongly promoting the digitalization of their industries with strategies and initiatives such as “Industrie 4.0” (Germany), “Industrie du Futur” (France), “Society 5.0” (Japan), “Made in China 2025” (China), “Make in India” (India), or “Making Indonesia 4.0” (Indonesia). In doing so, governments do not ignore the potential negative

impacts, but acknowledge the necessity of promoting and steering this development. Moreover, the overall impact on jobs is generally difficult to estimate and may turn out to be positive, as it must take into account factors such as gains from new jobs and demographic change. Depending on a country's initial industrial capabilities, these initiatives therefore will either enable it to maintain global competitiveness or will help increase industrial productivity to overcome the middle-income trap and catch up with industrialized countries.

»The question is not whether decision makers should engage in the promotion of the digital transformation, but how they do it.«

ELEMENTS OF AN ENABLING ENVIRONMENT

The question is, in fact, not whether decision makers should engage in the promotion of the digital transformation, but how they do it. The increasing pace of development requires a flexible and dynamic policy setting. Governments must weigh their

measures for possible negative impacts in order to achieve a development that is sustainable and inclusive. The technology- and internet-driven global interconnection moreover requires the international alignment of governance approaches.

Advising governments of developing and emerging economies on how to achieve their objectives through sustainable economic development within bilateral and global multi-stakeholder projects, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has gained extensive experience and is constantly adapting, such as to our partners' requirements in the digital transformation. After more than 30 years in China, for example, new topics such as Industrie 4.0, Artificial Intelligence or autonomous driving are emerging. Since 2016 the German Federal Ministry for Economic Affairs and Energy commissions GIZ to support the cooperation between German and Chinese companies in the area of Industrie 4.0.

Amid mounting international criticism of China regarding forced technology transfer and the discrimination of foreign companies, for instance, the position on business cooperation with China varies in terms of opportunities and risks. Against this background, GIZ is focusing on mutual benefits for Germany and China and on facilitating opportunities while working toward mitigating risks.

To design an appropriate industrial strategy and determine or improve its corresponding policy measures, the first step is to assess the relevant elements for an environment that enables a sustainable and inclusive digital transformation. These elements include:

1. Infrastructure

In digital industries data flows in massive amounts at any given time between machines, companies, countries and people. Infrastructure, thus, is a key requirement. Providing all industries with the appropriate infrastructure, however, is an issue almost all governments are tackling today – the difference being that some countries lack such infrastructure in general, while developed countries lack the appropriate capacities.

2. Skills

The jobs most at risk to be replaced are simple repetitive tasks. Work in general will change significantly. Governments must prepare the youth for the new requirements and must support workers in adapting to the new environment, thereby providing a crucial foundation for inclusive growth.

3. Institutional framework

Institutions matter as they determine the governance framework for the digital transformation. As digitalization changes the industrial landscape continuously, the regulatory framework must adapt accordingly, taking the needs of all stakeholders into account and protecting consumers.

4. Innovation

While skills enable people, innovation enables businesses. It is the main driver of the digital transformation and relies mostly on research and development (R&D). Innovations can be incremental or disruptive and include products, processes, services, business models and organizations. Relevant technological innovations include artificial intelligence, blockchain, internet

of things, 3D printing, robotics, virtual and augmented reality.

5. Finance

Financial resources are crucial for the multinational enterprise, the small- and medium-sized enterprise (SME), the micro-business and the start-up. Starting a new business and implementing completely new, possibly untested, methods of production in a factory of an SME for instance require large investments with a large degree of uncertainty about the revenue.

6. Global trade and investment

The digital transformation is global, and reduces the transaction costs of trade, especially in services, even further than we have already experienced in the past. Investments from other countries can support the digital transformation at home, while investments in other markets are key for companies to grow.

7. Acceptance

It is crucial for countries not to drift apart during the digital transformation. The road to Industrie 4.0 starts in the mind. In addition to economic growth, the digitalization of production, especially in the context of Industrie 4.0, actually promotes sustainable manufacturing as the efficiency gains in production lead to the saving of natural resources. These can be realized for instance on the process level through improvements in the utilization of machines or production management, and on the product level through a predictive maintenance that extends the lifespan of a machine. This can lead to a decrease of about 25% in power consumption, material usage, waste, transportation necessities,

and scrap through mistakes in production, and in storage capacity.

POLICY INSTRUMENTS FOR A SUSTAINABLE AND INCLUSIVE DIGITAL FUTURE OF PRODUCTION

Addressing these elements in an industrial strategy for digitalization is necessary not just to cope with the digital transformation but also to shape it in a way that is sustainable and inclusive. As China already has an industrial strategy, GIZ is supporting in its Sino-German cooperation on Industrie 4.0 progress in the abovementioned elements, with special attention to mutual benefits for German and Chinese companies, as well as for the overall economies that may benefit from a joint innovative development in each other's industry.

Based on an assessment of the status of each of these seven building blocks of an enabling environment, a policy mix and measures can be determined to achieve the goals of the industrial strategy. The following measures should comprise any given policy mix.

1. Regulatory framework conditions

Setting the right regulatory framework conditions contributes to all abovementioned aspects and determines the institutional framework. Governments must design laws and regulations to create a market environment that is fair, promotes competition and efforts of industry and academia in R&D, reduces red tape, protects intellectual property, secures networks and data, and orients itself to international practice, to avoid a scattered regulatory landscape that increases transaction costs for international business operations.

In the context of the Sino-German Industrie 4.0 cooperation, GIZ, together with its Chinese partners, has implemented a platform for companies to develop recommendations to improve framework conditions. Governments should provide such industry platforms to enable exchange on best practices and challenges. This supports governments in balancing regulatory restrictions and security safeguards to avoid creating transaction costs that are an impediment to business activities and innovation and that hinder market access, especially for SMEs. An example is cybersecurity. Interconnected, data-driven production requires the security of networks to protect, for instance, against industrial espionage and intellectual property theft and to assure the integrity of critical infrastructure. But necessary regulations may become too invasive and extensive, putting business opportunities at risk.

2. Private sector development

For companies to innovate, engage in R&D and adopt such new technologies, especially SMEs and start-ups must be supported in their capability to do so and be provided with a supportive environment. Moreover, they must understand the benefits and potential for application to be willing to take risks that investments entail. This may be provided, for instance, through capacity development in the private sector, industrial parks (e.g. high-tech zones and special economic zones), competence centres, demonstration centres, innovation labs and, more generally, through ecosystems. To display the application potential of new technologies, lighthouse cooperation projects can highlight the benefits of different application scenarios.

In the Sino-German Industrie 4.0 cooperation, 44 bilateral cooperation projects with partners from industry and academia have been selected since 2016.

»While skills enable people, innovation enables businesses.«

3. Education and training

To ensure social equity, inclusion and sustainable development, the government has to provide appropriate opportunities for learning, taking into account the variety of needs and requirements from individuals and businesses. Next to basic education, technical and vocational education and training (TVET) are crucial in this regard. E-learning is a helpful tool to reach large numbers of people and teach necessary skills, also in places where people would otherwise not be able to attend school or university. In China for instance, an Industrie 4.0 online learning platform may bring online courses to people in rural areas with no access to appropriate education and training – thereby improving the livelihood of these students and workers. Moreover, the Sino-German Industrie 4.0 project supports the selection of a pilot project in the area of TVET to display best practices. Finally, education and training also cater to R&D, as R&D requires an elaborate skill set and adequate capabilities.

4. Fiscal support

Fiscal policies provide incentives to steer developments in the direction a government has envisioned in its industrial strategy. They can support the construction of digital infrastructure, the provision of education and training possibilities, R&D expenditures, provide start-ups with the necessary funding capital and SMEs with the necessary financial resources for their digital transformation. Such fiscal support includes direct subsidies (e.g. for pilot projects), tax exemptions (e.g. for R&D expenses), preferential loans (e.g. for the application or development of digital tools or for SMEs), warranties and credit guarantees (e.g. to reduce risks and thus interest for loans and to support SMEs in receiving loans from banks).

5. Multi-stakeholder dialogues

The government should closely work together with the public and the private sector in public-private-civic partnerships. The creation of dialogue mechanisms with a variety of stakeholders in the digital transformation and public calls for opinion on development strategies for new technologies ensure that the government is aware of any potentially unintended consequences from the digitalization of industries, and increases trust and understanding in society.

PAVING THE ROAD AHEAD

This is of course only a brief overview of the building blocks and the policy mix to develop these elements into an enabling environment for a sustainable and inclusive digital transformation that recouples economic growth with the welfare of the society. With regard to China, it may be

concluded that a crucial aspect for successful digitalization of industries is international openness and dialogue, as digital value networks are global.

Tech-driven disruption in social sectors

The irresistible force meets the immovable object

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Wadhvani Institute for Artificial Intelligence (Wadhvani AI) is an independent, nonprofit research institute and global hub, developing AI solutions for social good. Our mission is to apply the power of Artificial Intelligence to solve the world's toughest problems. Health, agriculture, financial inclusion, infrastructure, and education are among our initial focus areas.

INTRODUCTION

Immensely powerful, infinitely scalable and highly affordable new and disruptive technologies are now pervasive and have become part of everyday life. Clearly, technologies like AI, Big Data, Machine Learning, 3-D printing, Virtual/Augmented Reality, or IoT are having a huge impact across sectors. The most visible and dramatic successes have been in areas that relate to people-to-people communication, entertainment, business, security, defense etc. However, the impact in transforming critical social sectors like healthcare, education, agriculture and skilling has been much less impressive. These sectors lie at the heart of human development indices and form the core of the UN SDGs. In these areas, actual impact on the ground and benefits accruing to the bulk of populations, especially those at the lower end of the economic strata has been far more elusive. This paper attempts to highlight certain unique characteristics of these sectors that may account for the much lower success rate and recommend suitable approaches to deal with them drawing on the Indian experience.

INDIAN CONTEXT

Like any large emerging economy, India

faces the challenge of meeting rapidly rising expectations within available resources. These expectations include proper healthcare, education and skilling, access to economic opportunities including credit and extend to many other persistent problem areas in public services. At the same time, developed country capabilities in IT and related areas such as AI, IoT, Data An-

»India today stands at the confluence of an unprecedented set of circumstances that render such new tech-based approaches eminently feasible in the near term.«

alytics, etc. co-existing within a developing country economic environment present an exciting and attractive opportunity to leverage these new technologies to create highly innovative and very affordable solu-

tions to many of these perennial development challenges.

INDIA IT LANDSCAPE

India today stands at the confluence of an unprecedented set of circumstances that render such new tech-based approaches eminently feasible in the near term. It has near-universal mobile coverage with 1,127 million subscribers in a population of 1.3 billion in 2016 with a growth rate of 11.52% (Source: ITU and Telecom Regulatory Authority of India). It has a US \$167-billion Information Technology (IT) industry with US \$126 billion in exports as of the end of fiscal year 2017-18 (Source: NASSCOM Strategic Review 2018). The IT-Business Process Management (IT-BPM) industry in India includes nearly all the top global companies in the sector. It is estimated to be growing at around 9% in the current 2018-19 fiscal year. This 25-year old industry today serves nearly 80 countries across the world including all the developed economies.

INDIA INNOVATION ECO-SYSTEM

In this decade, India has witnessed the burgeoning of the tech startup eco-system with 7,200-7,700 tech startups estimated to have been launched between 2013 and 2018, with the overall base growing at 12-15% annually (Source: NASSCOM-Zinnov Report 2018). After initially coming up with clones of Western products in e-commerce, transportation, entertainment and hyper-local logistics and deliveries, the startup eco-system is increasingly creating innovative products and services focused on solving Indian problems in healthcare, agriculture, fintech, cybersecurity, energy to name a few.

E-commerce, transportation, payment wallets, hotel/accommodation/cinema booking, local food and provision delivery services enabled by mobile apps are now familiar to most urban citizens in India and increasingly in smaller towns as well. Global products like IBM Watson already provide a range of medical services across countries including treatment recommendations based on patients' records. But within India, well-known products in healthcare such as Practo, Portea, Lybrate, etc. are connecting doctors and medical professionals to patients in ways that make it easy to reach the right person from the comfort of one's home. Apps like Byju's are making high quality educational content and services easily accessible at highly affordable costs. Similar established products, albeit in smaller numbers, exist in the agriculture sector too. But there are more new exciting efforts in the pipeline in social sectors like healthcare, agriculture, fintech/ financial inclusion that hold the promise of scripting India's future.

KEY NATIONAL INITIATIVES IN INDIA

Domestically, the government has accorded a high priority to accelerating the digital economy and launched a Digital India program. It has already built some of the core public digital infrastructure assets like a digital, bio-metric-based identity system (Aadhaar), standardized and mandatory interoperable gateway (Universal Payment Interface or UPI) that links financial institutions across the country seamlessly, digital networks for revenue collection, etc. and is in the process of creating similar core publicly owned, privately implemented and operated digital infrastructure in are-

as like healthcare, agriculture and skilling. Increasingly, the government is resorting to direct benefit transfer to individual bank account holders for pensions, subsidy payments, scholarships, etc. leveraging this infrastructure. In parallel, the government has created an array of over 250,000 Internet kiosks (CSCs) in rural areas in an innovative public private partnership model. At CSCs, entrepreneurs provide assisted access to users to avail of any service at a nominal fee.

So, the journey toward the digital future is well under way. The overall approach has been to use open source technologies and open APIs while building the "India Stack" to democratize innovation at the edge by opening up opportunities for entrepreneurs to plug into the systems being built.

COES AND ICTAIS

The Government of India has promoted the establishment of Centres of Excellence in IoT, Data Sciences and AI focused on national development challenges, particularly those in the social sector. These COEs are private-sector led and government supported with linkages to research institutions. Separately, the government unveiled a national AI strategy in mid-2018 and promoted the establishment of International Centres for Transformational AI (ICTAI) – once again led by private sector/non-government entities, with each focused on specific sectors. Intel Corp was the first private entity to come forward with a proposal to set up an ICTAI based on the national strategy announced by GOI. This was followed by others.

The Wadhvani Institute for Artificial Intelligence (WAI) – a not-for-profit entity

funded by the Wadhvani Foundation and other donors – is establishing an ICTAI for Health with several NGO, academia and industry partners and supported by the Government of India and the State Government of Maharashtra. The ICTAI will work on problems and use cases that accelerate progress toward the National Health Goals as well as UN SDGs. A sample of specific goals (along with potential AI-based solution areas) is given below.

ICTAI PROBLEMS AND USE-CASES (EXAMPLES)

Eradicate TB by 2025

[Scale of Impact: ~2-3M people per year – the number of new TB cases in India currently, according to WHO]

- Tools for more targeted, active case finding
- Decision support for multidrug-resistant TB
- Treatment adherence and patient risk assessment
- Automated X-ray analysis for screening
- Outbreak prediction

Increase the capacity and capabilities of frontline health workers

[Scale of impact: Shortage of ~500k doctors in India by WHO standards]

- AI-powered diagnostic kits (e.g., for early detection of high-risk pregnancy)
- Triageing / advisory apps
- Planning and prioritization tools

Transform rural sub-centers into health and wellness centres with an expanded suite of care areas and services

[Scale of impact: 500-700M Indians served by health sub-centers]

- Automated lab tests
- New low-cost tests for screening (using image and video processing, etc)
- Digital modes of collecting vitals and anthropometrics
- Advisory and triaging apps
- Chatbots and intelligent voice-based apps (e.g., mental-health screening)

Predict and prevent the spread of vector-borne diseases

[Scale of impact: 200M Indians / 1 in 7 Indians at risk of malaria, according to WHO]

- Screening and diagnostic tools
- Scenario modeling for interventions
- Vector identification

Reduce premature mortality from cardiovascular diseases, cancer, and diabetes by 25% by 2025

[Scale of impact: ~6M deaths in India every year from non-communicable diseases, according to WHO]

- Cheaper screening and diagnostic tools (e.g., image-based screening for cervical and oral cancer)
- Monitoring tools (e.g., diabetes)

The ICTAI will focus on AI innovation, field-testing and pilot deployments. It will also support government agencies in the scaled roll-out of these solutions to larger geographies.

AI approaches are being applied in agriculture. One example is an application to tackle the problem of pest infestation in cotton farming, which has caused untold misery to cotton farmers. Many of them suffered huge loss of yield and some even saw their entire crop wiped out. This was also the cause of many farmer suicides due to their inability to discharge their loan li-

abilities. The problem became a major human tragedy and a major political and administrative challenge for the government. Here the AI approach was to use certain detectors (fly traps) and AI analysis of the images at periodic intervals to enable early prediction of disease occurrence or likelihood and enable use of optimal pesticides well in time to avoid crippling crop losses.

»The journey toward the digital future is well under way.«

CERTAIN CHARACTERISTICS OF SOCIAL SECTORS THAT AFFECT THE STRATEGY FOR DISRUPTIVE TECHNOLOGY-LED TRANSFORMATION

The government plays a major role both as a regulator and a provider of services in social sectors like healthcare, education, skilling and to an extent agriculture. It is the largest individual service provider in these spaces. Its role as a regulator and its methods as a provider have a huge bearing on practices in the sector. Digital platforms tend to become natural monopolies. In the social sector therefore, government ownership of such platforms tends to be more acceptable. However, governments generally lack the ability to be very innovative and adopt and adapt new technologies continuously. Hence private-sector implementation with appropriate incen-

tives for continuous innovation is needed to complement government ownership. This is the model for Aadhaar and GSTN implementation and is often used for major e-governance projects.

REGULATORY ISSUES AND RECOMMENDED APPROACHES:

McKinsey had estimated that India's digital economy could grow to US \$1 trillion by 2025 with focused, efforts but could end up at about half that level with a business-as-usual approach. A strategic approach, regulatory facilitation and de-bottlenecking by government are critical across sectors for rapid progress necessary for full realization of the potential. Currently in India, greater emphasis has been placed on control aspects in regulation while enablement has received much less attention. Consultative approaches and speedy actions fall short of what is needed.

For instance, the highly restrictive Map Policy of the country was an impediment to growth of location-based services. Nonetheless, several services have arisen that in effect overcome these regulatory restrictions. Lack of a drone policy stymied use of drones and growth of a drone services eco-system in the country. A recently announced drone policy is seen by many as sub-optimal. Efforts were made to restrict online matrimonial services over some instances of alleged fraud. Thankfully, they did not materialize. Tele-medicine and Tele-consulting projects and apps have been stymied by regulatory restrictions on remote consultation and diagnosis and prescriptions issued on that basis.

The current focus on data privacy has seen arguments that unduly restrictive

regulation should not stifle badly needed innovation, especially in AI, Data Analytics and ML, all of which need access to large datasets. Regulation will need to be crafted carefully, with due regard to a recent Supreme Court judgement recognizing the right to privacy as a fundamental right and limiting the use of the Aadhaar to government schemes. Traditional regulations in healthcare that disallow remote treatment by doctors are retarding the growth of AI-based services. There are many more examples of policy and regulation that need to be tweaked to enable and not retard progress. But India is learning, as is the rest of the world. The new era requires speed: in thought, in action, in governance and in effecting regulatory changes. This is not easy as speed is rarely a characteristic of regulatory changes or government processes, especially in democracies.

It is evident that forward-looking regulation is a sine qua non for technology enabled transformation of social sectors. Regulatory issues can be divided into 3 broad categories:

- i. Regulatory de-bottlenecking – removing outmoded regulations that have become impediments to transformation
- ii. Regulatory enablement – introducing regulation that enables transformation
- iii. Regulatory controls – bringing in legislation to prevent abuse, misuse, fraud, etc.

A mechanism to constantly review the need for (i) and (ii) above is essential. This mechanism has to work closely with innovators and institutions like the ICTAI, the private sector and academia to ensure timely and appropriate action. Since many of these regulations fall within the pur-

view of departments that are not familiar with these new technologies, and which tend to view them as minor distractions rather than major transformation tools, a tech-savvy department or a technology evangelist within the government (extending the e-envoy concept) will need to steer this mechanism through the labyrinths of government.

»Digital platforms tend to become natural monopolies.«

Lastly, the temptation to rush in with regulatory controls too early needs to be avoided. The same across-government mechanism referred to above could also vet such regulations before they are enacted. Though regulatory checks are needed, it is important to distinguish between controls that are necessary and those that lead to potentially vast benefits being lost. The benefits of regulation must be weighed against opportunities that could be lost.

INTERNATIONAL COOPERATION IN REGULATION

International cooperation in the area of regulation is important for two reasons. Firstly, it should enable experience-sharing so that countries can learn from each other's experiences of trying to regulate

this new world. Secondly, many of the social sector services have transborder scope, and harmonization may be required in some areas. It would be a nightmare if each country were to try to enforce its own

rules on providers located in other countries. After all, the digital world is global and regulation is local. We cannot afford to lose sight of that reality as we grapple with the challenges of the digital world.

Sustainable development of artificial intelligence (SAID)

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Artificial intelligence (AI) is changing our lives. However, it seems to be a solution and a problem at the same time. In order to understand opportunities and risks, to evaluate promises and warnings, we should ask the right questions and choose the right frame of analysis. It is time to think and talk about AI in terms of sustainable development.

I. WE NEED TO TALK ABOUT ARTIFICIAL INTELLIGENCE

AI applications play an increasing role in all parts of society. In hospitals, image recognition systems aid doctors in diagnosing diseases like skin cancer. They are in many cases more accurate than the doctors. In our private life, different AI applications allow us to “speak” with our mobile phones, to take better pictures and to sort them automatically. Fully automated public transportation is available in many countries and driving is increasingly automated. In factories, AI-empowered industry robots can handle an ever-increasing number of tasks. In offices, AI tools help to plough through data in order to make predictions or to identify certain important aspects of that data. Risk management tools are also used by tax administrations to identify tax

applications in need of further assistance. Face recognition and other controversial AI technologies are used to ensure public security and safety.

These examples highlight some of the important features of the concept of AI. According to Klaus Mainzer’s definition, AI denotes systems that can deal with certain problems independently and efficiently. The term has famously been framed as a research question by four computer scientists in a grant proposal. Today, AI is considered a sub-discipline of computer science that is actively pursued by specialized academics and research institutions. AI is not a single technology but a set of technologies.¹ Those technologies are not limited to specific circumstances in their use. They can be used in many contexts and for various purposes. AI denotes a set of general-purpose technologies in the truest sense of the word. This might be one reason why AI has been compared to other general-purpose technologies like steam-machines, and the production of steel.

Being a general-purpose technology, one can create swords and ploughshares from AI.

The metaphors of swords and ploughshares certainly applies to AI, and this can even be seen in the practice of the United Nations. UN Global Pulse, an innovation initiative of the Secretary General, uses AI proactively for development and humanitarian action. The Pulse Lab Kampala developed a system that monitors local public radio stations all over the country. Small hardware is deployed all over the country, a text-to-speech application transforms the data and another AI application analyses and clusters the data. This is done in order to give the government a better un-

derstanding of the problems in the country, including floods, violence against women, malaria, and cholera. On the other side of the spectrum are so-called lethal autonomous weapons systems (LAWS), which are also fuelled by artificial intelligence. After several years of expert meetings of experts, states established a Group of Governmental Experts under the umbrella of the Convention on Certain Conventional Weapons. The controversial negotiations in this group show that new possibilities through AI can be hard to resolve.

»Being a general-purpose technology, one can create swords and ploughshares from AI.«

Governments, companies and research institutions are having heated debates about the future of artificial intelligence. They talk about ethics, about AI’s impacts on human rights and about the ways in which AI could strengthen the economy. Depending on the respective focus, specific topics concerning AI are in the limelight. While stakeholders have identified many important issues, very little reflection has addressed the question of the right frame. In particular, policy makers

The institution:



The Alexander von Humboldt Institute for Internet and Society researches the development of the internet from a societal perspective. The aim is to better understand the digitalization of all spheres of life. As the first institute in Germany with a focus on internet and society, HIIG has established an understanding that emphasises the embeddedness of digital innovations in societal processes.

and other stakeholders have not explored the potential of framing AI in the terms of sustainable development.

II. WHY SUSTAINABLE AI DEVELOPMENT?

While there are sporadic attempts to highlight the potential of AI to contribute to the fulfilment of sustainable development goals, there is at the moment no comprehensive analysis of how different technologies are to be considered from the perspective of sustainable development. This is somewhat surprising, considering that the discourse on sustainable development is very far advanced but captures a basic conflict that represents current discussions concerning AI. That is the conflict between development and its potential costs. Sustainable development acknowledges the opportunities of progress, but also highlights its limitation due to impacts on societal concerns such as the environment. Reducing the main advantages of sustainable AI development to three words, it would be inclusiveness, governance and connectivity.

»Sustainable AI development is an inclusive framework.«

Inclusiveness

The discourse on sustainable development has attained a very high level of inclusiveness. It relates to all countries and

regions of the world. It addresses issues of economic development, but attributes the same importance to social and environmental issues. It highlights human rights, but is also sensitive for concerns at the level of groups and countries. It addresses public and private actors and includes civil society. What is even more important that sustainable development works on the micro, the meso and the macro level. Sustainability can be an issue for specific products and applications. Yet, it can be also a standard measuring overall impacts on the environment or social justice. In contrast, the focus of the discourse on AI tends to be on the consequences of specific applications, particularly in their performance concerning fairness, accountability and transparency. Save for the future of work, the impacts of AI on society as a whole are only rarely discussed. Sustainable AI development as a frame could change that.

Governance

One of the remarkable features of sustainable development is its focus on governance and implementation. The discourse on sustainable development has continuously been improved. The 2030 Agenda for Sustainable Development has established a multi-stakeholder process in order to support achievement and development of specific goals and related indicators. A sustainable perspective on AI does not only highlight goals and limits, but necessarily implies the question how they are to be realized. From this perspective, it is not enough to talk about ethics and human rights but to take specific actions in order to achieve certain goals or prohibit certain impacts of technologies. While the cur-

rent state of governance mechanisms is far from perfect, they are steps in the right direction. AI technologies might be further tools to strengthen the governance of sustainable development.

Fit

Generally, the framework of sustainable development has been used to deal with similar issues and, therefore, is a good fit for AI's current challenges. First, it sets limits and goals for technological development. Hence, it is neither exclusively directed to the potential nor to the risks of AI. Sustainable development highlights both sides of the coin. What's more, the concept of sustainable development is not shy to address conflicts. From the initial discussions, there was an inherent conflict between sustainability and development. While sustainable AI development does not necessarily deal with the need for progress and environmental impacts, there are often trade-offs that need to be addressed in a clear manner. These trade-offs can concern the functionality of the systems and the many things that can be achieved on the one side and notions of privacy, transparency and individual autonomy on the other.

III. LEARNINGS FROM SAID

Sustainable AI development is an inclusive framework. Yet, it is different than other frameworks and has the potential to highlight specific aspects of artificial intelligence and digitization. This change of perspectives offers specific learnings that can be implemented when discussing the future of artificial intelligence.

1. Understand change and share knowledge

It is important to understand change caused by AI in a comprehensive manner and to map its impacts. This applies to beneficial and harmful impacts. It is one of the major features of the discourse surrounding sustainable development that changes are tracked, goals are defined and monitored. Best practices are shared and communicated across communities. Such a model would have great benefits for the governance of artificial intelligence. This is particularly important in the field of AI for discussions are sometimes guided by specific very visible applications like automated cars or narratives from Hollywood movies. In order to assess the change, it would be necessary to have a complete picture of where AI is already in use and what the repercussions of that use are. Instead of focussing on very specific issues like the trolley dilemma,¹ it would be interesting to see how AI becomes a part of the everyday infrastructure. Such a systematic approach might uncover that there are many more applications that are not automated decision-making systems but nevertheless play an ever-increasing role.

2. Develop a strategy of strategies

There is currently a proliferation of national AI strategies. Canada, China, Finland, France, Germany, and Japan are among the countries that have published such an AI-strategy. While it is certainly a good thing that more and more countries position themselves regarding such a set of transformational technologies, the question remains how countries coordinate. While every country wants to become a leader in AI, this is not a realistic option,

save for a few countries. And even the countries that can be leaders in AI technology contemplate whether they are strong enough to outweigh the rest of the world. Despite certain quotes from different politicians in 2016, it becomes more and more clear that AI research cannot be compared to the race for the nuclear weapon. It is about different technologies, different areas of application and different purposes. While machine learning based on neural networks works well today, it is far from clear what the next breakthrough will be based on. In such a situation, we are in need of a strategy of strategies allowing for competition and cooperation at the same time. Such a strategy of strategies should provide incentives for inventions but help to avoid that the same inventions and mistakes are made in different countries again and again. It should also coordinate efforts where countries actually have the same goals and can work together. The sustainable development agenda is such a strategy of strategies.

3. Justice

One of the most important features of sustainable development is the constant quest for justice equity and fairness. Sustainable development is concerned with current affairs but also takes into account future generations. As a framework, SAID makes such questions of justice visible on the micro and the macro level. There are currently issues that are not really resolved. One issue that is projected to be a great concern in the future is the distribution of wealth gained from trained neural networks. This is particularly problematic when the training data is based on the efforts of people that do not profit from the

AI applications. This has been discussed in the context of music and health. It is even more significant when this problem is combined with the gig-economy. There are concerns that certain platforms might take advantage of missing labor regulation in developing countries and exploit the workforce there for simple labelling tasks. To train an algorithm in such a setting means effectively to make one's own ability redundant. However, gig-workers without legal protection have little leverage to influence such a setting. If these and comparable situations are not addressed from the perspective of sustainability and justice, we might be soon faced with another aspect of what has been coined "digital slavery".ⁱⁱ

4. Build an infrastructure and an ecosystem for sustainability

From the perspective of sustainable AI development, an infrastructure for sustainable AI development is key. This infrastructure has to transgress the goals of building fast and functional AI applications. It will also have to deal with questions of making applications sustainable by taking into account individual, group and societal needs. Take for example the need to assess and test AI applications. This is an interest shared by developers, companies, regulatory authorities and policy makers alike. Testing and evaluation are much easier when there is an infrastructure allowing to do this. A focus group of the ITU currently undertakes such an effort by building evaluation and test sets for specific AI driven eHealth applications.ⁱⁱⁱ They are in the process of creating a test environment that would allow the evaluation and benchmarking of eHealth applications.

What has been stated for infrastructure is also true for the ecosystem. While it is certainly necessary to have hubs that spark innovation and help to make innovations applicable to real world problems, those ecosystems should also include reflections on the ethical, legal and social impacts of AI. Many AI strategies consider so-called "AI-observatories". In certain domains, there are also agencies that have to test and certify AI applications.

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If it is true that "responsible design eats oversight for breakfast", it will be important to think about agents of good design.

Those agents have to be close to the processes of building AI and able to include ethical, legal and social aspects

right from the beginning. In certain jurisdictions, data protection officers have become the agents of data protection in companies, organizations and public administration. In the case of using AI in public, the ecosystem should also include citizens. There are different participation tools that could be used to include citizens in the design process. These methods include sortition or random sample voting. When there are important decisions to make for instance in the smart city context, it would be possible to consult such a group that would be selected to be trained and work as a citizens' data ethics commission. The ecosystem for sustainable AI development should comprise various actors and organizations, from the UN High Level Panel on Digital Cooperation to local citizens' data ethics commissions.

IV. THE FUTURES OF AI

In conclusion, the preliminary learnings from sustainable AI development show that there is a lot of potential to think about AI in terms of sustainable development. As a set of general-purpose technologies, AI has not one single future. It has many futures, and these futures depend on more than just technological inventions. They depend on the decisions taken to fund research and innovation, they depend on decisions to implement technologies in society, and they depend on choices about how to design and how to implement technologies. AI applications can play an important role in society but it is us who decide which role they play. To employ sustainable AI development as a framework makes us aware of the choices.

¹ In the context of AI, this is often related to situations in which a car can do nothing than choose between harming and potentially killing different groups of people. The problem is that this choice can be programmed.

ⁱ U. Gasser and V. A.F. Almeida, 'A Layered Model for AI Governance', IEEE Internet Computing 21 (2017), 58–62.

ⁱⁱ D. Snower, 'Emancipation in the age of digital slavery', Global Solutions Journal 1 (2018), 18–20.

ⁱⁱⁱ M. Salathé, T. Wiegand, M. Wenzel and R. Kishnamurthy, Focus Group on Artificial Intelligence for Health. <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents>



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Financial literacy for the digital age

The need for digital financial education

The author:



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The Asian Development Bank Institute is an Asian think tank focused on identifying effective development strategies for Asia and the Pacific, and on providing support to ADB member countries in managing development challenges.

1. INTRODUCTION

Financial technology (fintech), including the use of smartphones and other devices to deliver digital financial services (DFS), has become recognized as a promising tool to promote the expansion of financial inclusion, i.e., access of excluded households and small firms to financial products and services. In 2010, the G20 endorsed the Financial Inclusion Action Plan (FIAP) and established the Global Partnership for Financial Inclusion (GPMI) to coordinate and implement it. The FIAP was updated at the 2014 G20 Leaders Summit in Brisbane and, acknowledging the importance of fintech, includes a commitment to implementing the G20 Principles for Innovative Financial Inclusion under a shared vision of universal access (BIS and WB 2016).

However, improved access to financial services via fintech requires higher levels of financial literacy to make effective use of them and to avoid mis-selling, frauds such as phishing, hacking attacks, discriminatory treatment and behavioral issues such as excessive borrowing. Financial literacy has become recognized as an important requirement for effective financial inclusion, along with consumer protection, and has gained an important

position in the policy agenda of many countries (OECD/INFE 2015a). At the Los Cabos summit in 2012, G20 leaders endorsed the High-Level Principles on National Strategies for Financial Education developed by the Organization for Economic Cooperation and Development International Network on Financial Education (OECD/INFE), thereby acknowledging the importance of coordinated policy approaches to financial education (G20 2012). In 2016 G20 leaders focused on digital financial literacy more closely, and endorsed the High-level Principles for Digital Financial Inclusion, which include Principle 6 on “Strengthen Digital and Financial Literacy and Awareness” (GPMI 2016).

»Digital and general financial literacy is likely to become an increasingly important aspect of education for the digital age.«

At the same time, surveys consistently show that the level of financial literacy is

relatively low even in advanced economies (OECD/INFE 2016, 2017). Moreover, most national financial education strategies do not address digital financial literacy specifically, but instead focus on basic financial concepts. However, digital and general financial literacy is likely to become an increasingly important aspect of education for the digital age. The development of the ‘gig’ economy means that individuals will become more responsible for their own financial planning. Individuals will need to manage their own retirement savings and pensions more, due the trend of switching to defined-contribution from defined-benefit pension plans. Also, as mentioned above, consumers will need to have increasing financial sophistication to make effective use of fintech products and avoid fraud and costly mistakes.

These developments point to the need to develop digital financial education programs to improve digital financial literacy, with increasing focus on those skills likely to be critical for those participating in the Digital Economy. G20 countries need to define digital financial skills and include programs to promote digital financial education in addition to basic financial education in schools, as well as special programs for vulnerable groups, including the elderly, owners of small and medium-sized enterprises (SMEs) and startup firms, and women.

2. PROSPECTIVE BENEFITS OF DIGITAL FINANCIAL EDUCATION

Financial education can be viewed as a capacity building process over an individual’s lifetime, which results in improved financial literacy and well-being. It is hard to quantify the benefits and costs of investing

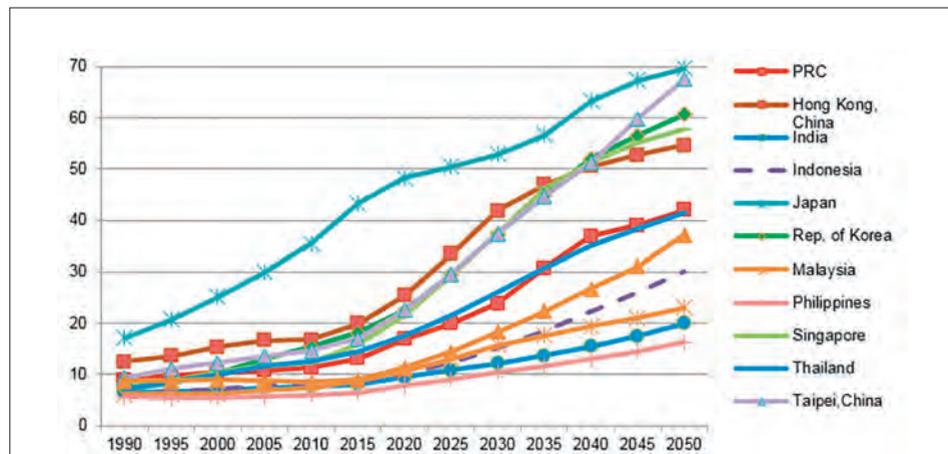
in digital and general financial education, but we argue that there are likely to be substantial benefits to increased investment in financial education in Asia.

There are many channels by which financial literacy can plausibly contribute to economic and financial development. The benefits from financial education come principally from better financial allocation decisions of households, both regarding savings and borrowing, and these benefits affect not only large companies but also SMEs. Second, having a more financially literate population is likely to increase domestic savings rates, thereby reducing

reliance on foreign capital, and helping to foster faster economic growth. Higher savings funneled through pension plans or insurance companies can help to provide long-term financing for infrastructure investment in Asia. SME entrepreneurs can reduce financial stability risks, such as the probability of household or SME loan defaults.

Digital and general financial education can contribute to better retirement planning, which is important since many Asian economies have aging populations. Figure 1 shows the trend of the ratio of the population aged 65 and over to the working-age

Figure 1: Dependency ratio history and projections (aged 65+/aged 15–64)



PRC = People's Republic of China.

Sources: United Nations, Department of Economic and Social Affairs, Population Division. 2013. World Population Prospects: The 2012 Revision. Available at: <http://data.un.org/Data.aspx?q=dependency+ratio&d=PopDiv&f=variableID%3a44>
 National Development Council (Taipei,China). 2014. Population Projections for [Taipei,China]: 2014–2060. Accessed 17 June 2014. Available at: <http://www.ndc.gov.tw/encontent/m1.aspx?sNo=001457>

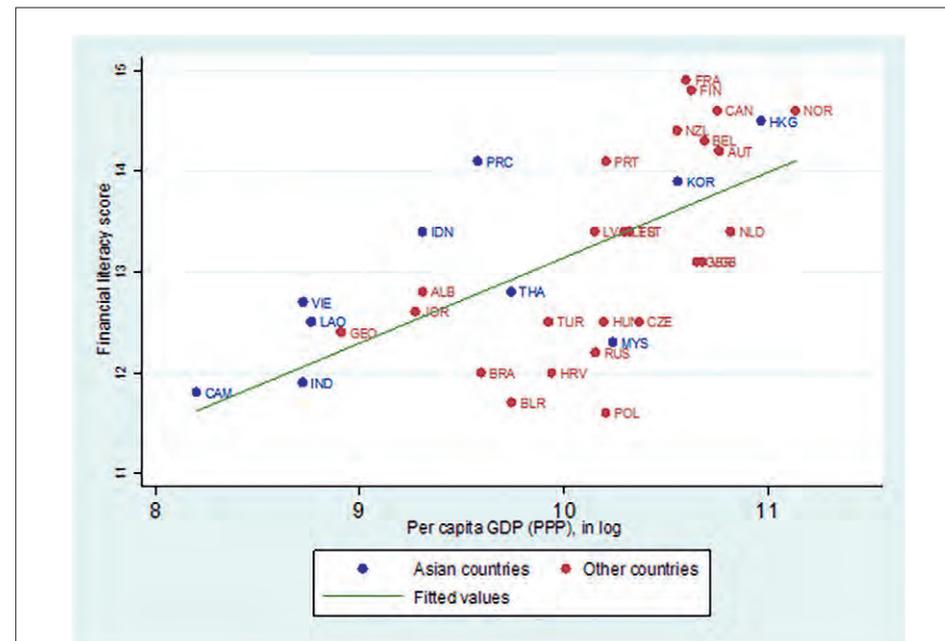
population (aged 15–64) through the year 2050. Aside from Japan, aging will occur especially rapidly in Hong Kong, China; the Republic of Korea; Singapore; and Taipei, China; followed by the People's Republic of China (PRC) and Thailand. The aging trend will also increase the fiscal burden on national pension and health insurance plans.

3. CURRENT STATUS OF FINANCIAL LITERACY IN ASIA

The OECD/INFE (2016, 47) defines financial literacy as "... [a] combination of awareness, knowledge, skill, attitude and be-

haviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing." Thus, the concept of financial literacy is multidimensional, reflecting not only knowledge but also skills, attitudes, and actual behavior. Financial knowledge includes financial concepts such as compound interest, inflation and risk diversification, and the ability to apply numeracy skills to make good financial decisions. Financial behavior means taking (or not taking) financial actions. Attitudes regarding longer-term financial planning include aspects such as individuals'

Figure 2: Financial literacy score vs. GDP per capita



Source: OECD/INFE (2016), World Bank World Development Indicator database (<http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>), authors' calculation

time preference and willingness to make planned savings.

Mapping the current status of financial literacy (or financial capability) in Asia and elsewhere presents challenges to researchers and policymakers alike. It is a new area, with limited data. The OECD/INFE (2015b, 2018) has developed a stand-

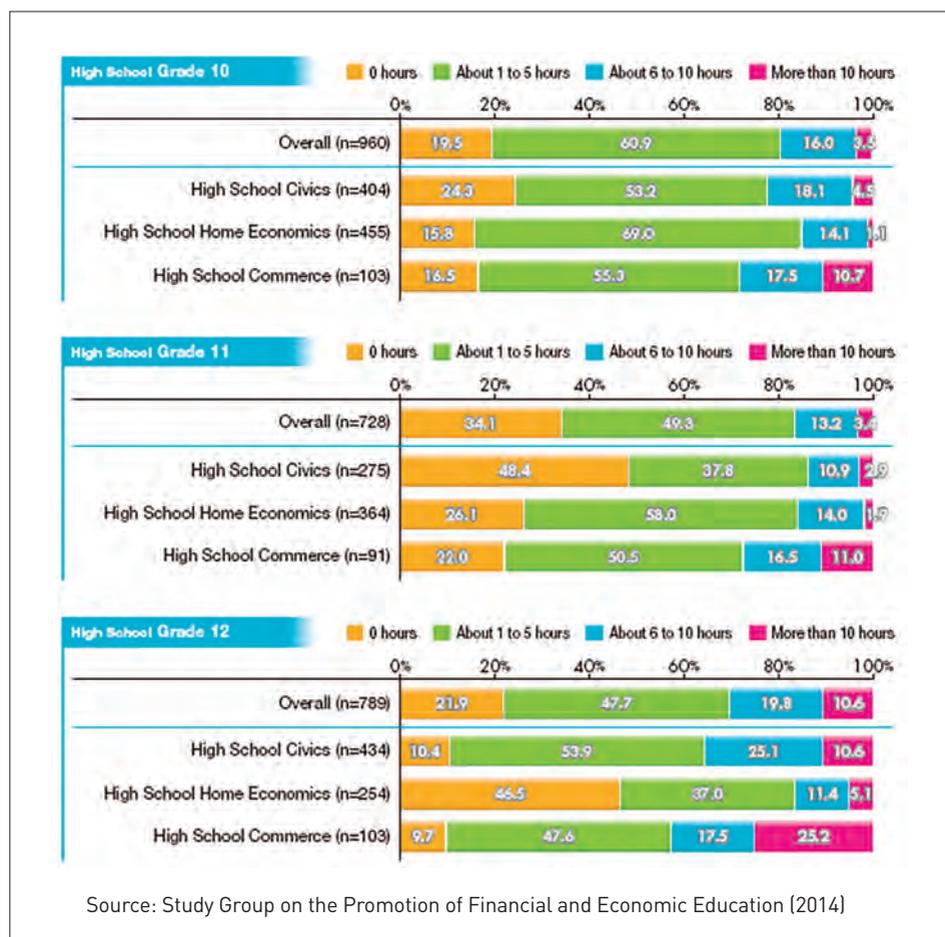
ardized survey instrument to calculate scores for the various indicators of financial literacy. In the survey, questions on financial literacy are divided into three related aspects: financial knowledge; financial behavior; and attitudes to longer-term financial planning. The overall score for financial literacy is the sum of three scores,

and hence takes values between 1 and 21. Figure 2 shows there is a fairly high correlation between the average financial literacy score and per capita GDP (0.64), although there is still wide variation relative to the trend line. The average score for 30 countries is 13.3 out of 21, relatively low. However, the survey questions do not yet capture digital financial literacy.

exams, so students are not motivated to learn about it.

»There are still many policy gaps in Asia in the areas of financial literacy and financial education.«

Figure 3: Actual lesson time for financial education in Japanese high schools



4. FINANCIAL EDUCATION PROGRAMS AND THEIR EFFECTIVENESS

The empirical evidence on the impacts of financial education programs on savings and other financial behavior is decidedly mixed, with its effectiveness depending on many aspects of the particular program being examined.¹ Also, the capacity of teachers and educational systems to deliver financial education may be limited. Broad-based financial education programs could be very costly. Therefore, more research is needed on the outcomes of digital and general financial education. For example, it has been found that many teachers in schools are struggling to decide on which topics they should teach and are concerned about their lack of techniques and skills. Also, it is costly to determine how to allocate funds to achieve efficient teaching methods.

The time allocation to financial education is also important. Figure 3 shows that the actual amount of time spent on teaching financial education in high schools in Japan is quite limited, mostly less than five hours, which is small compared to other subjects. In Japan, many students have to take entrance examinations for secondary school, high school, and university. However, questions on financial education have never been asked in those

5. CURRENT POLICIES AND GAPS IN FINANCIAL EDUCATION IN ASIA

There are still many policy gaps in Asia in the areas of financial literacy and financial education. The starting point for financial education is to have a national strategy, but so far in Asia, only Hong Kong, China; India; Indonesia; Japan; the Republic of Korea; and Malaysia have implemented such strategies, although a number of other Asian countries are developing such strategies (OECD/INFE 2015a). There are several levels of financial education programs, including those at the national, school, and SME levels. Pakistan, the Philippines and Viet Nam are in the process of finalizing their national strategies. Central banks active in this area include the Reserve Bank of India (RBI), Bank Indonesia, Bank of Japan, Bank Negara Malaysia, Bangko Sentral ng Pilipinas (BSP), and

Bank of Thailand. Financial regulators active in this area include the Financial Services Authority of Indonesia (OJK) and the China Banking Regulatory Commission in the PRC.

»We believe there are significant potential gains to be realized from more concerted policy efforts to promote digital and general financial education.«

However, most financial education programs in Asia tend to be small scale and targeted at individual groups rather than the broad population. Only Japan actually includes financial education in its school curriculum, but even that program faces many problems, as described above. Few programs address the needs of seniors or SMEs, either. In many countries financial education programs are conducted independently from one to another. Focus on digital financial literacy is generally lacking.

A national strategy for digital and general financial education needs to include the activities of private groups also engaged in this area (OECD 2018), while being mindful of possible biases in the education programs of private groups. For example, ADB (2013) advocates establishing an oversight mechanism both to operationalize a national financial education strategy and promote continuous learning among the various stakeholders, and to serve as a point of contact with engagement with international initiatives to support financial education and consumer protection. ADB (2013) also recommends creating an innovation fund to encourage both private and public sector organizations to conduct research and innovate and pilot test new approaches to financial education that are appropriate to local contexts.

The process of developing financial education programs needs to address a complex set of interacting questions (Braunstein and Welch 2002): what is the targeted audience and that group's information needs; when should individuals be exposed to both general and specific information about financial issues and options; where should financial literacy education be provided to reach the broadest audience; how can financial literacy education be effectively delivered; and how can the effectiveness and impact of financial literacy programs be measured?

6. CONCLUSIONS AND RECOMMENDATIONS

Financial education, especially digital financial education, is a new subject for research and policy discussion in Asia. It is thus not surprising that financial education programs generally are lagging in the

region. However, Asia generally has high savings rates. Currently, most of these savings are deposited into banks and are not well allocated in various financial products. This presents barriers to financing by SMEs and start-up businesses, and consequently retards potential growth. We believe there are significant potential gains to be realized from more concerted policy efforts to promote digital and general financial education.

First, criteria for assessing digital financial literacy need to be established and harmonized. Second, more national surveys are required, particularly of poorer Asian countries. Using international standard methodologies, such as the OECD/INFE survey, would enable benchmarking across countries. Even the OECD/INFE survey needs to be revised to address digital financial literacy adequately.

Third, coherent national strategies for digital and general financial education need to be tailored to national circum-

stances. The G20 need to promote the development of such strategies. Effective national strategies for financial education are found to contain four key elements: (a) coordination among major stakeholders, including regulatory authorities (central banks and financial supervision agencies), educational institutions, financial institutions, and civil society institutions; (b) emphasis on customer orientation and addressing demand-side as well as supply-side gaps; (c) a combination of broad-based functional interventions and targeted programs for vulnerable groups (e.g., women, youth, the elderly, and SMEs) according to availability of resources; and (d) adoption of a long-term time horizon with flexibility to respond to changing needs.

Fourth, monitoring and evaluation of national strategies for financial education is vital for lesson learning and program adaptation. With the appropriate incentives, think tanks and universities can help in monitoring and evaluation efforts.

¹ See, for example, the discussion in Mandell and Klein (2009).

New challenges for education systems

What makes the next generation and the future workforce strong?

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The mission of the OECD is to promote policies that will improve the economic and social well-being of people around the world. The organization provides a forum in which governments can work together to share experiences and seek solutions to common problems. It works with governments to understand what drives economic, social and environmental change. The OECD measures productivity and global flows of trade and investment, analyses and compares data to predict future trends and sets international standards on a wide range of things, from agriculture and tax to the safety of chemicals.

As late as 2004, ministers of economic and financial affairs of the industrialized world decided that the Organization for Economic Co-operation and Development (OECD) in Paris should create a Directorate for Education; while the OECD had previously produced some important work on education, it has since given even more emphasis to this field.

One of the strongholds of this directorate became the comparative quality assessment of education systems, well known under the name of PISA (The Programme for International Student Assessment). In 2015, 12 million 15-year-olds, representing 28 million 15-year-olds in 72 high- and middle-income countries and economies, took the internationally agreed two-hour test.

In September 2016, the United Nations adopted the Sustainable Development Goals (SDGs). Goal 4 of the SDGs is a global goal and puts the quality of education in the forefront. PISA and the new program, PISA for Development – the adapted PISA for low-income countries, will serve as the major tools to measure the learning outcomes in countries.

In this paper, we will analyse some of the results of PISA tests as well as other

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* The Asian Development Bank refers to China by the name People's Republic of China.

surveys pertaining to early childhood education and to social and emotional skills; policy recommendations will also be addressed.

»To support teachers in every aspect of their education and their work should be the target number one for governments.«

I. EARLY CHILDHOOD EDUCATION

Today, we know that early childhood education and care (ECEC) should be fostered by policy makers as well as by society as a precious treasure; the advantages are two-fold: for one, it gives the young child a good basis for socio-emotional and cognitive development. The second asset relates to young mothers who acquire a certain independence and can continue to work.

Some countries understood these benefits rather early (like Denmark and Belgium), while others were slow in accepting such a support system, especially for children under 3 years of age, and objected

to such intervention in family life – for instance Germany and Japan.

The number of years spent in early childhood education and care is also a predictor of the level of school performance reached at later stages.

Children who attended early childhood education for at least two years perform, on average, better than others at age 15 (57 countries participated in this survey for PISA 2015). With this evidence base at hand, policy makers are well advised to invest not only in the number of places available in ECEC but also in the quality of the sector:

“The quality factor is closely linked to the education and training of the teachers. To support teachers in every aspect of their education and their work should be the target number one for governments”

Competitive salaries and good working conditions may attract young people to teaching in some countries and, in others, help to retain effective teachers in the profession (see: Huntsman, 2008). Quality early childhood education has the potential to create more equity in societies by enhancing the future chances of children from disadvantaged families. In view of the important increase of migration among all of our continents, a well-functioning early childhood education system is the best integration tool for the new generation of immigrants. The language issue is only one aspect; contact with the new culture, such as friendships among children and parents from different backgrounds, are additional assets, provided these institutions do not separate locals and immigrants.

A new survey underlines to what extent children of immigrants profit from attending formal childcare and pre-school

services and continue to reap the benefits far beyond childhood (OECD 2019:186). In Germany, the benefit of pre-school is as high as two years among children of immigrants (relative to PISA scores) and 1.5 school years among their peers with native-born parents.

World leaders decided that target 4.2 of the SDG education goals instructs governments as follows: “to ensure by 2030 that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.”

While OECD countries are close to universal or quasi-universal access to at least one year of ECEC, significant differences still exist across these countries in the quality of ECEC programmes provided to young children and in the usual number of hours per week that each child is enrolled (Starting Strong, 2017).

“Co-operation programmes with low- and middle-income countries should teach best practices and promote the exchange of experts and teachers on all levels of education, including early childhood education”

II. PARTICIPATION OF WOMEN IN THE LABOR MARKET

In traditional rural areas all over the world, including in African villages, young mothers benefit from close inter-generational support systems; extended families can provide childcare support and allow young women to continue to go to work after childbirth. In addition, in those environments it is also often feasible to simply take the child along to work.

This all changes in the urban setting. Women who want to continue to work after

childbirth need early childhood education and care centers. Germany and Japan have each undergone a very similar evolution. When it became obvious in the 1990s in Germany that the very slow demographic evolution (fertility rate below 1.5) would contribute to a diminishing workforce, the federal government gradually came to realize that it needed to take measures to motivate and assist young mothers to return to work after childbirth.

These considerations continued for another decade until they bore fruit.

In countries where mothers' labor market participation rates are the highest, like Denmark, Luxembourg, the Netherlands, Portugal, Slovenia and Switzerland (above 70% employment among women aged 15 to 64 with their youngest child under the age of 3), the proportion of young children enrolled in formal childcare is also the highest (see figure 1).

Without childcare programs, young mothers drop out of their professional life or drastically reduce their working hours in order to take up childcare duties.

In Quebec, Canada, provincial authorities introduced a low-fee childcare policy in the mid-1990s, which resulted in a significant increase in the labor force participation of women.

In order to meet the Europe 2020 headline target (75% of the population aged 20–64 to be employed by 2020), European countries will have to increase labor-force participation and the employment rate of women will be paramount (European Commission, 2016). In 2015, the EU employment rate for men (aged 20–64) was 75.9% while it reached only 64.3% for women. In all member states, employment rates of women are lower than those

of men, with big variations across the EU. All this in spite of the fact that women are increasingly well qualified and even out-performing men in terms of educational attainment. In 2015, 43.4% of women (aged 30-34) had tertiary education compared to 34% of men.

In addition to lower overall employment rates for women, there are also significant differences in terms of full-time employment numbers compared to the high share of part-time employment among women. This is true for instance for the Netherlands, where more than 75% of employed women

worked part-time in 2015, but the rate is also high in Germany, Austria, Sweden, the United Kingdom, Belgium and Luxembourg (see: European Commission, 2016).

The high share of part-time employment for women stems – according to the European Commission – from constraints such as the shortage or affordability of care services, mainly childcare, and unequal division of unpaid work.

Among EU member states, the share of children under three years of age enrolled in formal care is low. The European Commission lists the following issues as obsta-

cles: lack of available places, difficulties in access (distance, opening hours, and rigorous eligibility criteria), the high out-of-pocket cost of these services, and poor quality (see: EC 2016:4).

III. SOCIAL AND EMOTIONAL SKILLS

Research in neuroscience has shown that the brain sensitivity of highly important development areas, such as emotional control, social skills, language and numeracy, peak in the first three years of a child’s life (see Starting Strong:148).

There is plenty of empirical evidence about the importance of social and emotional skills for successfully navigating one’s life. Such skills have been shown to influence experiences and achievements in all spheres of people’s lives, whether it is academic achievement, job performance, occupational attainment, health and longevity, or personal and societal well-being (OECD, 2018).

What are the skills that drive well-being and social progress? Policy makers, including eleven education ministers and vice-ministers, discussed this question at the OECD’s informal ministerial meeting on Skills for Social Progress in Sao Paulo, Brazil on 23-24 March 2014. They unanimously agreed on the need to develop a “whole child” with a balanced set of cognitive, social and emotional skills so that they can better face the challenges of the 21st century (see: OECD 2015: 13).

Since that meeting, OECD experts have pursued research and produced surveys to explore this field further. A new study has recently been published (OECD, 2019) featuring the “Big Five” domains, which include task performance, emotional regulation, collaboration, open-mindedness, engaging with others, and the compound skills.

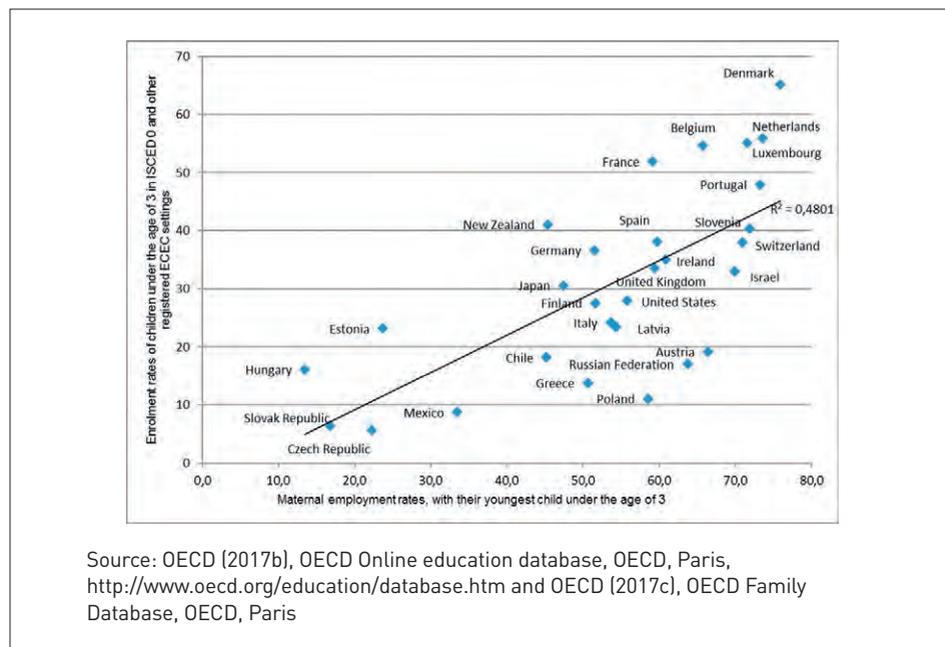
Why do we witness a new drive by education experts to further analyze these competences? The reasons are numerous: teachers, parents and policy makers in a number of countries are concerned about

»Co-operation programmes with low- and middle-income countries should teach best practices and promote the exchange of experts and teachers.«

High childcare costs can be an important disincentive to start or return to work for a second earner in a dual earning couple. This is particularly the case in the United Kingdom and Ireland where childcare-related costs represent more than 23% of net family income. The situation is even worse for low-income families (see: EC 2016:6).

“Public investment in early childcare should be a top priority. It facilitates the return of young mothers into the workforce; and mothers, the children, and society will benefit from such investment”.

Figure 1: Relationship between mother’s labor market participation (with the youngest child under the age of 3) and enrollment rates of children under the age of 3 in formal childcare (2014)



Source: OECD (2017b), OECD Online education database, OECD, Paris, <http://www.oecd.org/education/database.htm> and OECD (2017c), OECD Family Database, OECD, Paris

increased bullying at schools, drop-out rates in education and training, hikikomori (total social isolation, Japan) and suicide of youngsters, mainly boys and young men. There is extensive evidence that the Big Five domains and sub-domains can be generalized across cultures and nations, and not just in Western societies. While the model was initially derived from research on adults, it has been documented that it is also suitable for describing differences in social and emotional skills from childhood to old age.

A new OECD study will assess 15 social and emotional skills spread across six broad domains – the “Big Five” dimensions plus the compound skills. These tests will be given to 10 and 15 year-old students in a number of cities and countries around the world.

Experts of the participating member countries have agreed on some definitions (see OECD 2018:7):

Achievement motivation and responsibility are predictive of a wide range of life outcomes. Self-control and emotional con-

trol have attracted substantial research attention in many fields. Stress resistance/resilience and optimism are highly predictive of a wide variety of positive future life outcomes. Sociability and empathy/compassion provide a basic set of social and emotional skills needed for effective functioning and integration in work and personal environments. Assertiveness is a characteristic of leadership and is also related to entrepreneurship, while energy/activity allows people to lead a more dynamic and eventful lifestyle. Trust is highly relevant for personal well-being and societal cohesion, while tolerance and cultural flexibility have growing social relevance in increasingly diverse and polarized societies. Respectfulness and co-operation are relevant for children. Curiosity is a critical skill, creativity/imagination is another skill that can bring strong benefits to both individuals and societies, while critical thinking is gaining importance in a world full of false and misleading information. Metacognition/self-reflection has been found to be one of the most fundamental skills for lifelong learning. Self-efficacy is a well-researched skill with high predictive validity and of special importance in school settings.

Education systems so far have given value to cognitive skills and less so to the social emotional skills with the exception of individual schools and individual teachers. While the latter skills are rising on the education policy agenda, there are no metrics and test results available yet to guide policy makers or teachers. However, some good practices and models are known and should be introduced into formal education systems:

“We need to balance our education systems and acknowledge the value of social and emotional skills”.

In a number of countries, we witness too much stress put upon children in schools, which causes illnesses as well as higher drop-out rates. The ambition of parents as well as governments at times crosses the line. SDG 4 should also address the issue of social and emotional skills since we will soon have access to more evaluations and assessments.

»Public investment in early childcare should be a top priority.«

IV. FINAL REMARKS

In this contribution, we have chosen education issues that still need a lot of support from experts and policy makers; while some progress has been made in a number of countries regarding early childhood education, the quality issue and attractiveness for teachers still needs work.

If we want to make the next generation and the future workforce strong, we have to equip our students not only with technical and academic skills but also give them social and emotional strength. In a world with increasing ideological and political polarization, this agenda on teaching tolerance and respect is needed more than ever.

Figure 2: Structure of social and emotional skills



The future of work

A case for international cooperation

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Argentina held the Presidency of the G20 in 2018. Laura Jaitman led the G20 Finance Track under Argentina's G20 Presidency. One of the priorities of the Argentinean Presidency was the Future of Work. The deliverable on this topic was the "G20 Menu of Policy Options for the Future of Work", a consensus-based document that was endorsed by all G20 leaders.

IMPACT OF TECHNOLOGICAL PROGRESS: IS THIS TIME DIFFERENT?

There have been major advances in artificial intelligence and robotics in the last two decades. However, recent technological progress is pushing the frontier of what machines can do, substituting for workers in tasks that a decade ago did not seem technically feasible.

What is new about these technological trends? In the first industrial revolution, the factory system displaced the artisan shop and work performed by artisans was decomposed into smaller, highly specialized sequences that required less skill, but more workers, to perform. Hence, the technologies introduced in the first industrial revolution were largely "deskilling" (Frey and Osborne, 2013).

Since the second industrial revolution, technological advances favored more skilled workers (Acemoglu, 2002). At first, technology replaced human strength and dexterity and increased the demand for relatively skilled blue-collar workers to operate the machinery. However, these machines could not do more cognitive tasks such as compute or compare (Mokyr et al., 2015). Later, a wave of mechanization with calculators, mimeo machines, address machines, and the predecessor of the computer increased demand for educated office workers (white-collar workers).

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Since the advent of computerization in the 1960s, there has been a qualitative enlargement in the set of tasks that machines can perform. Not only did computational power increase substantially¹, but the cost of computation also decreased rapidly from 1945 up to the present (Nordhaus, 2007). This allowed a rapid deepening of computer capital and the substitution for workers in performing routine cognitive and manual tasks as the computation cost decreased. Computer capital also complemented workers in performing non-routine problem-solving and complex communications tasks. This raised the relative demand for workers who hold a comparative advantage in non-routine tasks, which were typically college-educated workers (Autor et al., 2003).

The technological advances of the twentieth century demanded that workers acquire new skills through education to keep up with these changes and to complement the new technologies and not be replaced by them. However, today, this is becoming increasingly challenging as computerization enters more cognitive domains (Frey and Osborne, 2013). For example, Autor et al. in 2003 considered that medical diagnosis and legal writing were non-routine cognitive tasks that had strong complementarities with computers and could not be automatized. However, today law firms are using software to automate the process of gathering evidence for a lawsuit. In health, artificial intelligence is advancing by learning from a large dataset and recognizing patterns that can be used to diagnose conditions. Only a few years ago driving was considered a manual non-routine task so complex that it could not be automated. Now there are driverless cars.

The boundaries of what counts as routine and non-routine are constantly moving. Computerization, previously confined to manual and cognitive routine tasks, is now spreading to what in the past was defined as non-routine tasks. The availability of big data together with machine learning algorithms is one of the key comparative advantages of computers relative to human labor. According to Mokyhr (2015), if artificial intelligence and robotics continue on their current trend, future machines will be able to carry out the more complex human capabilities and large sections of the labor market will be dislocated or “hollowed out”. Frey and Osborne (2013) put in numbers in this concern. They estimated the share of employment that could potentially be substituted by computer capital, from a technological capability point of view. They concluded that around 47 percent of total US employment is at high risk of disappearing in 10 to 20 years because of automation. There are also other studies that estimate the percentage of automation, such as Brzeski and Burk (2015), Pajarinen and Rouvinen (2014), Bowles (2014), Arntz, Gregory and Zierahn (2016). This figure does not represent net job losses, as it does not consider job creation due to, for example, complementarities between technology and employment that increase productivity and reduce variable cost, ultimately increasing production and the demand for labor (see Autor 2015). These productivity effects also lead to higher real incomes and thus to greater demand for all products, including those not experiencing automation (Acemoglu and Restrepo, 2018).²

How technological progress in the twenty-first century will impact labor mar-

ket outcomes remains to be seen. In the past, concern over technological unemployment has proven to be exaggerated. However, the particularities described above about recent technological advancements are generating significant uncertainty and deep anxiety about the future of work. Recent surveys show that in 2017 in the European Union, 74 percent agree that due to robots and artificial intelligence more jobs will disappear than new jobs will be created; in Latin America only 24 percent trust that these technologies will create more jobs than they will destroy; and in the US 72 percent express worry about automation (Eurobarometer, Latinobarometro, Pew Research Center, respectively).

»Leaders agreed that transformative technologies are expected to bring immense economic opportunities.«

POLICY CHALLENGES IN FACE OF TECHNOLOGICAL CHANGE

In light of technological change, the differences from past technological revolutions and the consequent constituencies' anxiety, G20 policy leaders began to dis-

cuss the nature of technological change and its potential implications. The future of work was a priority under the G20 Argentine Presidency in 2018. Leaders agreed that transformative technologies are expected to bring immense economic opportunities, including new and better jobs, and higher living standards. However, they recognized that the transition will create challenges for individuals, businesses and governments.³ These include changes to labor markets, the growing importance of skills and adaptability, and the risk of increased inequality within and between countries.⁴

Leaders identified several challenges that could benefit from international cooperation. First, there are significant differences in the productivity of firms between and within countries. In many advanced and some developing countries, strong productivity growth has been concentrated in a relatively small number of firms at the frontier of technological change. The productivity of the majority of firms, however, has largely stagnated (particularly small and medium-sized enterprises), thereby weighing on productivity growth at the national level. Usually, advanced technologies are adopted by some leading firms in the first place and then these diffuse to all firms. However, there is a large and persistent gap between what can be automated from a technical point of view and what is being automated by the average firm, even among G7 countries (OECD, 2018).

Developing countries face additional challenges in fully realizing the benefits of innovations. These countries do far less innovation than advanced ones and technology developed elsewhere takes time to

adapt to local conditions in these countries due to varying structural issues. For example, these include the absence of critical complementarities such as infrastructure (telecommunications, electricity, trade logistics, and payment systems), firms' capabilities (managerial practices) and digital skills (Cirera and Maloney, 2017). The gap in the intensity of use of individual technologies between rich and poor countries has widened and it is larger in relation to more recent technologies (Comin and Mestieri, 2017). Besides that, the majority of the divergence in productivity between countries can be accounted for by technology diffusion (Comin and Mestieri, 2017).

»The transition will create challenges for individuals, businesses and governments.«

Second, leaders identified that the transition period during which an economy adapts to new technologies can be disruptive for workers. The process of workers being reallocated to new sectors and tasks is not automatic and poses several challenges. This involves a slow process of searching for the right matches between workers and jobs, and also the need for re-training. In addition, a mismatch between skills and technologies could complicate

the adjustment process and contribute to inequality since workers that cannot adapt their skill set to new tasks may be forced to accept lower-paying jobs or face reduced job opportunities. Education and skills determine whether technological advances translate into more inequality in a race between skills and technology.

New technologies such as digitalization could lead to an increase in non-standard forms of employment (NSFE) and informality. While this might bring greater flexibility and opportunities for workers it also raises questions about workers' protection and the sustainability of social protection systems.

OPPORTUNITIES FOR INTERNATIONAL COOPERATION

In order to harness the benefits and address the challenges of technological change, G20 leaders agreed on a "Menu of Policy Options for the Future of Work" to draw on when responding to the impacts of technological change, taking into account a particular country's circumstances.⁵ In developing this Menu, challenges were identified, which derived in five overarching policy objectives to address them. For each of these objectives, policy options and opportunities for international cooperation were identified, including opportunities to share knowledge and for coordination between countries. The overarching objectives are listed below:

1. Harnessing the benefits of technology for growth and productivity.

Countries are far from achieving the full range of opportunities expected from technology. These have the potential to lift growth and productivity, raising living

standards over the longer term. However, in many countries, aggregate productivity growth has remained sluggish. The pace of adoption and diffusion of technology and innovation can drive the extent to which they are able to lift productivity growth – not only within countries but also among countries. The first objective is therefore about harnessing the benefits of technology for growth and productivity. In this regard, there is space for international cooperation. For example, some countries could work on joint initiatives for investment in R&D and frontier innovation. In addition, there are also measures that encourage international scientific collaboration and mobility that could help to close the technological divide between advanced and developing countries, e.g. international co-invention, collaborative projects and international mobility of highly skilled workers. Countries may also take measures to enhance the role of trade and investment in knowledge diffusion.

2. Supporting people during the transition and addressing distributional challenges.

Countries and citizens are worried about the current and potential impact of technological change, particularly on income and wages. While the overall impact on income is expected to be generally positive in the longer term, the transition period during which the economy adapts to new technologies can be disruptive for workers, and there may be longer-term negative distributional effects. Furthermore, gender gaps in education and jobs related to STEM may mean that large proportions of women are left behind. The second objective looks at how countries can support

people during transitions and address distributional challenges. This presents opportunities for countries to learn from each other through knowledge sharing. For example, countries can exchange knowledge on policy solutions to promote life-long learning, and support efforts to exchange information on how to allocate and manage resources in the most effective way to achieve learning and training objectives in the face of technological change. Countries could also cooperate to implement policies to facilitate geographical mobility through measures that facilitate mutual skills' recognition among countries and allow the portability of social insurance benefits, including pensions, given the increasingly cross-border nature of work.

3. Securing sustainable tax systems.

Countries will only be able to harness the benefits and address the challenges posed by technological change if they can continue to raise tax revenues in a sustainable way. Taxation, originally developed based on physical borders, will need to evolve in the face of digitalization. In addition, changes to the world of work, including increased NSFE, can put pressure on governments' revenues and tax administrations. The third objective focuses on securing sustainable tax systems. G20 countries are already working together in international tax coordination and cooperation to fight base erosion and profit shifting and to improve tax transparency and exchange of information.

4. Ensuring the best possible evidence to inform decision-making.

There is a risk that neither the oppor-

tunities nor the challenges arising from technological change will be accurately measured by current statistics. Yet data is rapidly emerging as a critical asset in many applications of new technologies, offering an opportunity to develop better statistics. Countries need to develop new analytical tools and access to reliable and timely economic statistics to understand the economy and monitor economic developments. The fourth objective aims at ensuring the best possible evidence to inform decision-making. For this objective, international cooperation is fundamental to developing comparable data between countries. Countries could work together to develop new and internationally comparable measures of human capital, welfare and employment, and review macroeconomic statistics. In addition, international statistical frameworks might be updated. Cooperation between national government agencies in the use of new methodologies could also be promoted.

THE WAY FORWARD

The Menu of policy options for the future of work is a starting point in this discussion, which Argentina elevated for the first time to the G20 leaders, the highest political level. The discussions in the G20 reflected in the Menu demonstrate that there is scope for international cooperation when addressing the opportunities and challenges of the current technological transformation. It is crucial to continue this agenda under future G20 presidencies as new challenges emerge. There is still a lot of uncertainty on the breadth of what we do not know. Rapid technological progress will not only change the way in which we work but also in which we design and implement public policies. Therefore, lifelong learning is going to be critical not only for workers but also for policymakers, and sharing best practices as well as coordinating our international responses will be key to ensuring that the benefits of the technological change are widely shared.

¹ According to Nordhaus (2007), computational power actually grew more rapidly than Moore's Law predicted. From 1982 to 2001, the computer power grew 18 percent per year faster than Moore's Law indicated (predicted computational power to double every 18 months).

² Acemoglu and Restrepo (2018) mention other possible countervailing forces to the displacement effect of new technologies.

³ "G20 Leaders' Declaration: Building Consensus for Fair and Sustainable Development", December 2018. <http://www.g20.utoronto.ca/2018/2018-leaders-declaration.html>

⁴ G20 Finance Ministers and Central Bank Governors Communiqué, March 2018. http://www.g20.utoronto.ca/2018/2018-03-30-g20_finance_communique-en.html

⁵ G20 Menu of Policy Options for the Future of Work (pp 4): "Any choice of policy responses would need to be tailored to individual and evolving country circumstances, taking into consideration the country's degree of technological diffusion and adoption; level of economic and financial development; factor endowments; available macroeconomic policy space; position in the economic cycle; and country preferences". http://www.g20.utoronto.ca/2018/g20_menu_of_policy_options_for_the_future_of_work_0.pdf

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Shaping business education to support recoupling

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Lagos Business School, Nigeria offers top management and E/MBA programmes. It is accredited by AACSB and AMBA and ranked by FT of London in the area of open enrollment and custom executive programs. The school emphasizes professional ethics and service to the community through the practice of socially responsible leadership and management.

INTRODUCTION – FACTORS SHAPING THE BUSINESS WORLD

Over the past few years, several key factors have affected business and the way it is conducted globally. Across several sectors, technological innovations are disrupting established business models and businesses are becoming increasingly focused on the use of data analytics. Copious amounts of data are being mined with a view to gaining better insights into consumer trends and preferences to improve products and services. Technological advancements such as artificial intelligence, data analytics, cloud computing, robotics, augmented reality, virtual reality and the internet of things influence how businesses operate, thrive and innovate.

Furthermore, increasing populist sentiments and policies in several countries of the world are threatening businesses amid anti-globalization views. These have given rise to “trade wars” in some instances, increasing protectionist views and advocacy for “anti-free-trade policies” in some countries.

Climate change and issues of sustainability and their effect on society are also factors that are influencing businesses today; responsible investing and sustain-

able business practices are shaping the strategic and operational framework of organizations. All these are contributing to a more complex operating environment for business globally.

»Executives need not only the right skills but also the attitudes and values to enable them to function effectively in a fast-changing world.«

These are the factors shaping the world of business today, but the future is uncertain and undefined. Executives, therefore, need not only the right skills but also the attitudes and values to enable them to function effectively in such a fast-changing world. This necessitates the call for business education to serve as a catalyst for “recoupling”. Recoupling can be described as the reintegration of social and economic progress (Snower, 2018). Business schools play a critical role in championing this course. In delivering management education to global leaders and executives, the

focus on societal progress as a core aspect of economic prosperity needs to be emphasized.

BUSINESS EDUCATION IN RETROSPECT

Traditionally, business schools have been seen as the providers of highly trained and capable managers, able to function effectively in organizations. In a fast-changing world however, the role of business schools in developing socially responsible managers, equipped with the tools to cope, is being increasingly called into question. One criticism of business schools is their curriculum, and whether it is suitable for cultivating managers for the future. In the past, business schools frequently adopted a discipline-based approach in teaching. They focused on developing business people who worked for their economic benefit as well as their organizations.

The curriculum emphasized preparing managers for big businesses, and was heavily influenced by the economic concept of man – Homo Economicus – as a rational being who seeks to maximize his utility. Economic prosperity was often advocated without regard for the cost of attaining such economic prosperity. Addressing societal problems was not emphasized and it was believed that such problems could be solved through economic activity. Business schools were rewarded for their focus on the economic benefits accruing to their graduates, as organizations that rank schools often placed much weight on the starting salaries of their graduates. This influenced the curriculum heavily as more emphasis was placed on how this could be maximized.

However, events such as the corporate scandals of 2008 and the global finan-

cial crisis suggested that this model was flawed or incomplete. In the early 2000s, business education was blamed for corporate scandals involving companies such as Enron and WorldCom (Verschoor, 2003; Ghoshal, 2005; Swanson, 2005; Hummel, Pfaff & Rost, 2018). According to some, business educators had “failed to instill ethical values and norms in their students” (Elegido, 2009, p. 16).

In the aftermath of these scandals and criticism that business schools produced executives whose main concern was to realize economic benefits regardless of the social, environmental and other costs to society, many business schools began including business ethics in their curriculum. However, to cultivate managers and executives for the future, far more has to be done.

The misalignment between economic advancement and social development poses a huge challenge for the world if left unaddressed by corporations and policymakers.

THE ROLE OF BUSINESS EDUCATION TO SHAPE RECOUPLING

In developing managers, there is a need for business schools to create holistic management education models that emphasize the role of businesses as agents of change in local communities, while recognizing their interconnectedness with people and nations. While financial measures frequently used to evaluate companies’ performance are essential, the environmental and social measures of performance should be addressed as an essential aspect of company evaluation.

The curricula should focus on developing individuals with thorough business and

management knowledge who understand the social, economic and environmental consequences of their decisions. Outside of the functional areas of business, emerging trends in business and courses on ethics, sustainability and responsible management should be included as core courses in the curriculum. In making business decisions, responsible managers consider the interests of other stakeholders and the consequences of their own actions on others. By emphasizing responsible management, business education advocates for a balanced approach in the formulation and execution of decisions.

Knowledge and awareness of ethical principles gives managers and executives a deeper understanding of the consequences of their actions on others and society at large in their economic pursuits. Lagos Business School (LBS), Nigeria has introduced business ethics and sustainability as core courses and adopted a multidisciplinary approach in teaching. Each is taught as a core course across all degree and executive programs. Across all courses, 10% of the sessions must be devoted to case discussions with an ethical and/or sustainability dimension. In this way, students make the link and see more clearly the effects of unethical or unsustainable business practices across all functional areas. The LBS Sustainability Centre is not only responsible for teaching the core courses on sustainability but also carries out research and disseminates the findings widely through public fora and other mediums in order to encourage more sustainable business practices across all sectors and to develop more responsible managers. The Sustainable and Inclusive Digital Financial Services Initiative (SIDFS) at

LBS champions an inclusive and sustainable financial service ecosystem through research activities, industry reports, and projects. One example includes the “Digital Financial Services in Nigeria – State of The Market Report 2017, Nexus between Financial Inclusion, Economic Growth and Income: Evidence from Nigeria”.

»Business should be a vehicle not only for economic progress but for societal progress.«

Having a research agenda that focuses on economic and social problems is one way business schools could advocate recoupling. For example, organizations such as UN PRME, UN Global Compact and GRLI drive responsible management education globally. In collaboration with business schools and other institutions of higher education, these organizations promote sustainable development and aim to shape the mindset and skills of future leaders in line with corporate sustainability. To ensure that the research output of schools is focused on issues that promote recoupling, I recommend they define areas in this realm that faculty could be persuaded or incentivized to research. At LBS, the focus is on

applied research targeted toward solving Africa’s social and institutional problems. Through this medium, contemporary business and social challenges are rigorously studied, with the objective of identifying the most suitable solutions to them. Also, the appropriate policies to guide and govern social activities are formulated.

While ensuring that the skills taught match future needs and opportunities, the pedagogical tools adopted could help to better understand the impact of business activities on society. Experiential learning should be promoted, using hands-on experiences, to expose participants and students to practical learning opportunities. These include internships, exchange programs with partner business schools, field trips, industry-based projects, etc.

The convening power of business schools can be brought to bear in organizing conferences with stakeholders, including policymakers, private sector players, local community members, international agencies, etc., who can routinely come together to discuss suggestions, advocate and implement more effective ways of promoting economically, socially and environmentally responsible businesses. This could include conferences where stakeholders exchange ideas, interact and discuss policy recommendations for improving social welfare, economic gains and overall societal development. I would also advocate for business schools to actively engage in achieving the United Nations Sustainable Development Goals (SDGs). Through industry engagement, partnership with international bodies and conference discussions, business schools can be at the forefront of social and economic development in the world. LBS hosts the

Private Sector Advisory Group (PSAG) of the UN SDG in Nigeria and encourages the active participation of private sector organizations toward achieving these goals.

»The misalignment between economic advancement and social development poses a huge challenge for the world if left unaddressed by corporations as well as policymakers.«

Business schools have to do more to influence students to act in ways and make decisions that benefit society and to see management as a service. Students have to become change agents in local communities, recognizing the interconnectedness of business, nations, and people and understanding that economic benefits on

their own do not benefit society, but widen the gap. The transformation students experience through business education should not be a transformation to further the self, but one that serves humanity.

Business schools have to focus on defining their purpose. In doing this, educators may want to reflect on whether the purpose of the business education they provide is to help businesses or to help humanity through business. It is my view that the role of business schools should be on the furthering of mankind rather than on business. Business should be a vehicle not only for economic progress but for societal progress.

RECOMMENDATIONS

The following are recommended areas through which business schools can champion the recoupling of social and economic development.

1. Business schools can focus on how technological advancement can be harnessed to solve urgent global issues such as climate change, resource depletion, wealth distribution, and reaction to expansion or market domination.

2. Business school curricula should emphasize courses such as sustainability, ethics, and humanistic management. The emphasis should be on students acquiring the right values, skills and attitudes and teaching methods should inculcate these in the students. Pedagogy that promotes active rather than passive learning is advocated. Teaching methods such as the case study method, experiential learning, projects that focus on social responsibility and impact should be encouraged. At LBS, the Personal Social Responsibility (PSR) project, as well as the Impact Invest-

ing initiative, are used to advance social entrepreneurship. Executed by MBA students, the PSR project aims to promote impact-driven entrepreneurship and social responsibility. Projects assigned could emphasize a commitment to the common good: social projects and start-ups.

3. Alumni class projects: Alumni of business schools can be encouraged to jointly take up social projects in communities. The multiple effects of this would significantly promote socio-economic progress.

In promoting sustainability and business ethics in management education, business school alumni play a crucial role. For example, they can initiate personal and corporate social responsibility projects in the areas of education, health, and other aspects of development.

CONCLUSION

Business schools have a crucial role to play in achieving recoupling of social and economic progress.

It is evident that business schools play a vital role in recoupling the economic and social prosperity of nations. Through management education, executives can be educated and adequately informed of the importance of advancing economic progress in line with social and human development. Business education today has to be able to inculcate the required attributes in the managers of tomorrow. It has to go beyond providing in-depth knowledge of particular disciplines, to emphasizing a holistic education that prepares managers to be socially and environmentally responsible. Such education should aim to develop managers who are not only conversant with contemporary issues affecting businesses but also able to anticipate the effects of these on businesses and society. Business schools must strive to develop socially responsible and ethical managers who will advocate for the role of business as a force for good to the society and champion inclusiveness.

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Decoupling and social arrest

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Decoupling and social arrest

Which ways forward?

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The Hertie School of Governance prepares exceptional students for leadership positions in government, business, and civil society. Interdisciplinary and practice-oriented teaching, first-class research and an extensive international network set the Hertie School apart and position it as an ambassador of good governance, characterised by public debate and engagement.

INTRODUCTION

Market economies are more unequal today than they were before deregulation and economic globalization in the 1980s (World Inequality Report 2018). At the same time, social mobility has decreased and regional disparities have increased (Chetty 2017; Major and Machin 2018). Policy experts may define this as some kind of “social arrest” or paralysis, a deep structural blockage of society resulting from a disconnect between economic and social policy.

Specifically, social arrest is the product of two related but also somewhat distinct developments over time: increasing inequality and decreasing social mobility. Both developments jointly lead to societies with greater inequity, stifling social and economic advances for the great majority. Societies risk becoming deeply divided in their social fabric, culture, and, ultimately, politics. It describes the current state of some OECD countries, mostly the United States and the United Kingdom, with similar tendencies in several EU member states like France, Germany, Italy and Spain as well as other developed market economies.

UNCHECKED DECOUPLING LEADING TO SOCIAL ARREST

How could it happen that the last three decades were accompanied by greater inequality and lower social mobility? From the 1970s onward, there might indeed have been good reasons for deregulation and lowering trade barriers, and for pro-market policies generally: structural reforms were needed to increase competitiveness, the power of entrenched interests had to be reduced, and countries whose economic model was based on manufacturing had to switch to serve economies. However, these policies were mostly without adequate regard to their wider social implications and the changes they could trigger in society in the medium to longer term. Yet according to prevailing thinking among neo-liberal economists at that time, these were mere side effects waiting to be corrected by market forces over time.

As a result, few heeded the advice of economists like Garrett (1998) and sociologists like Dahrendorf (1995) who argued already in the 1990s that only countries that actively shielded their populations from the effects of economic globalization would reap its benefits in the long run. Some countries like Germany or Sweden have taken this more to heart than others like the United States and Britain, and tried to balance economic globalization and domestic policy challenges.

To understand the tendencies toward social arrest, we have to look back over nearly 40 years of policymaking. According to Snower (2018), the policy stance was supported by an ideology facilitating a general process of decoupling, the gradual divorce of the economic from the social. It is the result of social science thinking,

soon carried over into politics and policies, which assumed that peoples’ values and normative aspirations, their identities and communal needs, matter less than the economic efficiency of markets.

»Societies risk becoming deeply divided in their social fabric, culture, and, ultimately, politics.«

That markets are embedded in a web of social relations and cultural understandings, and indeed that economies themselves are part of a wider society (Karl Polanyi) was easily pushed aside and seen as less relevant in a world of globalizing finance, transnational supply chains, technological advancement and high-speed communication. The insights of many towering figures from Adam Smith to Max Weber were conveniently ignored, for example that markets require robust ethical foundations, and that they can, once unchained from their social and cultural moorings, turn against society itself.

There is overwhelming evidence that economic globalization has been accompanied by a pattern of greater inequality and lower social mobility (Chetty 2017; Major and Machin 2018). Even moderately

high levels of inequality are not necessarily a problem as long as they are roughly matched by social mobility levels. But when tendencies toward social arrest prevail, we have a process of “inequalization..., building paths to the top for some and digging holes for others, creating cleavages, splitting” (Dahrendorf 1995:9).

In a situation in which growing inequality and lower mobility coincide for longer periods of time, as has been the case in the US and the UK, societies become socially arrested and divided, leading to conflicts of many kinds. Typically, social arrest patterns manifest themselves in profound regional disparities as well, creating large urban and rural areas left behind the thriving metropolises.

DAHRENDORF’S QUANDARY AND RODRIK’S TRILEMMA

It is useful to put the problem of social arrest into a broader framework to understand how it develops and what can be done about it. In essence, the decoupling of the economic from the social in recent decades is part of a broader set of challenges facing developed market economies. At the height of the 1990s globalization spurt, Dahrendorf (1995) argued that a growing world economy creates “perverse choices” for liberal democracies: staying competitive requires either adopting measures detrimental to the cohesion of civil society, or restricting civil liberties and political participation. For OECD countries, the task ahead for the early 21st century, he writes, “is to square the circle between growth, social cohesion and political freedom (1995:4).”

This challenge became known as the Dahrendorf Quandary (Buti and Pichelmann 2017). For Dahrendorf, the global financial crisis and its aftermath proved that many countries seem to have failed at finding a solution. He would have agreed with Snower (2018) that failure to balance growth, social cohesion and political freedom is linked to decoupling. Many OECD countries did not even try to balance the push and pull of economic, political and social developments, because neoliberal policies since the 1980s favored the economic corner of Dahrendorf’s Quandary (Figure 1).

Writing shortly after the global financial crisis, which proved to be the greatest stress test for the global economy since World War II, and continues to strain the social fabric and political systems of many OECD countries, Dani Rodrik (2011)

suggested a version of the Quandary, the Rodrik Trilemma (Figure 2). Phrased as an impossibility theorem, it posits that, “democracy, national sovereignty and global economic integration are mutually incompatible: we can combine any two of the three, but never have all three simultaneously and in full” (Rodrik 2011 weblog).

It seems that Dahrendorf and Rodrik have pointed to a fundamental challenge of modern societies, the incompatibility of the underlying drivers involved – and the asynchrony of the ensuing processes and their impacts on societies. The economic drivers of globalization, decoupled and operating in transnational space, undermine the nation state, hence national sovereignty, and in turn, democracy through loss of legitimacy. Nativist economic strategies may strengthen the national state, even democracy, but lessen economic growth.

Figure 1: Dahrendorf’s Quandary

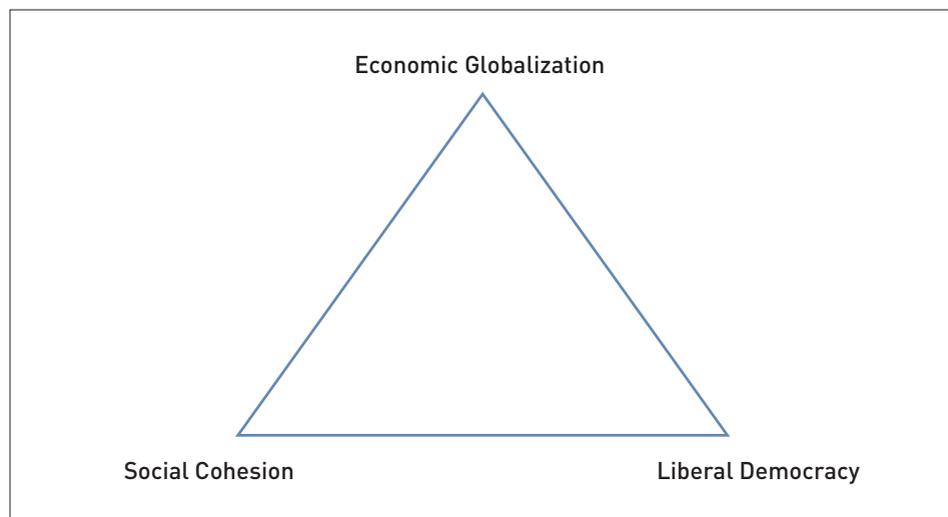
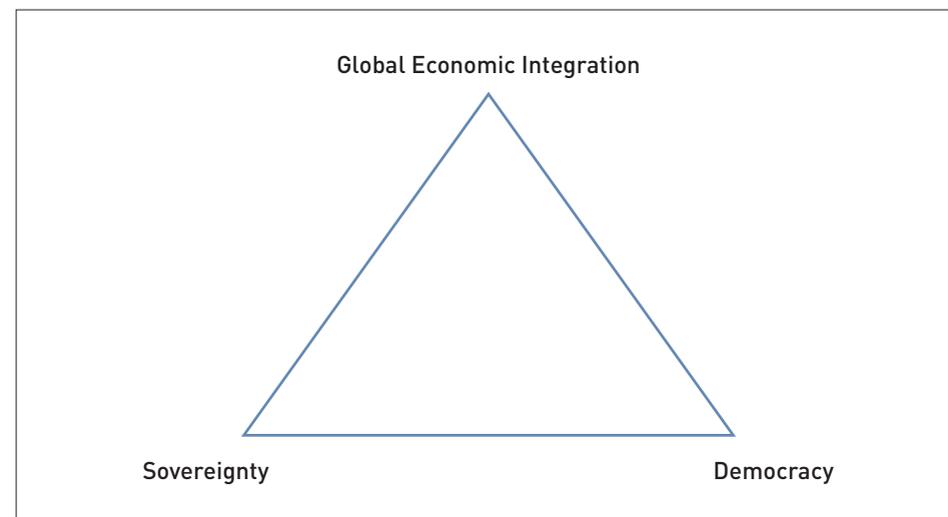


Figure 2: Rodrik’s Trilemma



Inherent are grave dangers, be they left or right populism mixed with identity politics, as Rodrik suggests, or, as Dahrendorf put it, authoritarian temptations of divided societies in social arrest.

»The social arrest we observe in a number of developed market economies today is the result of a decade-long process of decoupling.«

WHAT CAN BE DONE?

The Dahrendorf Quandary and the Rodrik Trilemma are statements about sovereign nation states that are to varying degrees integrated in the global economy and have a variant of liberal democracy in place. Rodrik advocates a rebalancing of globalization toward national governance or regional coalitions among countries. In other words, the response to the social arrest due to decoupling is a taming of globali-

zation forces under the primacy of the national interest. Regained sovereignty could provide the flexibility to implement measures to reduce inequality and enhance mobility as a matter of national interest.

Specific about the Quandary is the emphasis on social cohesion, civil society, and liberty. Dahrendorf (1994) argued that while liberal democratic societies are conflict prone they are also better at managing conflicts and hence more resilient than more traditional or autocratic societies. Yet herein lies the problem: civil society – a major engine of conflict management to produce social cohesion in liberal democracies – is weakening through economic globalization and loss of sovereignty. Civil society expresses the capacity of society for self-organization and the potential for peaceful, though often contested, settlement of diverse private and public interests (see Keane 1998: 6; Gellner 1994: 5).

Can societies regain and maintain this capacity needed to counter-balance the pressures of markets and authoritarian temptations? Dahrendorf (1995) offered in his words “six modest proposals.” Slightly reformulated, they include: changing public discourse to encourage a broad debate on the tensions inherent in the Quandary; anticipating changes in work place and preparing affected population groups for them; undercutting the supply route for the underclass; strengthening local communities and regions in danger of being cut off; creating a stakeholder economy; and adjusting government responsibilities to what is possible.

Whereas Dahrendorf’s vision of the way forward is that of liberal market policies under a smart, forward-looking and realistic government and a vibrant civil

society, Buti and Pichelmann (2017) offer a more social democratic perspective. They propose to align the social and the economic with a Prosperity Model that has three main pillars (stability, efficiency and fairness) and five main policy levers: improving the quality of public spending, managing open and competitive markets, investing in education and training, implementing modern tax-benefit systems, maintaining labor security and strengthening workplace flexibility.

Snower (2018) seems closer to Dahrendorf and advocates a realignment of markets and society (see Kelly and Sheppard 2018) through recoupling. His approach includes three main pillars as well but puts more emphasis on the political: wealth, empowerment, and solidarity. Wealth stands for macro-economic management that combines traditional economic policymaking with social welfare measures; empowerment is about giving people voice and control over their fate; and solidarity addresses the broader needs of humans as social creatures, and a strengthening of communities.

CONCLUSION

The social arrest we observe in a number of developed market economies today, and similar tendencies toward social paralysis in other countries, are the result of a decade-long process of decoupling. While

some measures such as tax reforms can show results in the short to medium term, others that aim at increasing social mobility may take at least a generation to show significant impact, even though the effects on people’s aspirations and hence civic engagement might come much sooner.

Clearly, there is much overlap between the proposals above. While Rodrik seems to favor a managed reduction of economic globalization by strengthening the nation state and hence sovereignty, Dahrendorf, Buti and Pichelmann as well as Snower offer a wider set of measures. Of course, for these to be more than technocratic policy measures, they require political framing and normative foundations.

Any such framework would involve five core policy measures as a minimum to manage the tensions of both the Quandary and Trilemma, and to recouple the social and the economic: tax reforms to reduce income inequality and wealth disparities; safety shields for populations most exposed to globalization pressures, including managed migration; social mobility programs to function as “social conveyor belts,” likely to include massive investments in education and skills training in the broadest sense, plus regional policies; creating an enabling environment for civil society to boost self-organization; and encouraging sustained debates among disconnected publics.

Next stage: European Social Union

To overcome internal imbalances, the EU must address outside needs

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INTRODUCTION

In its 2012 Golden Growth report, the World Bank referred to the European Union as a “lifestyle superpower”. This was a prime example of how the social model of Europe, together with high environmental standards, appeared as an inspiration worldwide. However, Europe at the same time went through a major financial and economic crisis, which not only called into question the sustainability of social achievements, but has now made it more difficult for Europeans to appear as champions of social progress. In this paper, we argue that an EU-wide program for stronger cohesion, and more specifically, the vision of a European Social Union, offers the possibility for Europe to strengthen its global leading role on labor and welfare policies.

SOCIAL EUROPE AND ITS INTERNAL IMBALANCES

The European Social Model became part of the EU identity and has played a role in Europe’s interaction with the rest of the world. In multilateral fora, including the G20 during the decade following the Great Recession of 2009, the EU has promoted issues like inclusive labor markets and so-

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ciety, social security, and health and safety in the work place. Tri-partism, originally a European concept, has even been applied to the G20, where ministerial meetings have been accompanied by Business 20 and Labor 20 formats. This influence is even more strongly evidenced by less-developed countries bordering the EU applying for EU membership.

However, the developments of the last 15 years have brought serious complications to this “Social Europe”, in particular through significant internal imbalances and social divergence at times of crises. This experience and the limited capacity of the EU to overcome these imbalances have weakened Europe’s international role in the area of improving social standards. Two imbalances in particular must be highlighted. One is linked to the rather heterogeneous Single Market and is often referred to as an East-West divide, while another is the North-South asymmetry in the context of Economic and Monetary Union (EMU).

The enlargement of the EU to the east raised questions about the feasibility of Social Europe. It has created a geographical divide in Europe in terms of productivity and wages, while a deep social dimension requires common legislation or common funds. The good news is that there is economic convergence between East and West. However, those who believe that all problems in the East will be slowly resolved by experiencing higher-than-average GDP growth need to look beyond the GDP figures and see gaps in health conditions, life expectancy and in particular the extraordinary population decline in eastern member states and especially their more eastern regions. Economic conver-

gence seems to be happening simultaneously with a divergence of political values and social models.

»There is a long list of outstanding reforms, from creating deposit insurance and safe assets to amending the mandate of the ECB.«

The East-West divide is often exposed through controversies around labor mobility and the migration of poorer people, including those from Roma communities. The fact that benefits of the Single Market do not automatically trickle down to disadvantaged regions and social groups also played a major role in the 2016 referendum result in the UK. English people outside metropolitan areas felt disenfranchised politically and economically, and the perceived inability of the EU to address global trends – such as deindustrialization or migration flows – may damage confidence in the EU integration project in other countries too.

As opposed to the East-West asymmetry, North-South divergence is closely connected with the crisis experience of the past decade. Disparities have been particularly striking in terms of unemployment and poverty levels at the time of the Eurozone crisis. The root cause of this divergence can be found in the design flaws of EMU and the inherent bias of its current model for internal devaluation at the time of crises. The EU crisis response brought pressure for a decentralization of wage-setting mechanisms, a disruption of pre-crisis collective agreements, and a downward adjustment of the minimum wage, in “program countries” (e.g. Greece) in particular. This came in addition to a longer-term trend of a declining wage share in a number of countries.

High youth unemployment rates in Spain and high NEET rates in Italy are not entirely new, but the 2011-13 period saw a dramatic rise in such indicators, leaving behind a bad social and political legacy. The incapacity of Greece to deal with the social consequences of the banking and fiscal crises was even more striking, with a sharp rise in income inequality and material deprivation.

Since 2012, a number of reform steps have been made to improve the functioning of the EMU (launch of the Banking Union and the European Stability Mechanism etc.), but the reform process itself is also incomplete. There is a long list of outstanding reforms, from creating deposit insurance and safe assets to amending the mandate of the ECB. Preventing core-periphery divergence in the euro area primarily requires a proper stabilization capacity, while restoring convergence necessitates an EU strategy to develop and

maintain social investment models in the peripheral regions. The recent years of recovery saw some complacency and a slow-down of EMU reform, while many believe that the reform agenda should be widened and not weakened.

FRONTIERS OF SOCIAL EUROPE: THREE KEY IDEAS

Perhaps the most frequently mentioned reform idea with relevance to both economic and social affairs is unemployment insurance. A basic European unemployment insurance scheme and its re-insurance version, serving to partially pool the fiscal costs of cyclical unemployment, have been promoted as a possible automatic stabilizer at the EMU level. Such a tool would make a direct link between reducing imbalances in GDP growth and helping the innocent victims of recessions and financial crises. It would help uphold aggregate demand during asymmetric cyclical downturns and provide a safety net to national welfare systems.

Establishing at least some fiscal capacity for the euro area has been much talked about in recent years and the new long-term EU budget (MFF) is likely to introduce such types of tools. Existing monetary unions all serve with examples of automatic stabilizers. If well-designed, a re-insurance scheme could also function well, and it could also be more politically feasible. A fair, rules-based and predictable transfer mechanism at the EMU-level will have to be acceptable also for the “surplus countries”, in order to stabilize the single currency economically, socially and politically.

Another area where the interest in closer EU coordination has increased is

wages and wage-setting. Although the EU has no direct competences in this area, the issue has gradually come under EU influence in various ways as well. In order to thwart negative trends, trade unions have launched a campaign for a European Wage Alliance. How to facilitate upward wage convergence is the central question, and some concrete proposals have already been outlined.

For example, agreement could be sought on a guaranteed wage floor in each country, based upon a coordinated approach toward minimum wages at EU level and ensuring that the levels are set above the poverty threshold and represent decent pay for the work undertaken. Guaranteed national minimum wages would help sustain internal demand while also improving the situation of posted workers and helping to fight social dumping. Second, a guaranteed minimum income (at different levels per country) could be an effective way of ensuring adequate income support and fighting poverty while providing for activation incentives where relevant. Such a “national social floor” would also indirectly define the minimum performance expected from national automatic fiscal stabilizers in times of economic crisis.

A third direction that needs to be highlighted is what we call a social economy. Since the post-2008 financial and economic crisis was primarily a product of the business model, a reform process aiming at more resilient growth potential has begun. The efforts to reform the business model, however, also have to take into account social responsibility, employee well-being and participation. Building on the new focus around social rights, more can be done to help European companies to

adapt their business models toward better social and environmental impact.

First, employee share ownership and other forms of employees’ financial participation in their companies could be promoted in order to broaden capital ownership. European legislation and related practical tools could be particularly useful in promoting employee co-ownership of companies operating in more than one national jurisdiction. Second, the EU could further promote the application of metrics that evaluate companies’ social and environmental impact. Third, cooperation and learning between social enterprises across countries could be strengthened, also with support from EU funds. A “socialization” of the EU’s investment strategy is a further opportunity that should not be overlooked.

TOWARD A SOCIAL UNION

A 21st century EU social agenda must address various new issues like the impact of digitalization and robotization on labor, especially what concerns the effects of technological change on working conditions and income inequality. On jobs, skills and social security, the new jobs strategy of the OECD offers fresh analysis as well as guidance. While constantly updating its social policy, the EU also has to monitor the social dimension of all EU policy areas and tools, from foreign trade to competition.

However, the critical question today is whether the EU can also provide material support to its member states and regions in a systematic way to meet common social standards and achieve commonly agreed goals. This brings us to the concept of a Social Union, which has been coined and promoted by distinguished social sci-

entists like Frank Vandenbroucke, Maurizio Ferrera and Anton Hemerijck. In their view, the European Social Union is not a European Welfare State, but a union of national welfare states, with different historical legacies and institutions.

»The recently adopted EPSR can still turn out to be the game changer to launch a round of actions addressing the social deficit.«

Since the functioning of the EU, and of economic governance in particular, has massive consequences over national industrial relations and welfare systems, mainly through their fiscal base, there is a need for an EU safety net for the safety nets of the member states. This approach goes beyond the recent (2017) exercise to establish a European Pillar of Social Rights (EPSR), which produced a non-binding declaration of principles, firmly incorporating the tasks of the welfare state into the concept of the European Social Model.

Research carried out by Maurizio Ferrera practically everywhere in Europe

found strong support for a larger EU budget aimed at promoting economic and social investments, for helping people in severe poverty and for providing financial help to member states experiencing a rise in unemployment. A fiscal capacity for the Social Union can thus count on the support of European citizens, as long as the tools and mechanisms establish are deemed transparent as well as effective.

At this moment, the need for such a move may not be obvious for all. However, in recent years, without any federalist momentum, the EU moved toward a Banking Union, a Capital Market Union, an Energy Union as well as a Security Union. If the idea of a Social Union gets rejected with simplistic references to subsidiarity, the gap between the economic and social sides of the integration can only further widen.

CONCLUSIONS

The forthcoming European Parliament elections will again sharpen debates about the mission of the EU, while the economic slowdown is bound to revive memories of a recent euro area crisis which threatened Europe with multiple disintegration. It will hopefully be increasingly understood that the social fallout of the financial crises, and of the crisis response is a European drama and EU responsibility, and a replay of recent euro area polarization should not be risked.

Social integration in Europe has always followed economic with a delay and on a much weaker legal footing. The gap has widened again which also contributes to the decline of confidence in the EU in times of crises. The recently adopted EPSR can still turn out to be the game changer to launch a round of actions addressing the social deficit.

If its components are well designed and work together in concert, the move to a Social Union can bring benefits to all. Countries with higher standards will not need to fear downward convergence, and countries that need to catch up can be confident that their economic development will also be coupled with social development.

Popular support may be lacking for a United States of Europe but, with the right

arguments, it can be built up in favour of a Social Union. Such an initiative would restore the confidence in the capacity of European states to reconcile strong economic performance with a high level of social cohesion, and that this model can serve as an inspiration for others.

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Reducing the global burden of chronic pain

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Stanford University, located between San Francisco and San Jose in the heart of California's Silicon Valley, is one of the world's leading teaching and research universities. Since its opening in 1891, Stanford has been dedicated to finding solutions to big challenges and to preparing students for leadership in a complex world.

The profound global burden of chronic pain is increasing as the world population ages, and particularly so for low and middle income countries.¹ Reducing the global burden of pain requires national policy and investment to develop coordinated local, national and international efforts to improve professional and public pain education; promotion of the biopsychosocial model of evidence-based pain care; technological infrastructure to collect better data and for treatment stratification and delivery; and the integration of patient-centered principles into policies and systems to ensure ethical and individualized care, patient protections, and careful attention to aging and disadvantaged populations.

CHALLENGE

Undertreated pain contributes greatly to worldwide human suffering and economic burden

About 20% of individuals worldwide are living with ongoing pain of some type, with greater incidence and prevalence of pain among older adults.^{2,3} Chronic pain confers tremendous suffering to individuals and their families, and it is a leading cause of work-related disability. In the U.S. alone chronic pain costs the economy \$600 billion annually in medical costs and lost productivity – more than the total costs for

diabetes, heart disease and cancer combined.^{2,4} Estimates for the Global Burden of Disease revealed that low back pain – the most common chronic pain condition worldwide – was the leading cause of years lived with disability in most countries and territories,^{1,5} and in China it ranks as the second leading cause of years lived with disability.⁶ Health policies must ensure support for economically sustainable solutions that address the growing pain treatment needs of the world population.

»Such rigid policies have led to increased suffering for the most vulnerable of patients.«

Is chronic pain its own disease or a symptom of something else?

In short: pain can be either or both. In May 2019 the World Health Organization (WHO) adopts the new version of the International Classification of the Diseases (ICD-11) with expanded diagnostics for chronic pain. Developed by a task force of the International Association for the Study of Pain (IASP), the new diagnostic categories distinguish between chronic primary pain as being its own disease, and chronic secondary pain as pain being the symptom of an underlying condition.⁷ These categories allow for distinction, dual coding, improved classi-

fication, and development of targeted systems and policies.

INVEST IN PAIN EDUCATION

Pain education is insufficient across all disciplines of healthcare

Improved pain care begins with the broad integration of dedicated content on evidenced-based multidisciplinary chronic pain treatment into health curricula across all professional disciplines, including nurses, physicians, psychologists, social workers, physical therapists, physician assistants, occupational therapists, and others. National pain strategies and policies are needed to prioritize and support healthcare professional pain education. Interprofessional curricula should emphasize the multidisciplinary models of care and include the biopsychosocial and patient-centered approaches. Expert-developed interprofessional pain curricula outlines are available from the IASP (<https://www.iasp-pain.org>).

Pain education is insufficient in public and consumer domains

Pain education is a basic intervention with demonstrated salutary effects. Population-level public health campaigns may decentralize medical information, increase awareness about pain and self-management strategies (thereby increasing access to basic pain care) and evidence-based treatment approaches.

PROMOTE PAIN POLICIES THAT EMPHASIZE THE BIOPSYCHOSOCIAL TREATMENT MODEL TO REDUCE AND PREVENT CHRONIC PAIN

Disparities in pain remain problematic

To address disparities, the WHO social de-

terminants of health⁸ should be integrated into the conceptualization and treatment models for national pain strategies.

A biomedical treatment approach is reductive and less effective

Pain is a psychosensory experience, and treatment response to a wide range of medical treatments may be optimized with comprehensive approaches that address the individual factors that impact pain.⁹ Failure to address the individual psychosocial factors may perpetuate a purely biomedical pain treatment model, contribute to overmedicalization and treatment inefficiencies, promote poor opioid prescribing practices seen in Western nations, and poor health outcomes. A comprehensive approach equips healthcare providers and patients with evidence-based information and skills so patients may self-manage some symptoms and key aspects of pain – within the context of their broader medical care¹⁰. Identification of psychosocial factors should result in expanded access to care to address the whole-person needs, and never be used as a rationale for withholding pain treatment.

Technology is under-utilized

Technology, e-health, and digital systems may enhance access to care, particularly for remote populations and those in institutionalized care settings (e.g., older adult living or nursing facilities) where few specialized resources exist. Sustainable models of care will stratify resource needs and deliver targeted, in-person care to the patients with the greatest needs.

Prevention strategies are under-utilized

Human suffering, as well as the persis-

tence of pain, may be mitigated with early pain treatment. Policies should encourage early intervention and inclusion of behavioral medicine strategies.

LEVERAGE TECHNOLOGY AND BIG DATA TO PHENOTYPE, STRATIFY AND DELIVER TREATMENTS

Current data on pain are poor

Poor data contribute to poor-quality pain care, perpetuate medical mistakes and financial inefficiencies, and compound human suffering. Better data on pain is needed to inform the development of improved policy and practice guidelines, and to characterize not just population-level needs, but also the needs of vulnerable “outliers” – patients with complex comorbidities, high-impact chronic pain, and unique care needs. Leveraging big data requires technological transformation and catchment of digital data generated in health care in real time – whether clinical, delivery process, short and long term outcomes, or financial. Such data “...should be compiled and protected as resources for managing care, capturing results, improving processes, strengthening public health, and generating knowledge.”¹¹ Learning health systems aggregate data in real time and can inform in real time how to best manage problems like chronic pain (see Table 1).¹¹ Learning health systems allow for deep phenotyping of patients, identification of therapeutic targets, monitoring of treatment response, aggregation of data nationally and internationally to inform best practices, efficiencies, and policies. Learning health systems may also be used to conduct large-scale pragmatic clinical trials, to efficiently conduct pain research on real-world patients, and for sustain-

able models that deploy cost-effective pain education and self-management digital interventions.⁹ The Collaborative Health Outcomes Information Registry (CHOIR) is an open-source and free learning health system available internationally.¹²

POLICIES MUST EMPHASIZE PATIENT-CENTEREDNESS

Alarming trends in rigid policies expose patients to harms

Pain is an individual experience and response to treatment is variable. Policies should be flexible and allow for individual, patient-centered treatment approaches.

Without such flexibility, the medical system may unwittingly inflict further stigma and suffering on patients by forcing inappropriate care.¹³ For instance, in the U.S., some organizations have addressed the need to reduce misprescribing of opioids in some patients by creating rigid policies that limit access to opioids for all patients with chronic pain. Such rigid policies have led to increased suffering for the most vulnerable patients living with a wide range of complex medical conditions and comorbidities, and spurred the publication of an international stakeholder letter expressing deep concerns for patient protections.¹⁴

Table 1: Characteristics of a continuously learning health care system

| |
|---|
| <p>Science and Informatics</p> <ul style="list-style-type: none"> • Real-time access to knowledge—A learning health care system continuously and reliably captures, curates, and delivers the best available evidence to guide, support, tailor, and improve clinical decision making and care safety and quality. • Digital capture of the care experience—A learning health care system captures the care experience on digital platforms for real-time generation and application of knowledge for care improvement. <p>Patient-Clinician Relationships</p> <ul style="list-style-type: none"> • Engaged, empowered patients—A learning health care system is anchored on patient needs and perspectives and promotes the inclusion of patients, families, and other caregivers as vital members of the continuously learning care team. <p>Incentives</p> <ul style="list-style-type: none"> • Incentives aligned for value—In a learning health care system, incentives are actively aligned to encourage continuous improvement, identify and reduce waste, and reward high-value care. • Full transparency—A learning health care system systematically monitors the safety, quality, processes, prices, costs, and outcomes of care, and makes information available for care improvement and informed choices and decision making by clinicians, patients, and their families. <p>Culture</p> <ul style="list-style-type: none"> • Leadership-instilled culture of learning—A learning health care system is stewarded by leadership committed to a culture of teamwork, collaboration, and adaptability in support of continuous learning as a core aim. • Supportive system competencies—In a learning health care system, complex care operations and processes are constantly refined through ongoing team training and skill building, systems analysis and information development, and creation of the feedback loops for continuous learning and system improvement. |
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The worldwide group Human Rights Watch published a report citing these actions as violations of international human rights standards:

“...government[s] should seek to avoid harming chronic pain patients: some patients still have a legitimate need for these medications, while others who have been on these medications for many years but who may not be benefiting from them should be weaned off them safely and in accordance with best medical practice.

If harms to chronic pain patients are an unintended consequence of policies to reduce inappropriate prescribing, the government should seek to minimize and measure the negative impacts of these policies. Any response should avoid further stigmatizing chronic pain patients, who are increasingly associated with – and sometimes blamed for – the overdose crisis and characterized as ‘drug seekers,’ rather than people with serious health problems that require treatment”.¹⁵

Patient inclusivity is poor

Local, national and international efforts should include patients as key stakeholders in pain research and policy development, and ensure that patients are empowered consumers, informed of their choices and their rights in care. Policies and healthcare delivery systems should encourage shared decision-making models between healthcare professionals and patients, as well as encourage patient involvement in all aspects of their pain care.

In conclusion, chronic pain is a pressing and growing global problem, with older adults suffering disproportionately. The aging of the world population suggests that current systems in all nations are

ill-equipped to address ever-burgeoning pain care needs, and policies are needed to rapidly develop effective infrastructure. Investing in the implementation of policies that support collection of better data, systems efficiencies, and improved access to pain treatment stands to reduce the years lived with disability, increase productivity, decrease economic burden and reduce

»Health policies must ensure support for economically sustainable solutions that address growing pain treatment needs.«

human suffering. Professional and public pain education are essential. Policies should emphasize evidence-based treatments, and those that empower patients to engage as active participants in their chronic pain care. Technology and learning health systems may be leveraged to better characterize, risk and treatment stratify, monitor patient response, and as novel and sustainable systems for rapid, on-demand

treatment delivery. Future international integration of learning health systems may expedite knowledge and transform pain care efficiencies globally.

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Domestic resource mobilization and the redistributive impact of fiscal policies in Latin America

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The Economic Commission for Latin America and the Caribbean is one of the five regional commissions of the United Nations. It was founded in 1948 with the purpose of contributing to the economic and social development of the countries of the region. The Member States of ECLAC include the 33 countries of Latin America and the Caribbean, as well as several Asian, European and North American nations.

Domestic resource mobilization is perhaps the key barrier to realizing the 2030 Agenda for Sustainable Development in Latin America and the Caribbean. The required investments to achieve the Sustainable Development Goals (SDGs) are formidable, especially given the state of region's relatively underdeveloped social protection floors as well as concerns about the quality of healthcare and education systems. Unfortunately for Latin America and the Caribbean this is further complicated by current macroeconomic conditions, characterized by weak GDP growth and the need for fiscal consolidation.

These limitations notwithstanding, there remains significant scope to bolster public revenues in the region and to do so in such a way as to gain further leverage on attaining the SDGs. Domestic resource mobilization should not be seen simply as a means to an end; rather it must be considered endogenous to the development process itself (Hanni and Titelman, 2017). That is, raising public revenues is not neutral in terms of its impact on society or the subsequent evolution of the economy. Policy choices related to resource mobilization, therefore, have important implications beyond generating finance for achieving the 2030 Agenda.

Latin America suffers from some of the highest income concentration and inequality levels in the world, despite gains during the recent decade. In contrast with other regions where inequality rose or remained constant, income inequality fell 9.0% – as measured by the Gini coefficient – in the region between 2000-2004 and 2010-2014. This period was marked by rapid economic growth, bolstered by a positive terms of trade shock brought on by rising interna-

tional commodities prices and surging demand from developing economies in Asia. However, with the turn of the economic cycle in the region, and the potential for a prolonged period of low growth, governments in the region and their citizens are understandably concerned about how to capitalize on what has been achieved and make further progress in reducing inequality in the coming years.

» Domestic resource mobilization is perhaps the key barrier to realizing the 2030 Agenda.«

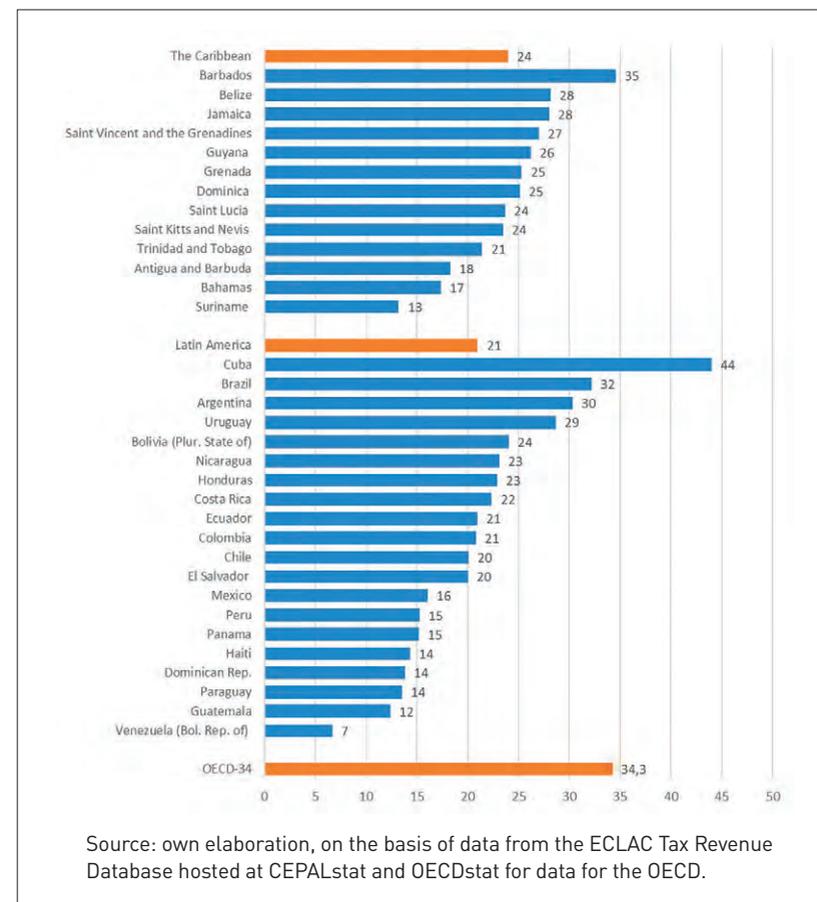
A key barrier to progress in the area is the generally weak level of tax revenue obtained by Latin American countries. In 2014 the average tax burden in the region was 21.0% of GDP, compared to 34.4% among OECD countries (OECD/ECLAC/CIAT/IADB, 2016). Even accounting for differing levels of development the region's countries appear to generate lower tax revenues than other countries (ECLAC, 2016). Exceptionally low revenues from personal income tax and social security contributions are a major factor in explaining this result. In turn, the performance of these taxes is reflected in their limited redistributive

power. On average personal income tax reduces income inequality by just 2.0% in Latin America, compared to 12.5% in EU-28 countries.

A current snapshot of domestic resource mobilization efforts in Latin America and the Caribbean can illuminate both

the challenges the region faces as well as the opportunities that exist. Tax revenues, the principal source of domestic resources to finance sustainable development, have trended upwards in the region, although they remain low, even when taking into account the region's level of development

Figure 1: Latin America and the Caribbean: general government tax revenues, 2017 (Percentages of GDP)



[ECLAC, 2016]. As figure 1 shows, the tax take in the majority of the countries in Latin America and the Caribbean is well below that of the members of the OECD. There are of course exceptions, with some countries with values near or even above the OECD average. At the same time there are several countries with exceptionally low levels of tax revenues.

»Governments should seek to fully engage their growing middle classes as part of their attempts to mobilize domestic resources for sustainable development.«

Besides its low tax take, the structure of the region's tax take is highly skewed toward indirect taxes, particularly in the Caribbean. These taxes are frequently increased to plug holes in public accounts, given the relative ease to enact changes quickly. Unfortunately, they tend to be

either regressive or, at best, neutral, in terms of their incidence on individuals and households. Direct taxation, in the form of taxes on income, property and wealth is exceptionally weak.

In that context, countries in the region should consider enacting tax reforms that generate revenues from the very high end of the income spectrum to fund the public services necessary to jumpstart society-wide cycles of reciprocity. Traditionally a key argument against this course of action has been that increasing the tax burden of the wealthy ultimately results in lower capital investment in the economy and, in turn, lower growth. However, more recent work suggests that this relationship is either very weak or non-existent (IMF, 2017). Moreover, there is growing awareness of the negative impact of income inequality on economic growth.

At the same time, tax avoidance by multinational enterprises (MNEs) is a global problem. Most cross-border trade occurs within MNEs, allowing profit-shifting between fiscal jurisdictions in order to reduce corporate tax liability and at the same time expanding the volume of illicit flows. Illicit trade flows represent more than a hundred billion dollars in Latin American countries. Certainly, global formulary apportionment would significantly reduce profit-shifting if MNEs were treated as a single global corporation. Under formulary apportionment, multinationals are treated as a unitary business and a single taxpayer; its income is calculated by subtracting worldwide expenses from worldwide income, based on a global common accounting system. Each jurisdiction then applies its tax rate to the income apportioned to it by the formula

and collects the amount of tax resulting from this calculation. Without a doubt, this ICRICT proposal (see the excellent documentation on the website ICRICT.com) would eliminate illicit trade flows and significantly reduce tax avoidance in Latin American countries.

Nevertheless, strengthening direct taxation will require addressing the region's frayed fiscal compact. These pacts, either explicit or implicit, outline the rights and obligations of governments and citizens. They can be seen as an agreement between both parties on the amount of taxes to be paid and the services and public goods to be provided. However, given the current state of personal income taxation, characterized by extremely elevated levels of evasion and avoidance, it is clear that the existing fiscal compacts in the region are not meeting expectations. This has also been made manifest in recent years by a rise in public protests highlighting the

shortcomings, perceived or real, of public services including health and education.

In this context, the adoption of the 2030 Agenda for Sustainable Development offers the region's countries and their citizens an opportunity to address these concerns and establish a new, stronger, fiscal compact. In particular, governments should seek to fully engage their growing middle classes as part of their attempts to mobilize domestic resources for sustainable development. Research suggests that they often have higher levels of tax morale – despite their dissatisfaction with the quality of public services – but their contribution to the personal income tax remains limited in the region. Indeed, they may be the most likely to heed the call embodied in Article 29 of the Universal Declaration of Human Rights, "Everyone has duties to the community in which alone the free and full development of his personality is possible."

Recoupling through regeneration

Community-led initiatives and the re-imagining of economic and social policy

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ECOLISE, the European network for community-led initiatives on climate change and sustainability, is a coalition of national and international networks and other organizations working to support a community-led transition to a resilient Europe. ECOLISE seeks to establish a common, Europe-wide agenda and a platform for collective action to celebrate, stimulate and increase the positive impact of community-led action on sustainability and climate change.

INTRODUCTION: COMMUNITY-LED INITIATIVES AND SUSTAINABILITY TRANSFORMATIONS

This paper examines potential contributions to sustainable development, climate and environmental policy of self-organized groups of citizens working toward positive change within local communities. Such community-led initiatives (CLIs) are recoupling economic and eco-social progress by creatively reshaping local and regional economies in ways that align personal, collective and ecological needs. Underlying such innovations are alternative ways of understanding, organizing and acting that can inform new political and social paradigms compatible with global efforts to address climate change and achieve the Sustainable Development Goals (Göpel 2017). Central to this potential paradigm change is the concept of regenerative cultures: of people systematically collaborating to meet their needs in ways that strengthen, not diminish, social, ecological and other forms of capital (Wahl 2016). Regenerative cultures transcend tensions between human prosperity and ecological health, showing such tensions to be neither natural nor inevitable but the product of an economic system that overempha-

sizes fiscal and market considerations and an underlying worldview that conceptually separates people from both each other and nature (Eisenstein 2015).

»Community-led initiatives are recoupling economic and eco-social progress by creatively reshaping local and regional economies.«

Our main empirical focus is three interrelated global networks of regenerative CLIs: permaculture, ecovillages and transition. Each emphasizes democratic action toward shared environmental, economic and social goals within local communities of place. Permaculture is an ethically rooted design process for sustainable systems with applications in numerous material and social fields (Birnbaum & Fox 2014). Ecovillages systematically apply permaculture and other eco-social methodologies in the creation and maintenance of intentional communities dedicated to sustainable living and harmonious social re-

lationships (Litfin 2013). Transition adapts insights from ecovillages, permaculture and other relevant fields and applies them to the conscious redesign of local communities in ways that reflect residents' aspirations and address local manifestations of global issues such as climate change, resource scarcity and financial instability (Hopkins 2015).

Local projects and practitioners within each of these movements organize themselves into collaborative networks at various levels of scale: regional, national, international and global. Within Europe, cross-movement networks have begun to emerge at various levels in recent years. ECOLISE, the European Network of Community-Led Initiatives on Sustainability and Climate Change, was founded in 2014 as a Europe-wide meta-network comprising national and international representative organizations of permaculture, transition and ecovillages, along with key collaborations in areas such as municipal politics, research, education and communications (O'Hara and East 2017).

COMMONS ECOLOGIES

In practice, CLIs operate as various forms of commons ecologies: interconnected local networks of commons that emphasize the inter-relationships necessary for positive environmental and social outcomes (De Angelis 2017). Commons are grassroots institutions, diverse in nature, where co-users of material and/or non-material resources self-organize for their collective management according to mutually agreed rules allocating rights and responsibilities (Ostrom 1990, 2005). CLIs have widely adopted commons as a medium of organization and action that overcomes

the structural limitations of both state and market forms of organization, and in doing so created strategic and conceptual links with the traditional commons that support billions of subsistence-oriented producers worldwide (Henfrey & Kenrick 2017).

»Commons are, rhetorically at least, at the center of recent T20 policy guidance to the G20.«

Commons participate in a variety of structural interchanges with capitalist organizations. While the fiscal benefits of transforming public goods into commodities means that, under current policy conditions, these exchanges tend to be predatory upon commons, they can, under appropriate conditions, be mutually enhancing relationships of structural coupling, where interacting systems enhance each other's self-generative capacity (De Angelis 2017). Catering for the material needs of a growing world population while remaining within planetary ecological limits requires a fundamental transformation of the global economy (Raworth 2017). The commons ecologies through which CLIs operate are a key vehicle for this transformation, as they provide working examples

at community scale of sustainable living in practice with potential both to diffuse more widely and to contribute to the wider political and economic changes necessary (Hof et al 2016; Henfrey et al 2017). G20 policy can actively support this by both supporting new and existing commons directly, and creating conditions for supportive relationships with state and market institutions.

Commons are, rhetorically at least, at the center of recent T20 policy guidance to the G20, emphasizing the importance of nurturing global commons, including natural systems such as oceans, biodiversity, climate and lands and cultural commons providing access to basic facilities such as education, health and housing (Messner & Snower 2017). Under current circumstances, none of the specified systems are commons because they are not governed under common property regimes (in fact, all of those listed are open access resources vulnerable to the so-called 'tragedy of the commons', in which the absence of effective rules for collective management leads to overuse and degradation). In addition, by focusing exclusively on the global, this analysis overlooks the scalar nesting that is a feature of all functioning common property regimes (Ostrom 1990). Global commons cannot be organized in top-down fashion, or as an outgrowth of capitalist or market-oriented institutions. They must instead be built incrementally upon existing commons ecologies at community scale, as interacting clusters of commons ecologies from micro and local scales up to the global, and at multiple intermediate scales between these.

TOWARD A POST-GROWTH SOCIETY

The transformative potential of nested

local-global commons ecologies, based on replication, upscaling and outscaling of existing forms of transformative social innovation at community scale, lies in their ability to free the global economy from its destructive structural reliance on indefinite growth in GDP. As deteriorating environmental and social conditions and resulting political upheavals in the US, UK and elsewhere show, economic growth, under the conventional measure of rising GDP, no longer reliably aligns with social progress and needs to be removed from its central position in economic policy (e.g. Jackson 2017; Kallis 2018).

Alternative socio-economic perspectives (for example, post-growth, de-growth) can positively influence efforts on the part of the T20 and G20 to learn from the 2008 financial crisis. While the G20's initial response prioritized restoration of financial stability through a return to economic growth, developments since then have made obvious the need for new economic and social paradigms (Messner & Snower 2017). CLIs, with decades of experience of practical action based on exactly the kind of heterodox economic thinking necessary for such a paradigm shift, provide working experiments in achieving sustainable prosperity without reliance on GDP growth.

Numerous studies show that CLIs manage to reconcile high levels of subjective well-being, with individual carbon and ecological footprints far lower than those in wider populations (Daly 2017; TESS 2017). They achieve this through a range of strategies for meeting needs predominantly via use of social, cultural and natural capital, rather than material capital (Mulder et al 2006; Hall 2015). While creation of pro-

ductive and economic infrastructures still relies on financial capital, because many necessary goods and services can be obtained only through monetary exchange, it is also regenerative of (and directs financial capital toward nurturing) capitals of many other kinds: material, living, social, cultural, experiential, living and spiritual (Roland & Landau 2013).

Commons ecologies, based on interactions among different commons, each specialized in regeneration of particular kinds of capital, within and across multiple nested scales, thus provide a potential model for a new regenerative economic paradigm in which social (including socio-ecological) and economic progress are recoupled as an inherent structural feature (Fullerton 2015). A global economy reflecting such a paradigm would be based on mutually supportive interchange among a pluriverse of commons based on diverse worldviews, ways of knowing, organizational strategies and practices, united by common commitments to ecological integrity, political autonomy and social justice (Escobar 2018).

POLICY ACTION

Recoupling of social and economic progress via transition to a commons-based global economy cannot be achieved under current conditions, which systematically convert resources and relationships from common property to commodities and services traded under market regimes. Changing this will require concerted efforts to reverse enclosure by deliberately shrinking the fiscal realm and protecting, nurturing and stimulating expansion of commons ecologies of all types worldwide, based on macro-economic paradigms that recognize the importance, and interde-

pendence, of all kinds of capital. A useful framework for this is the Three Horizons model developed by the International Futures Forum, which highlights the need for transitional (Second Horizon) organizations to support the transfer of political and economic functions from the First Horizon institutions on which the global economy current relies to the Third Horizon organizations (here referred to as commons ecologies) that will eventually replace them (Sharpe 2013).

Specific policy strategies the G20 could employ to bring this about include:

- Introduce and employ new macro-economic models that recognize, value and favor non-fiscal forms of capital.
- Create new legal frameworks, economic incentives, funding pools and support mechanisms to enable commons-oriented projects and organizations (Troncoso & Utratel 2015).
- Systematically transfer land and other productive assets from private ownership into common property regimes via legal, fiscal and regulatory measures that incentivize socially and ecologically regenerative management as commons ecologies and limit or prohibit profiteering, rent-seeking, speculation and other forms of extraction of cultural and social value.
- Introduce new forms of inclusive, flexible and dynamic multi-level governance, initially in parallel with and eventually replacing centralized and top-down political structures (Goldring 2018).
- As an intermediate step, support the creation and operation of second horizon organizations able to negotiate the shift of economic and political responsibility from

capitalist institutions to network of commons ecologies at local through to global levels (Henfrey 2018).

»Recoupling of social and economic progress via transition to a commons-based global economy cannot be achieved under current conditions. «

Such measures, general and specific, will only be effective in promoting a shift toward a new, regenerative economic paradigm capable of recoupling social and economic progress if accompanied by a radical change of mindset: from one of individualism, competition and scarcity to connection, cooperation and abundance. Such transformative mindsets already form the basis of commons ecologies created by community-led initiatives across the world, enacted by people within them as the foundation of everyday life.

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Inequality and the productivity slowdown

The growing gap between the most productive and the rest dampens social cohesion

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In many advanced economies around the world, productivity growth has seen a massive slowdown. ECB data show that labor productivity growth in advanced economies has practically halved over the last 20 years (ECB, 2017). Productivity is a measure of efficiency: loosely speaking, it captures workers’ and firms’ ability to provide more goods and services with the same amount of inputs in the production process. Some economists and policymakers have suggested that low productivity growth is a sign of “secular stagnation”, a state in which further increases in productivity and economic growth will be negligible – caused, for instance, by a slowdown of population growth in advanced economies and sluggish technological progress. This trend, so goes the argument, is a threat to inclusive economic growth – simply because wage increases are broadly linked to gains in productivity. That is, productivity growth is a prerequisite for wage increases.

But how widespread is the productivity slowdown really? A deeper look into economies around the world uncovers a striking phenomenon: some firms – and along with them a number of regions and jobholders – appear to be unscathed by the productivity misery. They constitute

a frontier segment of firms and workers that manages to achieve remarkably high productivity growth and show no sign of slowing down. In fact, OECD research finds that the gap between these elite firms and the rest is widening. This trend is depicted in the figure below: in services industries, for instance, the top five percent of firms – the “frontier” – increased productivity by more than 40 percent between 2001 and 2013, whereas the remaining 95 percent managed about 10 percent. This finding is shown in the below figure, separately for manufacturing and services.

SUPERSTAR FIRMS AND INEQUALITY

The division into a frontier and a laggard segment of firms is highly relevant to social cohesion. Specifically, a divide of this kind within the economy can increase income inequality in at least two ways. First,

novel research suggests that differences between firms within an industry may affect wages. More specifically, employees in the top firms appear to benefit from stronger wage growth than those working for the average firm – a mechanism that economists refer to as “rent-sharing” and has been shown using data from the United States (Song et al., 2019). This class of research suggests that, by and large, wage growth is not so much diverging across workers of the same firm. Instead, it suggests that growing between-firm differences can drive income inequality even within the same industry.

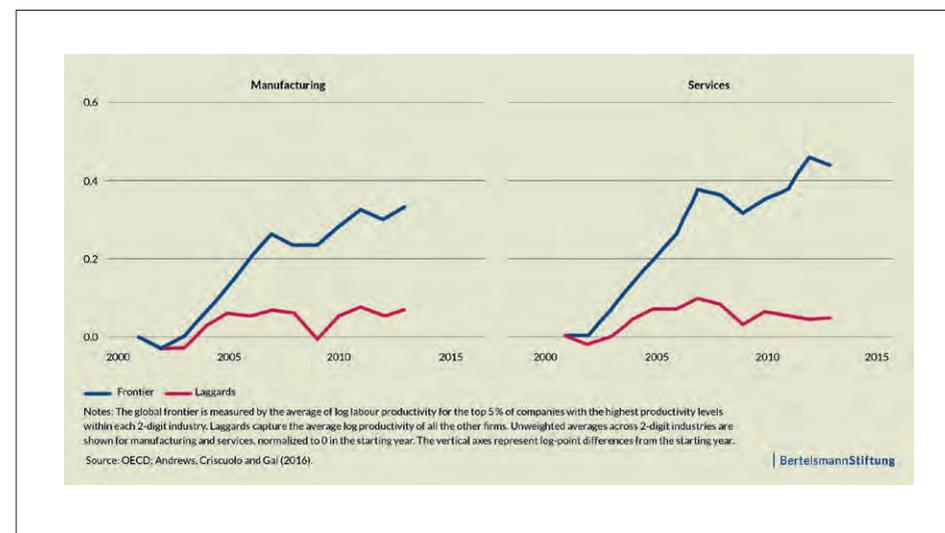
Second, the growing dominance of few, highly productive firms could be driving another prevalent development in many advanced economies: the decline of the labor share. In many industries, so-called “superstar” firms are claiming

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The Bertelsmann Stiftung is an independent, nonpartisan and nonprofit think tank based in Germany with further offices in Berlin and Washington D.C. The foundation provides public policy research and analysis in various fields of democratic governance and the economy, thus contributing to strengthen policy making on the national, European and global level.

Figure 1: Labor productivity: value added per worker (2001–2013)



larger shares of a market for themselves. These firms are highly innovative and productive – think tech giants like online platform companies, or supermarkets and coffee chains in the offline world. They pay relatively high wages, which are, however, lower than their productivity growth would imply. Thus, wages make up a small share of the large value added of superstar firms. As a result, the growing industry-wide weight of these firms drives down the labor share of income, the slice of the “economic pie” that goes to employees. Consequently, its counterpart, the capital share, grows at a higher rate – and since capital tends to be concentrated at the top of the income distribution, a lower labor share is likely to result in higher income inequality. In fact, joint work of the G20 and the OECD (2015) shows that the decline of the labor share and growing income inequality appear to go hand in hand in many countries.

Novel research finds that superstar firms are prevalent in many economies around the world. MIT economist David Autor and co-authors (2017) detect increasing market concentration and the simultaneous fall of the labor share in the United States. Remarkably, almost all industries in the United States have become increasingly concentrated. Our own research at Bertelsmann Stiftung suggests that the same pattern may hold in Germany: there, too, superstar firms emerge as many markets increasingly become “winner-takes-all” and competition between firms weakens. The study looks at industry-level microdata from Germany and shows that sales in many service industries became more concentrated over the last decade. In line with the findings

from the United States, the study documents that where market concentration increases, the industry-wide labor share of income falls – a relationship that holds for services, which are shown in the figure below. Each data point represents the combined change in market concentration and labor share within a service industry over a specific period of time (e.g., from 2008 to 2011). This trend from the graph is underpinned by a more sophisticated statistical analysis that yields the same result: when competition weakens, the labor share in services industries goes down.

»Growing between-firm differences can drive income inequality even within the same industry.«

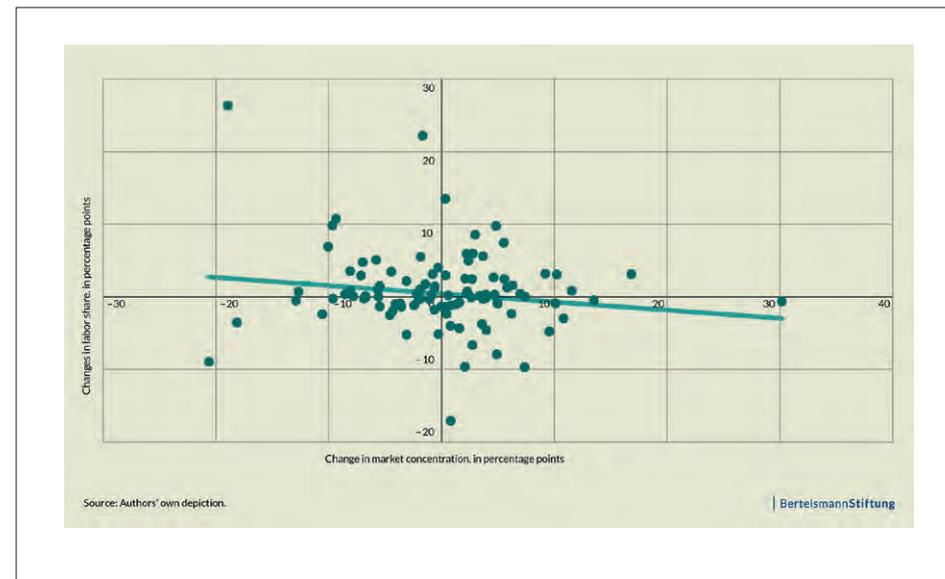
A back-of-the-envelope calculation gives a rough estimate of what the decline in the labor share could potentially imply for affected wages and thus for social cohesion. All other things being equal, we find that increasingly concentrated markets in Germany have cost employees potential wage increases amounting to a total of 11 billion euros between 2008 and 2016. The figure below depicts foregone wage

increases for employees in select industries. For instance, an employee in the warehousing industry has had to face foregone wage increases of about 1,600 euros between 2008 and 2011 – which translates into a loss of approximately 5 percent of her or his total gross salary in 2008. There also exist industries with falling concentration rates, which has led to particularly strong wage increases. For example, employees in financial services enjoyed wage increases that were about 2,800 euros higher than those expected in 2008.

How do frontier or superstar firms arise in the first place? One likely factor is digitalization. Firms with a competitive advantage have always existed, but digi-

talization allows customers across value chains to identify a superstar service or product more easily – think online price comparison services on the internet. In fact, in our research, we find that the stronger digitalization picked up in an industry, the higher the decline in the industry-wide labor share. Crucially, the data suggest that such elite firms do not become dominant due to “unfair play” like that of cartels. Instead, the data show that industries in which sales get more concentrated tend to show higher average productivity. This finding suggests that frontier or superstar firms are more efficient and better at making innovation work than the rest.

Figure 2: Relationship between changes in market concentration and changes in the labor share of income in services industries, periods 2008–2011, 2011–2014 and 2014–2016, in percentage points

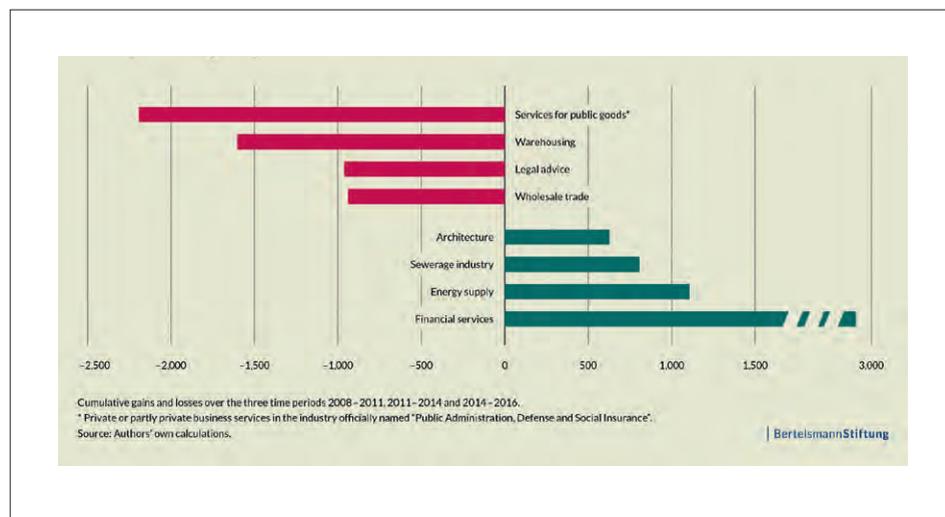


RECOMMENDATIONS

The previous analysis suggests that broad productivity growth can be an important source of social cohesion. Thus, policy-makers should focus on measures that both increase productivity growth and also make it more inclusive. More co-operation at the multilateral stage can be particularly conducive to this goal in four policy areas. First, efforts are being discussed about moving towards more innovation through knowledge diffusion, education and permanent individual and corporate upskilling. The G20 Blueprint on Innovation and Growth as well as the G20 Digital Economy Ministerial Declaration outlined important steps towards this goal. But such innovation policies must be targeted at the average firm: superstar

firms easily adopt cutting-edge innovations, but innovations do not trickle down to less productive firms. New innovation policies must be more inclusive so that laggard firms can catch up. Expanding digital infrastructure and providing worldwide access to digital technologies are key to making progress towards these objectives. At the same time, policies have to take into account the different levels of development in G20 countries. In this context, trade policy is an effective means to allow for cross-border knowledge diffusion. Thus, the current backlash against multilateral trade can be seen as an impediment to inclusive economic (and productivity) growth. Instead, trade should be fostered within a rule-based system and, at the same time, efforts for the protec-

Figure 3: Difference between actual and counterfactual wage income per employee at constant market concentration, in Euro (inflation adjusted)



tion of intellectual property be bolstered.

Second, national and multilateral policies must address growing regional disparities that emerge from superstar firms and regions. A recent study by the McKinsey Global Institute suggests that

»Policymakers should focus on measures that both increase productivity growth and also make it more inclusive.«

superstar cities and regions are emerging across Europe, potentially exacerbating regional disparities (Manyika et al., 2018). New innovation policies can foster regional productivity growth and catch-up: effectively clustering firms, universities and governments across regions and value chains can contribute to achieving regionally inclusive growth. In the multilateral policy arena, large-scale innovation programs focusing on regional development can ignite positive spillovers across countries. As an example, the successor of the EU's Horizon 2020 program for research and innovation will become one of the largest schemes of its kind. Such programs can be designed such that they achieve

both: more innovation and catch-up of struggling regions at the same time.

Third, new initiatives in regulatory policy are also important. In rapidly shifting markets, superstar or frontier firms can become so dominant that small, innovative firms are deterred from entering an industry, hampering innovation in the economy. Thus, regulation must care for competition, low entry barriers and infancy support for start-ups – in other words, regulation must become a world-wide “common good” providing a level playing field in an ever more digitalized global economy. Thus, it is paramount for multilateral bodies to ensure fair international competition – including a level playing field for new, small entrants. In this context, policy makers at the global level are grappling with the taxation of digital behemoths and disruptive business models. New research suggests that the lack of coordination in global taxation of multinational firms leads to a significant amount of foregone taxes (Tørsløv et al., 2018). The joint OECD and G20 initiatives on base erosion and profit-shifting have been important steps in advancing the issue. But novel approaches to efficient taxation of data exist. These proposals are based on a careful analysis of various types of business models and the most effective way of taxation (Becker et al., 2018). Such novel concepts must be discussed at the multilateral stage.

Fourth, the welfare state and other institutions that support social protection remain an important pillar of inclusive economic growth. In a number of industries, the decline of the labor share is likely to continue. The welfare state is an important instrument to compensa-

te workers for the loss in their claim of the “economic pie”. Against this backdrop, one possibly effective instrument is a state-owned investment fund (a sovereign wealth fund) that invests in superstar firms, pays out proceeds to citizens and thereby allows them to benefit from superstar firms’ success. Naturally, there exist concerns about such funds relating to transparency, accountability and their potential risk to the financial system. Thus, a set of globally agreed rules for sovereign wealth funds is vital – a first step has been taken with the Santiago princip-

les and with founding the International Forum of Sovereign Wealth Funds. Sovereign wealth funds and other state-specific instruments are especially important given that other policies to boost labor productivity growth (like upskilling) will only materialize in the medium and long run. In the meantime, redistributive policies will remain important based on both redistribution between individuals and between thriving and laggard regions. In addition, it will be crucial for many in the workforce that trade unions press for wages growing in line with labor productivity.

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Invest in universal health coverage now

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The World Health Summit is one of the world’s leading strategic forums for global health. The international event brings stakeholders across the healthcare spectrum together, providing the perfect forum for exchange with experts from academia, industry, politics, and civil society. The World Health Summit attracts over 2,400 participants from about 100 countries and takes place each October in Berlin.

Health is critical to economic and social development, it must therefore be part of any discussion about humanity’s and the planet’s future.

It would hardly have seemed possible a few years ago to see the investment in health systems prioritized in the global health debate. Since the turn of the century, in accordance with the Millennium Development Goals (MDGs), a very focused financing approach to global health has gained the upper hand and organizations and alliances have been created at the global level to disburse funding and support the implementation of programmes. The most prominent among them are the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Global Polio Eradication Initiative (GPEI), the GAVI vaccines alliance, and the Global Financing Facility for child and maternal health. All four must be replenished in the next 18 months so they can continue their work, and there is concern whether the major donors are ready to make the billions that are required available. But there are also increasing calls for these funds to cooperate with one another – especially at the country level in primary health care settings – and for them to be engaged in an integrated global health agenda as expressed by the Sustainable Development Goals (SDGs) with a special focus on their

contribution to strengthening health systems.

The Sustainable Development Goals adopted in 2015 have called for transformational approaches to global challenges, which are now clearly understood to be interconnected. At first glance, SDG 3 on health seems like an overburdened Christmas tree, setting targets for a long list of diseases that require action both by the global community and at the domestic level. But at least three transformational strategic decisions were made in relation to SDG 3:

»Health systems are required to bring proven health solutions to scale and make them widely accessible.«

- first and foremost, the overall goal is to ensure healthy lives and promote well-being for all at all ages, not only to fight disease. This indicates the need to think about health in a much broader way, especially in relation to the key determinants of health such as poverty, inequality and gender issues, but also with a view to environmental issues such as water or climate change;

- second, SDG 3 now draws attention not only to the MDG legacy and the infectious diseases that still require determined action, it highlights the importance of addressing non-communicable diseases, which are now the major cause of death worldwide

- and third, it addresses the need to achieve universal health coverage (UHC), including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. Health systems are required to bring proven health solutions to scale and make them widely accessible.

In 2018, the United Nations put a focus through a High-Level Meeting on the second issue: the world's rapidly growing crisis of non-communicable diseases, which requires action on the commercial determinants of health. Over 10 years after the adoption of the Framework Convention on Tobacco Control, many countries have still not put in place the regulatory measures they agreed to implement. Consumer products are some of the most profitable investments in the global financial sector, and research shows relationships between obesity rates and trade agreements that allow for the rapid spread in developing countries. The impact of air pollution and climate change on health also requires the attention of many different policy arenas, as does progress on the implementation of the 2015 Paris Agreement on climate change, which is also too slow. Both agendas can come together when considering important issues of taxation and regulation within countries and beyond borders, as well as strategies for divestment in tobacco and fossil fuels.

The Sustainable Development Goals (SDGs) and the 2030 Agenda provide the framework for a holistic health approach in every area of policymaking. We believe that while such a holistic approach to health is frequently discussed, it is still largely neglected by too many of the responsible people and institutions, and urgently needs strengthening. In fact, the fragmentation of approaches, disciplines, particular interest groups and ideologies is obvious in science, politics, the private sector, and civil society. The challenge of the future is to cope with complexity. Global health is one of the most complex issues – it would be a great example to develop a comprehensive holistic and successful model fitting for the great variety of good intentions and fragmented efforts.

It is therefore encouraging to see important NGOs, private foundations and other key organizations playing an increasingly supportive and coordinated role in achieving the Sustainable Development Goals in tandem with the United Nations and the World Health Organization. We need efforts that are transdisciplinary, science-based, cross-sectoral, and concerted. The multidisciplinary and multi-sectoral approach in the political arena and of the World Health Summit is also driven by strong and new scientific arguments. Complex environmental factors, climate, pollution, preservation of nature, biodiversity and animal health have clearly been shown to be closely linked to and to have major effects on human health. This is the basis for the important concept of "One Health" and "Planetary Health." Basic research remains an increasingly important part of our efforts to work for a better future. Understanding complexity

will remain the basis for unifying theories and holistic concepts. The Darwinian revolutionary hypothesis on the origin of species is such a strong unifying hypothesis. This has now become a new and precise science that has been termed "evolutionary medicine" and "evolutionary global health".

In 2019, the United Nations has decided to organize a High-Level Meeting on UHC in September to garner the political support required to accelerate action because the world is not on track. The data are staggering: at least half the world's people cannot obtain the essential health services they need. This includes reproductive, maternal, newborn and child health, treatment of infectious and non-communicable diseases, and service capacity and access for the general and the most-disadvantaged populations. Simply put, UHC means ensuring that everyone can obtain essential, high-quality health services without suffering financial hardship. According to the Tracking Universal Health Coverage Global Monitoring Report 2017 published on UHC Day, December 12, over 800 million people spend at least 10% of their household budget to pay for healthcare and this is not only in developing countries.

Of course, individual countries will determine their own definitions of "essential" – while recognizing that the most cost-effective services should be provided first. The WHO Director-General has stated that "Universal Health Coverage is the single most powerful concept that public health has to offer." Failure to ensure quality and affordable essential health services means failure to meet the SDG 3 by 2030, because many of the other targets within

SDG 3 are dependent on improved health systems performance. There are only 13 years left to achieve this ambitious goal.

There are those who consider the achievement of SDG 3.8. on Universal Health Coverage unachievable, or for whom this is not a priority or not acceptable ideologically. Yet some of the world's most prominent economists have argued that it could be one of the best investments international organizations and countries could make. They have called on global policy makers to prioritise UHC as an essential pillar not only of health but of development. This interface is critical: health is essential to eradicating extreme poverty and promoting growth of wellbeing. The data tell us that over the past decade, health improvements – measured by the value of life-years gained (VLYs) – constituted 24% of full income growth in low-income and middle-income countries.

The key messages of a major Lancet Commission in 2015 show the different dimensions of the contribution. Health systems oriented toward UHC, immensely valuable in their own right, produce an array of benefits:

- in times of crisis, they mitigate the effect of shocks on communities;
- in times of calm, they foster more cohesive societies and productive economies.

The economic benefits of investment are estimated to be more than ten times greater than costs – meaning that early stages on the pathway to UHC, focused on high pay-off convergence interventions, will have high value relative to the cost of raising revenue, including the deadweight (or welfare) cost of taxation, or (in most cases) to the value of its use in other sectors.

The Director-General of the WHO is correct when he states: health is a political choice. This too is the essence of the statement of over 250 economists in their 2015 declaration on UHC. They urge that:

- heads of government increase domestic funds for convergence and provide vocal political leadership to implement policy reforms toward pro-poor UHC;
- donor countries meet their pledges for international development assistance and commit to investing in the global functions of Development Assistance for Health, particularly research and development for diseases of poverty;
- development financing discussions explicitly address equity, including who pays domestically and who benefits;
- national policy makers embrace UHC, as defined above, as an integrated approach for measuring progress toward health targets in the post-2015 global development framework.

The solutions are at hand. They require implementation at the country level and cooperation between the global actors that support many of the domestic processes. The Tokyo Declaration on UHC from 2017 stated clearly: We affirm that UHC is both technically and financially feasible. Improved health system performance requires national, regional, and global action in three interrelated health systems policy areas: service delivery, health financing and governance. The major challenge in global health financing is to have countries commit to make domestic investments into the health of their populations. Indeed, calculations indicate that in order to be on track for the achievement of the health-related SDGs, about USD 1.4 trillion would be required over the next five years, with

about 85% consisting of domestic investments. These include universal health coverage, health security and health promotion and prevention.

»At least half the world's people cannot obtain the essential health services they need.«

A number of countries are already moving in this direction. President Xi of China has launched a significant investment plan for Healthy China 2030, the prime minister of India has announced significant investment in order to eliminate TB in 2025, five years before the global target and the government of Kenya has prioritized universal health coverage in its Big 4 agenda over the next five years; Rwanda and Ghana are investing significantly in UHC, Thailand has long been a leader. New opportunities are

emerging as medical innovations increase, but also in view of digital health and artificial intelligence – which might allow some developing countries to leapfrog into 21st century health systems at a greater speed. This might also allow a new assessment of the role of the private sector in developing UHC as it moves far beyond the usual partners into the world of technology and informatics.

This is why the decision of the Japanese government to continue its longstanding commitment to UHC and make it a priority in their G20 Presidency is so important. Indeed, the plans to bring together finance ministers and health ministers and to convey the results of their joint conclusions to the heads of state will be a first in the G20 process. This continuity of the health agenda in the G20 context – after Germany first put health on the G20 agenda – shows the willingness of political leaders to heed the call for transformational approaches by the UN and the SDGs. The interface of the UN High-Level Meeting process and the G20 process can lead to a strong reinforcing dynamic to which the Global Solutions process and Summit can contribute significantly. That is why the World Health Summit and the Global Solutions Summit are determined to cooperate closely.

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The Road to Better Health for All-Ganten et al.
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Effectiveness of development cooperation

Need for a new conversation on how to assess it

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Centre for Policy Dialogue (CPD) - a globally reputed think-tank in Bangladesh - seeks to be the leading institution for in-depth research and dialogue to promote inclusive policymaking in Bangladesh, and strengthen regional and global economic integration. Established in 1993 with the vision of creating an inclusive society based on equity, justice, fairness and good governance.

Discourse on the effectiveness of external public development finance flows is currently at a turning point. The development landscape has recently undergone dramatic shifts. The principles, agreed in Paris (2005), for assessing the effectiveness of aid flows evolved during the Accra (2008) and Busan (2011) high-level fora to a broader understanding of development effectiveness. The launch of the Sustainable Development Goals (SDGs) is further generating new demands on the effective use of financial resources for those “left behind”. Thus, a new conversation on assessing effectiveness of development cooperation has become imperative to deal with the following emerging realities.

AN EVOLVING RECIPIENT PROFILE

The profile of the developing countries – major recipients of external public financial flows – is changing. Most of the countries belonging to the group of low-income countries (LICs) are moving up to the lower middle-income strata. The number of LICs almost halved from 63 to 34 between 2000 and 2019, while the number of middle-income countries (MICs) increased from 93 to 103 during the same period (World Bank, 2019). The growing MICs have differ-

ent types of financing needs, particularly given that most of the poorest people in the world now live in MICs (Sumner, 2012).

A significant number of least developed countries (LDCs) are in the process of leaving the group – around 12 out of the currently 47 LDCs will be graduating between 2019 and 2024 (CDP, 2018). This will leave the LDC group largely “Africanised” given that majority of the remaining LDCs will be in Africa (Bhattacharya and Khan, 2017). Africa also hosts almost half the people living in extreme poverty (World Bank, 2018).

Concurrently, the number of fragile and conflict-affected countries is on the rise – currently, about 1.8 billion people live in fragile contexts. The figure is projected to grow to 2.3 billion by 2030¹. Financial assistance needs of these countries have their own unique features.

Thus, the changing profile of recipients is not only underpinning allocation decisions, terms of delivery and expectations about outcomes of the providers of development assistance. It is also prompting them to revisit the issues related to development effectiveness of development finance.

THE DILEMMA OF TRADITIONAL PROVIDERS

The flow of bilateral Official Development Assistance (ODA) from the OECD’s Development Assistance Committee (DAC) countries is experiencing a challenging time. Improved global economic performance has not translated into increased ODA. ODA as a share of GNI fell in 21 out of 29 DAC countries in 2017, bringing down the average to 0.31% from an already low average of 0.32%. Fulfilment of the com-

mitment by developed countries of channelling 0.7% of GNI seems increasingly illusive.

»The SDGs are further generating demands on the effective use of financial resources for those >left behind<.«

Country Programmable Aid (CPA) is a better indicator of actual disbursements on which recipient countries have an actual say. Since 2012, CPA has not grown in proportion to the already slackened growth of ODA (see Fig 1). This gap has been widening due to substitution of CPA by an increase in “in-donor refugee costs”, regional funding and financing for global public goods, as well as more centrally managed thematic funds.

The proportion of ODA not leaving provider countries remained high in 2017 (Dodd et al, 2018). With the unveiling of new global priorities, such as cross-border migration, resources are being diverted from the recipient countries to in-country use by the providers. “In-donor

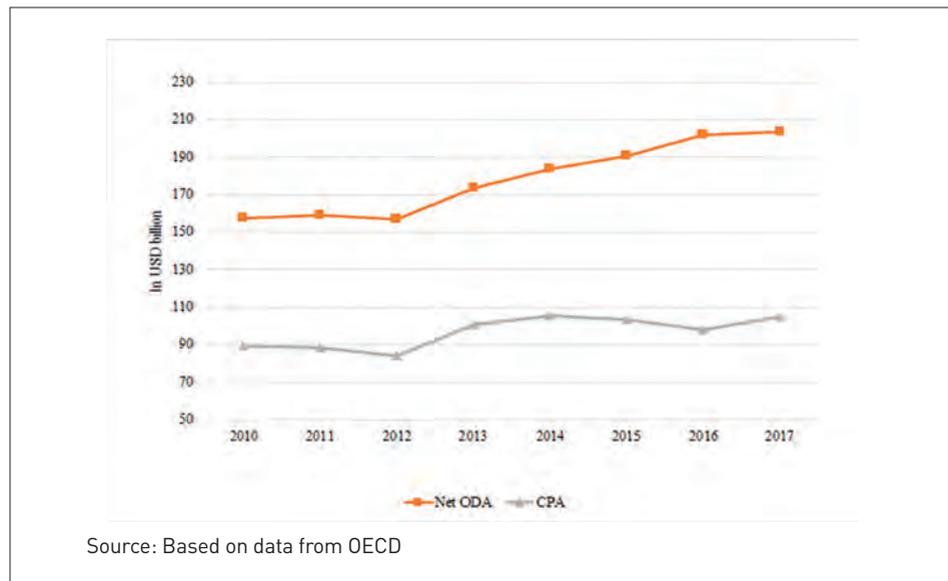
refugee costs” for DAC members tripled from USD 4.9 billion in 2013 to USD 14.2 billion in 2017. This accounted for 9.7 per cent of total net ODA flows. However, costs reported in 2017 were 13.6 per cent lower compared to the preceding year, following clarifications by the DAC on rules related to the extent of in-country refugee costs reportable as ODA.

Humanitarian aid has also been growing. Between 2007 and 2017, humanitarian aid from total official donors increased both in absolute volume (USD 7.5 billion to USD 28.5 billion) and share of net ODA (6.5% to 14%). In 2017, among the top 17 providers, ODA excluding humanitarian aid fell for 10 providers from 2016. Sectoral priorities of providers have consistently shifted in favor of humanitarian aid and

unallocated aid since 2005-2006 (Fig 2). In 2016, increases in both of these sectors caused a fall in shares of social infrastructure and services, economic infrastructure and services, production sectors and multi-sectors². Consequently, there are reasons to fear whether the distinctions between development assistance and humanitarian/security-related assistance are becoming blurred.

The post-2015 era has also seen a rise in climate finance. Total climate-specific finance disbursed to developing countries from various sources increased from USD 17 billion in 2011 to USD 37.52 billion in 2016 (UNFCCC, 2018). On the other hand, bilateral ODA commitments from OECD DAC countries to climate change-related projects increased from an estimated

Figure 1: Growth in ODA vs. CPA



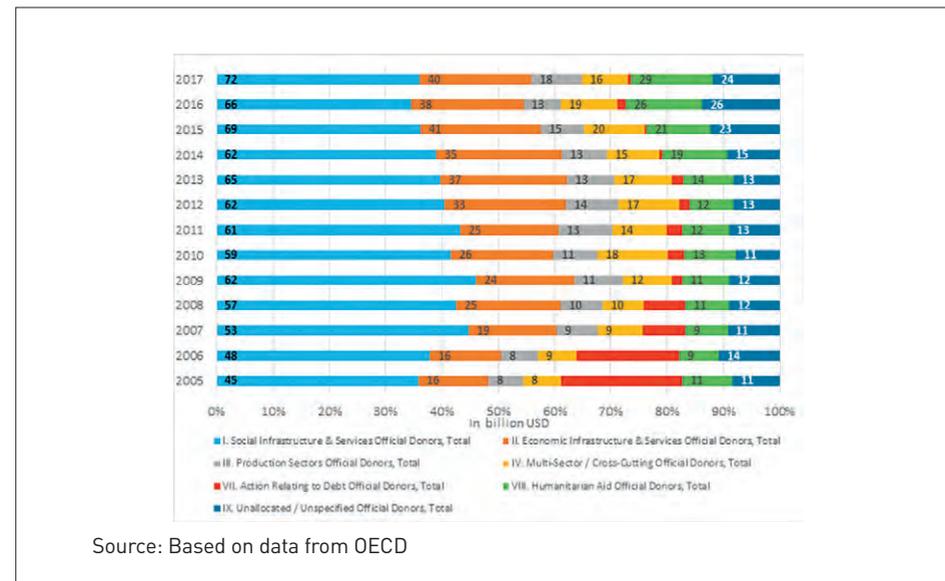
USD 9.5 billion per year (7.4% of ODA) in 2008-09 to over USD 25 billion per year (17.5% of ODA) in 2014-2015. While the positive trends in climate finance are encouraging, climate-affected countries look upon climate finance as add on, not as a substitute of ODA. There is a call for re-visiting the lingering debate on separating climate finance, particularly focused on mitigation – often considered a global public good – from development finance. Adaptation-related finance is generally considered development finance given that the benefits are largely reaped by the recipient country, although the necessity of such measures has been triggered by the developed nations (Althor, 2016). Whether the incremental cost of adaptation should be considered using the same lens as oth-

er development interventions remains an important concern in assessing development effectiveness.

**“NON-TRADITIONAL” PROVIDERS
CREATE NEW OPPORTUNITIES**

New opportunities for accessing finance beyond ODA from OECD countries are emerging. An increasing number of Southern countries are engaging in activities related to international development cooperation, i.e. South-South cooperation. These “non-traditional” providers like to be considered differently given their guiding principles, operational modalities and perception about outcomes. According to OECD estimates, development cooperation flows from 10 non-reporting (Southern) countries including, inter-alia, Brazil, China,

Figure 2: Shifts in sectoral priorities for total official providers



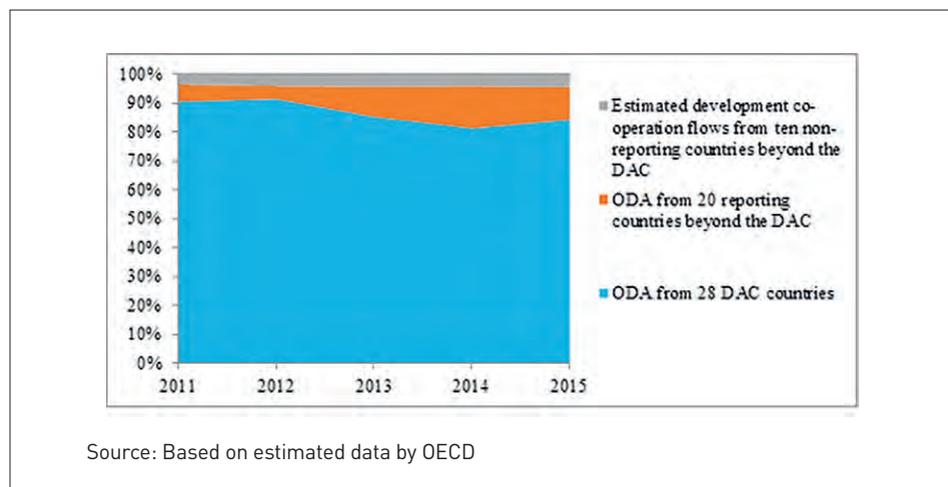
India and South Africa increased from USD 14.1 billion (3.5% of total flows) in 2011 to USD 24.6 billion (4.4% of total flows) in 2015. During the same period, ODA from 28 DAC members fell from 90.6% to 84.2% of total aid flows (Fig 3).

China and India are particularly evolving as dominant providers. India's total development cooperation (including grants, capacity building and lines of credit) has increased almost threefold from USD 3.7 billion in 2014-15 to USD 10.47 billion in 2016-17 (Chaturvedi, 2018). According to official budget documents of China, its foreign aid budget increased from USD 631 million in 2003 to nearly USD 3.6 billion in 2016. China has heavily assisted development projects in Africa, focusing mostly on economic infrastructure and the productive sectors. However, the actual concessionality of such financing flows is often questioned (Bhattacharya and Rashmin,

2016). Whether or not China's investment in productive sectors offsets its role in inducing debt distress in the recipient countries remains a pertinent concern. The lack of a definitive framework in capturing Southern concessional flows echoes the need for designing assessment frameworks dedicated to South-South development cooperation.

Private philanthropy is another source of "non-traditional" development assistance that is increasing in prominence. According to OECD estimates, the total volume of philanthropic development funding was USD 24 billion (equivalent to 5% of ODA) in 2013-2015. However, around 67% of philanthropic assistance goes to non-LDC middle-income countries like India, Nigeria, Mexico, China and South Africa, whereas only a third of the country-allocable funding benefited the LDCs. The emergence of non-state actors in the traditional

Figure 3: Estimated global net disbursements of development co-operation flows



domain of international development co-operation has created new challenges in articulating parameters of effectiveness.

»Efforts to tap innovative sources of development finance like blended finance are gathering steam.«

INNOVATIVE FINANCIAL INSTRUMENTS

With increasing demands for additional resources for implementation of SDGs, efforts to tap innovative sources of development finance like blended finance are gathering steam. Blended finance uses concessional external finance to leverage private investment. Official development finance interventions mobilized USD 81 billion from the private sector during 2012-2015. Middle-income countries have been the primary beneficiaries (76.5% of total private finance mobilized) of this innovative tool. (UNCDF, 2018). Across all country groups the flow of blended finance has been more pronounced in economic infrastructure, services, and production sectors than in social sectors. There are calls for caution that public funds should not be used to underwrite private gains.

Moreover, the absence of any consensus-based definition, inadequate legal provisions and regulatory frameworks and a lack of mechanisms to assess development impact are among the challenges that impede operationalization of blended finance toward intended outcomes (Bhattacharya and Khan, 2018).

DATA DEFICIT AND NEW DATA

Availability of and access to systematic data on external financial flows has been a long-standing issue, particularly concerning "non-traditional" providers and innovative instruments. Discrepancies in figures relating to disbursements by providers and receipts from recipients are also quite prevalent. Admittedly, discernible progress has been achieved in harmonizing and collating aid data, particularly in light of the unfolding "data revolution". Thanks to the emergence of new data sources (e.g. big data from cell phone companies and geospatial data from satellite imagery), there are unique opportunities to assess the new dimensions of the effectiveness of development cooperation.

MOVING FROM A FOCUS ON PROCESSES TO OUTCOMES

The changing landscape of development finance has important implications for the frameworks for assessing its principles, processes and development outcomes. Current frameworks, e.g. under the DAC-driven Global Partnership for Effective Development Cooperation (GPEDC) have been more focused on processes dealing with issues related to alignment and harmonization, transparency and accountability and achieving intended results. The focus on the effectiveness of development

outcomes and impact seems to be lost along the way. The latter is methodologically challenging and requires a broader time frame often not allowed in the practical space. Therefore counting on effective processes to translate into impactful outcomes may be the development community's best bet.

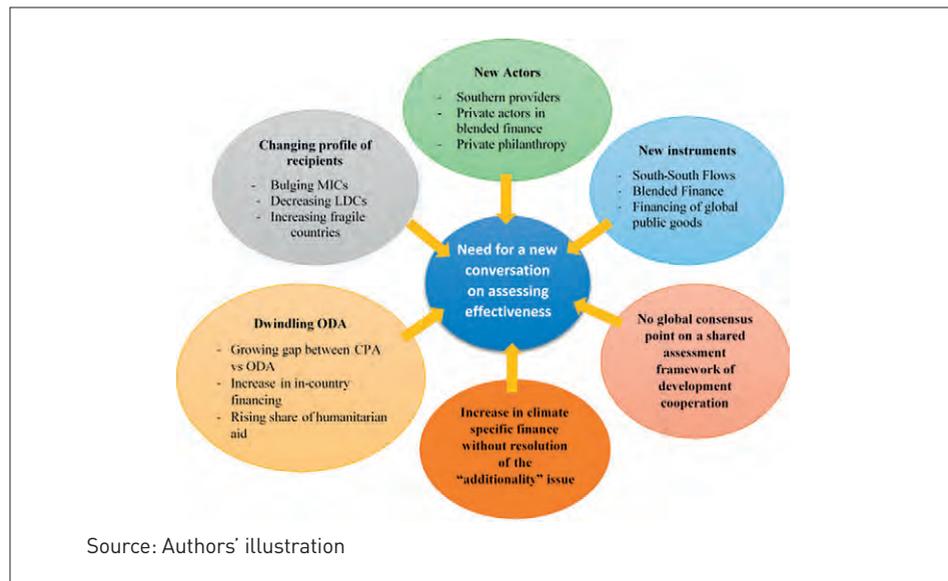
But efforts to understand the interface between global and national assessment frameworks, as well as between macro-meso-micro assessment frameworks is yet to be conclusive. The plethora of actors and their diverse modalities of operation and principles make things even more convoluted. In addition, the failure to apply a political economy lens means the developmental implications of power imbalances between providers and recipient

countries are often not understood. Thus, a more integrated approach to assessing the effectiveness of development cooperation has to evolve.

STATE OF GLOBAL FINANCIAL ARCHITECTURE

The development effectiveness agenda is yet to be anchored in a universal framework or reach a global consensus. The global financial architecture concerning external public financial flows is still fragmented, although the importance of results, mutual accountability, and recipient country-specific perspectives is increasingly highlighted, particularly in the advent of GPEDC. Following years of dwindling aid flows, recipient countries have become more aware of issues related to effective-

Figure 4: Factors underpinning the need for a new conversation



ness. Southern providers are also recognizing that they will have to engage in a discourse aimed at developing a system of global scrutiny of their aid deliveries. While a number of big Southern providers have yet to align with the process, there have been independent efforts to channel South-South flows toward more effective cooperation and development outcomes.

Arguably, Northern providers and Southern providers need not be unified in their approaches. They need to complement, rather than compete or merely co-exist. What is more urgent from the perspective of development effectiveness is a systematic and shared understanding of the guiding principles, operational modalities, and expected outcomes as well as a common but differentiated assessment framework of their development interventions.

NEED FOR A NEW CONVERSATION AND SOUTHERN PERSPECTIVES

The discourse to assess the effectiveness of external public development finance flows remains in a state of flux. Despite systematic fine-tuning of the technical elements, current approaches deployed lack necessary political ownership on the part of both providers and recipients. The GPEDC is exposed to the risk of losing political momentum. Southern providers have yet to create a stable platform. The space to discuss a universal frame of reference concerning development effectiveness remains constrained.

So far, debates have focused on the provider's side of the equation. Perspectives from recipient countries, particularly from the Global South, have been inconspicuous in this regard. Given the new

challenges emanating from the evolving landscape, there is a need for a refashioned conversation on a set of flexible but integrated strategies and methods for assessing the effectiveness of development cooperation in the era of SDGs. The time is apt to present new evidence, fresh analysis and Southern perspectives in an open platform on a systematic and sustained basis.

»The global financial architecture concerning external public financial flows is still fragmented.«

- The new conversation should:
- be structured through a bottom up approach duly acknowledging recipient country perspectives;
 - be convened under the auspices of an organization with broad-based convening power (desirably the United Nations);
 - avoid acrimonious negotiating postures and engage in a mutual learning process;
 - ensure balanced participation of all stakeholders including from the North and the South as well as from the new set of actors on the ground;

- interface with other relevant discourses on financing for development including implementation of Addis Ababa Action Agenda.

¹ The analysis presented in the article is based on data and information sourced from various OECD databases, documents and publications, unless stated otherwise.

² Allocation to multi-sectors includes support for projects that straddle several sectors, with a concentration on the environment, gender projects and urban and rural development.

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Changing the dynamics

From conflict to transformation

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The Brookings Institution is a nonprofit public policy organization based in Washington, DC. It is their mission to conduct in-depth research that leads to new ideas for solving problems facing society at the local, national and global level.

COMPLETING THE WHOLE: FROM POLARIZATION TO COMPLEMENTARY DYNAMICS

"White nationalist, white supremacist, Western civilization – how did that language become offensive? Why did I sit in classes teaching me about the merits of our history and our civilization?" (The New York Times, Jan. 10, 2019).

This is a statement by Republican Congressman from Iowa, Steve King, for which House Republicans stripped him of his committee assignments in January 2019. The conflation of white nationalism and white supremacy with Western civilization is an indication of a binary mindset of "us" versus "them" that reveals a polarizing dynamic that now threatens democracy, the market economy and global understanding as never before, not only in America but around the world. Together, we must now forge better ways of seeing each other, articulating our relationships with each other, and finding common ground. The Global Solutions Summit (GSS) and Young Global Changers constitute ways to move forward.

As Henry Chan pointed out at GSS 2018, both the civilizations of the West and of the East are incomplete, precisely because they are sufficiently different from

each other to reveal the lack of wholeness of each. Each needs the other to realize its full potential. The great divide between East and West is that the East is a more communitarian culture and the West is a more individualistic civilization. It is also true that the political dynamics driving domestic politics in most countries are divisions between individualism and communitarianism. The opportunity before humanity now is to realize that these conflicting binaries can be transformed into complementarities that can create forces for convergence and mutual understanding, overcoming polarization and stalemate, and strengthening multilateralism.

Binaries have enabled ideologues to create a sense of false dichotomies that have driven public debates between capitalism and communism in the post-World War II era, between free market fundamentalism, deregulation and liberalization versus social market economies and social democratic politics in the last thirty years, and populism and democracy in the current moment. These dichotomies have fueled policy-making and political dynamics based on overly simplistic alternatives and false systemic choices, even as the real world demonstrates vivid complexity.

Clear-minded observers realize that the current moment reveals systemic challenges across the board. Energy systems are unsustainable, financial systems are under-regulated, education systems fail to deliver social results, health systems undermine potential productivity, competitive market economies fail to generate social outcomes that are politically sustainable, pensions and social protection systems are under-funded, corporations are viewed as fueling inequality, and public confidence

and trust in public institutions and political leaders are at all-time lows. In addition, major planetary systemic risks are generated by climate change, desertification, deforestation, pollution, and threats to biodiversity and the oceans.

»Clear-minded observers realize that the current moment reveals systemic challenges across the board.«

Perhaps the single most important shift that is needed now is for people everywhere to realize that systemic transformation is an imperative rather than one of several pathways to sustainability. Incrementalism, technical fixes, policy tweaks and marginal changes have run out of relevance.

Visioning the future is a political act that can force public awareness of the urgency for systemic transformation, as well as stimulate societal reflection on the public values, social consciousness and public spiritedness, which are needed to leverage for creating better futures. Visioning the

future lifts perceptions and perspectives from the current moment to future possibilities that can be achieved over time through thoughtful investments and creative incentives for better public and planetary outcomes. Systemic crises can only be addressed over longer time horizons. No single election, candidate, or sound bite is going to turn societies from simultaneous systemic crises to equilibrium and tranquility. Visioning futures with different patterns, trends and pathways toward better outcomes requires political leadership, social engagement, public discourse and open dialogue to change polarizing polemics into new dynamics for systemic transformation.

21ST CENTURY VALUES

To achieve greater social cohesion and a recoupling of social progress to economic growth requires an integrated comprehensive approach to stimulate transformational systemic change. Individualist values associated with the competitive ethos of free market economies need to be complemented by social values that are more linked to generating benefits for the society as a whole. Individualist values – liberty, property rights, freedom and sovereignty, which were foundational for the market economy, a competitive society, democracy and the nation-state are still important but not sufficient by themselves. The ascendant social values that need to play stronger roles in the future are respect, fairness, trust and responsibility. These new values lead in turn to core operational values that can facilitate actions to achieve social cohesion, specifically, social mobility, public access, economic security and sustainability.

Respect can lead to respecting the value of workers by ensuring that the rise in real wages is recoupled to labor productivity increases, breaking the recent patterns wherein rising productivity gains have been accompanied by declining returns to labor as a share of GDP. Reversing these recent patterns is absolutely essential. Social mobility for workers can be achieved through increasing skill development, technical training and bargaining processes to achieve commensurate returns to the increasing value of labor. Respect also means mutual respect that all must have toward the diversity of contemporary societies, where “difference” is the basis for realizing complementarities and understanding rather than the basis of friction and defensive claims for the upper hand.

Fairness implies public access for all to education, health, nutrition, energy, water and sanitation, and justice. These are basic elements for human development, which provide the capacitation of persons for modern life. Social inclusion requires that all people have access to these ingredients for being flexible, useful, productive and capable of contributing to society and the knowledge economy, of understanding the nature of the civic life, and of managing the fluidity, rapidity and connectivity of living in a globalized world. Fairness is also the right to non-discrimination and equal treatment in social and economic relations.

Trust means deepening respect to a sufficient level of understanding to enable entering into economic and strategic commitments in which there is predictability, stability and continuity. Trust is the fundamental glue in economic, trade, investment and financial agreements within and

between nations. Individuals in a cohesive society need to trust that there will be economic security in their old age from inter-generational pension systems that are forged on a sound basis. And trust among individuals from very different cultures and backgrounds enables complementarities to be realized that are otherwise foregone by sticking to like-minded participants. Chinese and American policy thinkers and officials have agreed that strategic trust between the two countries is the most crucial attribute of their relationship (Lieberthal and Jisi 2012).

»Incrementalism, technical fixes, policy tweaks and marginal changes have run out of relevance.«

Responsibility is perhaps the most important public aspect of the new social values, even though it is almost a forgotten or unnecessary element of the old value system, because confidence in the market is the key to not being obliged to assert public responsibility. Responsibility follows from the recognition of embedded inter-connectedness among individuals in society in the 21st century and from the awareness that social fractures and failures threaten

the market economy itself and the governability of societies. Leadership at all levels of society from both the private and public sectors is required to take public responsibility for social outcomes vital for systemic transformation and sustainability.

COMBINATIONS OF OPPOSITES

Greater adherence to social values in the West would not only have the practical effect of mobilizing public support for transformative change, but also bring the West and East into greater alignment in terms of a common blend of distinctive values, helping to enlarge both value systems by embracing complementary elements from the other. This blending of what have been perceived as opposites could contribute to greater convergence and cooperation between east and west in global affairs, lessening the current tensions and conflicts.

The noted biologist, Edward O. Wilson, in his book *The Meaning of Human Existence* (2014) has brought forward the now widely accepted understanding of the origins of our species. Biological evolution derives from two contradictory tendencies, one sorted out by individual selection through the competition among individuals in the struggle for the survival of the fittest and the other by group selection among dominant groups. In the competition among groups, those with greater tendencies to cooperate within their group prevail over groups that don't. As a result of these two selection processes over millennia, humanity has emerged as the unique embodiment of the tension between the individual and society, selfishness and altruism, and singular interests and societal well-being.

The crucial lesson for us in the 21st century in the wake of decades of deal-

ing with false binaries is that the biology of human evolution has created both competitive and cooperative instincts and proclivities in human beings rather than one dominating the other. This scientific conclusion is at odds with the more simplistic view of Darwinian evolution in which competition drove "survival of the fittest" outcomes. The fundamental insight is that humanity is "simultaneously" individualistic and communitarian, competitive and cooperative, and selfish and societal. Humanity embodies contradictions and complexity rather than single nodes of binary opposites. It is fundamental to human nature to mediate between opposite sides of ourselves.

In societal terms, these tendencies manifest themselves in cultural and political dynamics, in which again the stylized versions are ones favoring conflict and friction when in fact closer observation reveals that mediating dynamics prevail. Samuel P. Huntington's famous "Clash of Civilizations" presumed to explain cultural encounters as conflicts between traditional and modern tendencies, whereas a closer reading of cultural dynamics reveals that such encounters stimulate cultural development rather than destroy it. Syncretism postulates complex incorporation of exogenous elements into indigenous cultures rather than subjugation or emulation as the dominant patterns. These findings provide strong evidence of social integration along with individual differentiation, for creativity springing from tensions between contrary elements, combining opposites rather than forcing false choices between them.¹ They provide significant hope that humanity has within its grasp and experience powerful dynamics for mediating ten-

sions rather than being overtaken by them.

E.J. Dionne has documented in his *Our Divided Political Heart* (2012), that throughout American history (except in the Gilded Age) the political center has been a highly interactive forcefield of selective borrowing and "criss-crossing" between conservative and liberal thought streams. What is unique about Dionne's analysis is the degree to which he has been able to make vivid the inextricable links between individualism and community within both the conservative and liberal traditions, and the extent to which the priorities between these two philosophies have criss-crossed within and between each tradition at different periods in history. This analysis makes clear that individualism and community are each intimately part of the histories of each political thought stream and that the crucial dynamic for the future appeal of each tradition is the balance between the two pillars, not choosing one over the other as the identifier of the brand.

To conclude: Whereas in the current political moment tensions and conflicts between opposing perspectives appear to dominate both global and domestic politics, there are foundational elements in human biology, cultural interactions and political history that provide alternative understandings of the underlying dynamics of mediating between opposing viewpoints, values and mindsets. There are, after all, ways forward for forging better futures. Embracing complexity, absorbing diversity and combining opposites are promising modalities for the future of politics and for global governance as humanity seeks to find viable pathways for achieving structural transformation necessary for systemic sustainability.

Changing the paradigm

Systems thinking, systems organizing, systems transformation

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HelpAge International is the secretariat to a global network of organizations promoting the right of all older people to lead dignified, healthy and secure lives.

The brave new global world that, on the surface at least, seemed to be forming at the end of the last millennium is falling apart. Cracks within the European Union are beginning to rupture: Brexit has opened a chasm. For all practical purposes, the WTO has disintegrated into bilateral deals and erupting trade wars. When the President of the United States has declared to the UN General Assembly that globalization is bad and patriotism is good, the tide of globalization has clearly turned.

It is tragic that just when the entire world must come together to collaboratively reach the Sustainable Development Goals (SDGs), nations and people are becoming divided. Problems such as persistent poverty and inequality, poor health, and environmental degradation, which the SDGs aim to solve, are systemic issues. They have multiple inter-acting causes. They are not amenable to silver bullet solutions. They cannot be solved by any one actor. Indeed, the 17th goal – Partnerships for Growth – makes clear that without stronger partnerships the other 16 goals cannot be achieved.

Partnerships are essential among nations, and also among diverse stakeholders – governments, businesses, civil soci-

¹ Colin I. Bradford (2019), Leadership for Achieving Sustainability for All: Global Cultural Diversity as a Mediating Political Dynamic, published in January 2019 by the Shanghai Institutes for International Studies (SIIS).

ety organizations, and experts – to achieve each of the goals. Because all the issues that the SDGs address are inter-related, partnerships are also required among teams working on each of the SDGs. Goals for poverty, hunger, health, education, and gender equality, though stated separately, all combine to improve human development. Nor can they be achieved in isolation from each other. Goals related to water, energy, climate action, life below water, and life on land, all relate to improvement of the environment and cannot be achieved in compartments. Nor can the inter-related goals for the economy – goals for decent work, reduced inequality, responsible consumption and production, industry innovation and economic growth. Moreover, the three bundles of goals are intertwined. The conditions of human society, the environment, and the economy must be in harmony for the whole system to be sustainable.

Reality is composed of systems within systems. The break-up of systems into ever narrower scientific disciplines, with which humanity has progressed greatly over the last two hundred years, has had the unintended consequence of breaking the system apart. Moreover, the economy began to devour human society, converting humans into mere consumers and producers of economic resources. It also commodified nature into resources for economic growth. GDP, an economic measure, became the supreme measure of the health of the system. Now, as the nursery rhyme about Humpty Dumpty goes, we need “all the king’s horses and all the king’s men” to put this system together again.

Paradigms of thought and action must be changed to reverse the unfolding trag-

edies of the commons. It will not be easy. Paradigms shape not only the ways we think and act. They also shape the structures of the institutions within which we work. Thus, our thoughts shape institutions; and institutions channel our actions and reinforce our patterns of thinking. Putting Humpty Dumpty together again will require the discipline of systems thinking to re-connect specializations. Institutions and individuals must also be re-oriented toward collaboration to overcome their embedded instinct for competition. And, humanity and nature, which have been squeezed out by the relentless pursuit of economic growth, must be given more room on the policy-making table.

»Reality is composed of systems within systems.«

SYSTEMS THINKING

The prevalent ‘scientific’ way, which has increased human abilities immensely by developing new technologies and by giving humans the ability to overpower nature, is not the best way to solve these complex, systemic problems. Indeed, this way, by going too far, has unwittingly contributed to these very problems of disharmony and systems breakdown.

The scientific way grew with the European Enlightenment in the seventeenth century. A problem with the scientific way is its drive to understand the properties of

individual components of a system more thoroughly in the belief that the mystery of the whole can be explained from the properties of its parts. Physicists study infinitesimally tiny bits of matter hoping to understand the essence of what everything in the world is made of, and neuroscientists hope to unravel the mysteries of human thought by tracking tiny bits and bytes in the brain. Since the Enlightenment, the domains of the sciences have expanded. At the same time, the sciences have been breaking down into narrower specializations, each knowing more and more about less and less. Now the parts must be put together to know the whole. The disciplines must talk to each other to understand the whole. But this is not easy. The disciplines have their own perspectives and their own jargons. They cannot understand each other.

Children are taught in school to think of the world in compartmentalized subjects. When they go into higher education, they must focus on ever narrower subjects. When they go to work in organizations, they are fitted into narrow, functional silos. And thus, knowledge of systems as a whole is falling apart. A new Enlightenment founded on systems thinking is required to understand complexity: not by breaking complex systems into simpler components, but by understanding patterns and relationships among the components. The discipline of systems thinking has become essential to put knowledge together again and create more social harmony and environmental sustainability.

To achieve the SDGs, systems thinking must be converted into systems action by partners united by shared aspirations. Many initiatives will have to be coordinated

to achieve results on scale. The underlying theory of organization, instinctively applied when coordination seems necessary to scale up outcomes, is a top-down theory of direction and control. The UN, with its plethora of agencies that find coordination very difficult; the WTO, which aims to centrally discipline a complex global trading system; and even the EU, which seems to be struggling to impose common rules on all its members – these are all efforts to coordinate and manage a complex system from the top down.

SYSTEMS ORGANIZATION

An underlying ‘theory-in-use’, which is driving the design of institutions for global and national governance – and even the design of large corporations, is that problems that appear everywhere require global solutions, produced by experts, to be imposed on people everywhere. Thus, governance becomes too remote from people. But complex systems, in which economic, societal, environmental, and political forces are inter-twined, cannot be commanded to change top-down. ‘You think you are an expert, though you don’t understand’, people say. ‘And who the hell are you to tell us!’. This is the rumble of the rising wave of populist political movements, both left and right, which is pushing back against globalism.

The challenge of finding ways to coordinate multiple, diverse initiatives without excessive centralization that would kill their voluntary spirit, confronts all business, government, and political organizations when they expand. They centralize to coordinate expanding activities. But, in the process, they invariably smother the yearning in people for freedom to do their

own thing, and to stand up for their own cause rather than do what they are told. Therefore, there is a desire for other forms of organization in which people can coordinate with other like-minded collaborators without any bosses to make them work together; and in which they serve because they care more about the cause than the material incentives conventional organizations offer as rewards for good work.

The conventional, Weberian form of organization is the default mode adopted by business, government, and even civil society organizations when they scale up. What is required instead is a form of organization with less rigidity than conventional organizations, yet with sufficient structure to enable effective collaboration. What is necessary is an organizational form that does not lose the power of commitment to an aspirational cause, while obtaining sufficient compliance through a minimum set of critical rules that all its members will adhere to. The concept of a networked organization of people working together toward a common purpose, without a boss over them, fits this need.

Technology platforms can be a means for the formation and functioning of a collective, networked organization. However, the platform itself is neutral to what its users intend to do with it. It does not care if a collection of people uses it to run a business in pornography, or a terrorist network, or a movement to save the planet. Indeed, this is the ethical problem that owners and managers of social media platforms are now being accused of neglecting.

A platform enables multiple parties to transact with each other efficiently. By reducing transaction costs and easing transactions, platforms provide benefits

to their users. The internet has provided a platform to carry out a large variety of digitizable transactions among people and organizations. On the back of the internet, Amazon has created a platform with enormous reach for commercial transactions. Social media platforms, also on the back of the internet, enable exchanges of information among people in many forms – words, pictures, videos, and sound. Whereas a platform can enable transactions among its users to be conducted more efficiently, what bonds members of networked organizations are shared goals and shared values.

The members of a networked organization have a collective purpose to unite them. They may use a technology platform to connect with each other. A networked organization whose members are drawn together and driven by their commitment to a common cause cannot be controlled from outside itself. It must set its own rules and govern itself. It must be a 'self-adaptive' organization.

SYSTEMS TRANSFORMATION

The global socio-economic system is composed of 'fractals', each part having a similar shape as the whole. It has a similar form at several levels – global, intermediate, and local. The economy, society, and the environment, which have been broken apart, must be joined similarly at all levels to repair the system.

Humpty Dumpty has to be put together again. However, the king's horses and men (i.e. the leaders of nations and global institutions and the experts around them) cannot do this alone. When a complicated structure is broken into many pieces, first the little pieces must be joined into bigger,

intermediate level pieces, and then those can be joined together to bring the system back into order. Therefore, repair must happen locally for the system to be put together again.

»Methods for systems thinking and systems organizing must be spread urgently and applied on a larger scale.«

Good democratic governance is expected to be government of the people, for the people, and by people. Governments that are elected by the people are governments of the people, which should be for the people too. People in many countries are becoming disenchanted with their elected governments because there is insufficient government by the people. To deepen democracy, governance must be devolved, into towns, villages and communities. Global problems need local solutions. Communities of stakeholders can find practical and

contextually apt ways to manage their commons, reconciling the needs of their society, their environment, and their economy, which remote experts cannot do.

Local capacities must be strengthened to solve global problems. One-size-fits-all solutions developed by experts at the centers of global institutions will not be right for all nations. This much the SDGs have acknowledged by leaving it to countries to find their own paths to meet the SDGs. Within countries too, solutions from the center will not serve all parts. India has realized it must change its approach to planning for more inclusive and sustainable economic growth. It is abandoning the top-down central planning model it had followed for over sixty years. It is now changing its strategy and seeking to build the capacities of its state governments and local governments to manage the commons.

The application of systems thinking and systems organizing at all levels of governance, especially at local levels, is a solution for global problems. The disciplines of systems thinking have been lurking on the fringes of public discourse for many years. The need for systems thinking was highlighted by the Club of Rome way back in the 1970s when it published its warning in the report, *The Limits to Growth*. Methods for systems thinking and systems organizing must be spread urgently and applied on a larger scale. That way the health of the global system, which is becoming diseased, will be healed, and outcomes expected from the SDGs will be scaled up around the world.

Cooperation with Africa in T20 Japan

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The Japan International Cooperation Agency (JICA) Research Institute (JICA-RI) conducts policy-oriented, academically solid studies that address the important issues faced by developing countries. JICA-RI was established in October 2008, as the research arm of JICA, an organization that is responsible for Japan's bilateral development cooperation.

WHAT T20 AFRICA SHOULD REPRESENT

The world has rightly celebrated the achievement of major targets included in the Millennium Development Goals (MDGs), especially that of halving poverty rates against the 1990 level by 2015. However, this was primarily due to the successful development of the East Asian countries, especially China. Many African countries did not show the equivalent level of success in meeting many of the MDG targets. The poverty headcount ratio in Africa was lowered by 15 percentage points but was still as high as 41 percent in 2013. The mortality rate of children under 5 was reduced from 180 per 1,000 persons in 1990 to 88, but was still higher than other regions were in 1990. This pattern is also true for the maternity mortality rate (all data from the World Bank).

The international community is now working together to achieve the Sustainable Development Goals (SDGs), which replaced the MDGs, by 2030. However, now that room for further improvement in the development goals is limited in East Asia, success in Africa is the key to the success of the SDGs.

There are many indicators showing significant improvement in Africa. The average GDP growth rate since 2000 has reached five percent, almost comparable

with the ASEAN-5 economies. Foreign Direct Investment (FDI) inflow to Africa has almost reached the same level of the net receipt of Official Development Assistance (ODA), just as East Asian countries experienced during the late 1980s immediately prior to their takeoff to modern economic development. Finally, the region's investment expenditure against GDP has been more than 20% since 2007, which, while not comparable to that of the East Asian countries, is similar to countries in other regions.

»Africa has a young and fast-growing population, which should support the region's economic development if properly employed.«

Africa has vast natural resources, including 60% of the world's uncultivated arable land and substantial reserves of oil and gas as well as precious metals. Above all, Africa has a young and fast-growing

population, which should support the region's economic development if properly employed in the modern, high-productivity sectors. The G20 must deliver realistic and feasible policy messages to African and world leaders to help the continent to effectively utilize these endowments and achieve the SDG targets by 2030.

The T20 in Japan will take up the issue of Cooperation with Africa as one of its task forces and will discuss various aspects of the development of Africa, including sectoral issues such as industrialization, agricultural development, and food security, macroeconomic issues such as fiscal and public debt sustainability, tax challenges, and the Compact with Africa, and cross-cutting issues such as governance and its social effects. The following are the major issues to be represented in T20 Africa task force.

SUCCESS OF GLOBAL INTEGRATION IN THE EAST ASIA

The African region achieved a high level of economic growth during the 2000s, but recently the growth rate shows a softening trend. This is because the high growth during the 2000s was mainly due to favorable terms of trade driven by the increasing demand for natural resources especially by the Chinese industrial sector. Now that the Chinese industrial sector is shifting to a stable growth path, the terms of trade may move against Africa going forward, and its growth prospects based on the natural resource sector may be weakened.

In most countries in history, economic development has been accompanied by the development of the manufacturing sector, especially for economic growth to be sustained by a rising income level in the over-

all population. But in Africa, the share of the manufacturing sector in terms of value added or employment remains stagnant or is even declining in some countries, which is called premature de-industrialization. Because of this, the elasticity of employment against GDP growth is significantly lower in Africa compared with East Asian counterparts when they were at a similar development stage.

»East Asian countries were able to seize the opportunity of globalization and achieved economic growth with employment generation.«

East Asian countries were able to seize the opportunity of globalization and achieved economic growth with employment generation. The leading export sector during the early stage of their industrialization was the light manufacturing sector such as the garment industry. But subsequently, the leading industries developed into a more modern manufactur-

ing sector, such as electrical machinery industries. This process was stimulated by attracting FDI from the advanced economies for product assembly, as part of the whole production process, i.e., creating global value chains (GVCs). Although the production processes relocated to Asia were mostly simple assembly processes whose share of value added is usually small, these factories provided a large number of jobs with a decent wage – compared with the alternative jobs available to local populations, especially those migrating from rural areas – and created a large middle-class population. Support from advanced economies as well as multilateral institutions in infrastructure and capacity development created a conducive business environment by reducing the trade cost involved in forming the GVCs.

SEIZING THE OPPORTUNITY OF GLOBALIZATION IN AFRICA

After many years of receiving development assistance, including substantial debt cancellation, however, many African economies, despite a few exceptions, have not yet been able to follow a similar globalization path as East Asian economies. But recently net FDI into African countries has almost reached the receipt of net ODA that East Asian countries experienced prior to the start of their industrialization. A significant portion of the FDI inflow to Africa, however, is directed toward the natural resource sector whose ability to generate employment is limited, and these private investment flows need to be redirected toward the non-resource sectors. For this to happen, African countries need to improve their macroeconomic stability as well as their business envi-

ronment. The Compact with Africa (CWA) which was launched at the G20 Hamburg summit supports a handful African countries who have shown their commitment to these reforms. Although certain new investment flows are observed in CWA countries, more needs to be done by the international community to vitalize the CWA so that more private investment in the productive sector should flow into Africa as it did in East Asia.

Another “globalization” opportunity for Africa is the formation of the Africa Continental Free Trade Area (AfCFTA). Many African economies are suffering from a small market size that limits the growth potential of the industrial sector due to the lack of scale economies. The GVCs as in East Asia may be one option, but the formation of regional value chains taking advantage of AfCFTA should be simultaneously pursued. Trade and investment relations with external firms are one of the channels for knowledge transfer, but some studies show that the business relations with firms having a smaller technological gap are easier to bring about such knowledge transfers. The creation of AfCFTA may be a stepping stone for African firms to increase their business collaboration within the region, which has until now been constrained. For the regional value chains too, similar interventions to those that helped GVCs, such as infrastructure development, business capacity and institutional development, and investment climate improvement are needed.

Business collaboration – either with firms from advanced economies or within the African continent – needs the capacity of such firms to enhance and maintain the quality of products. Without this, the effective business relationships that form value

chains cannot be sustained. In addition, for knowledge spillovers through FDI or exports to occur, local firms, mostly small and medium-sized enterprises (SMEs), require a sufficient capacity to absorb knowledge or skills. In this regard, the effectiveness of the KAIZEN initiative has been proven in many African economies to be a method of improving basic managerial processes and thus productivity.

SHARING THE DEVELOPMENT OUTCOME AMONG THE POPULATION

Although the promotion of substantial private investment is essential and indispensable for sustainable economic development, the development outcome needs to be shared among society. In this regard, the proper social environment surrounding investment activities, especially at an early stage of industrialization, is needed to secure most of these investments and support socially coherent development outcomes. The dependence on the natural resource sector is a conspicuous example of dividing societies into those that benefit from such investments and those that do not. But a similar unfavorable effect can occur in non-resource investments too. In fact, low-level conflicts such as riots and vandalism are more frequently observed in middle-income African countries where private investment is increasing. Such social conflicts are caused by political tensions among the population due to a sense of inequality or the lack of opportunity. Without a proper governance mechanism to regulate private investment, development policies to promote private sector-led growth may face even stronger social protests.

As the economy needs industrialization to help people lead a decent life, the

economy also needs developments in the agriculture sector. Despite recent high growth, productivity in the African agriculture sector remains stagnant and many rural households are still left at subsistence level. The poverty headcount ratio has declined but the absolute number in extreme poverty as well as the number of stunted children has increased. Improvements in agricultural productivity are essential in coping with this situation. Current production growth in Africa's agriculture sector is primarily due to land expansion, rather than productivity growth. African economies need to increase their agricultural investment, technical and financial assistance to the food processing sector, and improved access to agricultural input markets. Policies, at the same time, need to be targeted to address vulnerability and enhance the resilience of rural livelihoods.

The agriculture sector is the home for nearly 60% of the overall labor force and 78% of the working poor. African economies need to transform this sector from a barely subsistence industry to an appealing industry for the next generation. There is a new and growing opportunity of large markets in fresh food and processed agriculture commodities, after recent high rates of economic growth and urbanization. As income levels rise, more African consumers in the urban area start to demand more diversified food, both fresh and processed, of high quality. The African agriculture sector needs to be networked into the agricultural food value chains by promoting the newly emerging food processing sector in the region, utilizing the G20 countries' experience in their transformation process.

As businesses grows in the industrial sector or the agricultural sector, some groups may remain left out of the development process. Inclusive development is not just a distribution of development outcomes to the disadvantaged population, but rather an effort to let them be involved in the development process. One impedi-

»The creation of AfCFTA may be a stepping stone for African firms to increase their business collaboration within the region.«

ment for those disadvantaged people, especially women and rural populations as a whole, is their lack of education or training. If we wait for them to finish formal education, we will lose a generation or two before African countries achieve inclusive growth. Some innovative information technologies, which "embed" necessary knowledge in running businesses, may help those disadvantaged people to start getting benefits without formal education.

COPING WITH THE RISKS OF MACRO-ECONOMIC INSTABILITY

Recently, African economies have gained access to more diversified sources of financing. While this is a welcome start to filling the vast gaps in development spending, these financial flows raise another concern for macroeconomic stability. African countries enjoyed significant debt cancellation a decade ago under the Heavily-indebted Poor Countries (HIPC) initiative and the Multilateral Debt Reduction Initiative (MDRI). With this debt cancellation, significant resources were freed from debt servicing to assist in domestic development purposes. But almost a decade later, many African countries are facing debt risks again. According to the World Bank, now seventeen of the thirty low-income countries in Africa are classified as either in debt distress or high-risk countries. African countries must improve their fiscal and debt management capacities, but also the principle of responsible financing both on the borrowers and lenders need to be ensured. Furthermore, if (or when) the debt risks materialize, how the international community will be able to help these countries in an orderly restructuring of debt without restricting

much-needed development and social expenditure is a concern, since a major part of today's debt is from non-traditional sources, i.e., non-OECD lenders or private financiers.

For African countries not to return to the debt distress situation again, one of the most needed actions is domestic resource mobilization. Average tax revenue to GDP is only 18% in Africa, as against 26% in the average emerging and developing economies across the world (IMF World Economic Outlook database). African countries thus need to raise domestic resources to finance their development needs.

CONCLUSION

The above discussion covered the major – though not all – issues which are to be addressed at the T20 Japan. Some of them are relatively new issues while others have been discussed for a long time. For the international community to work with African countries in achieving sustainable growth, policymakers need to generate a set of achievable policy packages. The T20 as a group of thinkers hopes that discussions based upon academic and practical studies may shed additional light on policy formulation at the highest level of global leaders.

Causing and correcting G20 compliance

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The G20 Research Group is a global network of scholars and professionals in the academic, research, business and nongovernmental communities with the mission to serve as the leading independent source of information and analysis on the G20. It is directed from Trinity College, the Munk School of Global Affairs and Public Policy and the Department of Political Science at the University of Toronto.

ABSTRACT

In recent years, multilateralism has faced significant threats. The rise of populist sentiment in Western countries, trade wars, and slow economic growth have undermined trust in multilateral institutions. The G20 often faces criticism for being an ineffective problem-solving forum and for lacking formal accountability mechanisms and members' compliance with their commitments. Yet the evidence from the G20 Research Group shows that G20 members do comply solidly with the commitments they make at one summit before the next one takes place. Some summits have fostered higher compliance than others. Understanding what causes compliance and how it can be improved is essential for the future of the G20. Compliance is improved by making more commitments, holding ministerial meetings, specific catalysts contained in the commitments, and reciprocity in compliance among members rather than following a single dominant actor in the club.

CHALLENGE

The challenge of improving the effectiveness of G20 governance requires determining which characteristics of the G20 system and of the commitments made at summits produce compliance with those commitments. Although several scholars

have focused on this issue, there is still a limited understanding of what drives G20 compliance (Kirton and Larionova 2018a; Cicci 2018; Hallink 2018; Kokotsis 2018; Kulik 2018; Marchyshyn 2018; Motala 2018; Rudich 2018; Tops 2018; Wang 2018; Warren 2018a, 2018b; Williams 2018).

This article thus explores the causes of compliance with commitments made at the twelve G20 summits from Washington in 2008 to Hamburg in 2017. First, it examines if the number of commitments made at the summit affected members' compliance with those commitments. On one hand, a higher number of commitments may enhance compliance because the commitments, which are narrowly defined and provide specific requirements and directions for the leaders, many induce compliant behavior that constitutes compliance for similar commitments. On the other hand, too many commitments may prevent leaders from directing their efforts to the most pressing issues and priority commitments and may thus lead to lower compliance because neither leaders, ministers nor officials can monitor and complete too many objectives at the same time.

Second, this article examines ministerial reinforcement, which has been previously identified as one of the plausible causes of compliance (Kirton and Larionova 2018a, 2018b). The ministers responsible for the specific policy area who meet before, during, or after the summit perhaps craft their commitments in a way that they know they will be able to comply with in the following year or monitor compliance. Third, the effect of the substantive "catalysts" contained in the text of each commitment on members' compliance is

»»Holding pre-summit ministerial meetings had a positive impact on compliance across all policy areas.««

PROPOSALS

The number of commitments

From the 2008 Washington Summit to the 2017 Hamburg Summit, G20 leaders made 2,398 collective, politically binding, future-oriented commitments. Over ten percent (246) of the commitments have been assessed for compliance by the G20 Research Group. Average compliance was 71%.¹

A high number of commitments made at a summit did tend to enhance compliance. The average number per summit was 200. At 68.5%, compliance was lower from summits that had fewer than 200 commitments. When more than 200 com-

mitments were made, compliance was higher at 74.5%.

Nineteen of the 20 members (including the European Union) had higher compliance when the number of commitments increased. Japan was the only exception: its lower compliance corresponded conversely to a higher number of commitments. Mexico was the most responsive G20 member. Its compliance increased significantly when the number of commitments was higher.

»References to ministers may make those ministers accountable for the specific commitments.«

The relationship between the number of commitments on a specific subject made at a summit and the average compliance of members with the assessed commitments on that subject differed from one subject to another. On energy commitments, there was a strong positive and statistically significant relationship, suggesting that a high number of commitments may lead to higher compliance. No statistically significant effect was found on commitments on agriculture, labor, trade, macroeconomics, or financial regulation. Given the small

sample size of only twelve summits, it is too early to conclude that a high number of commitments improves compliance. However, it appears that there was a trend toward enhanced compliance when the number of commitments was high. Therefore, the G20 leaders should consider creating a high number of commitments, in part by breaking commitments down into more detailed components that become commitments of their own.

Ministerial reinforcement

Overall, holding pre-summit ministerial meetings had a positive impact on compliance across all policy areas. The results of a regression analysis showed that the presence of at least one ministerial meeting before the summit enhanced compliance by 8%. Pre-summit ministerial meetings also had a particularly strong positive impact on compliance for some countries, notably Argentina, India, and Mexico. In contrast, the UK's compliance decreased when the number of pre-summit ministerial meetings rose.

On subject-specific compliance, the results were mixed. Indeed, compliance with G20 energy commitments was lower from the summits that held a pre-summit energy ministerial meeting. Pre-summit trade ministerial meetings had a weak positive effect on compliance. Pre-summit ministerial meetings of food and agriculture, labor and employment, macroeconomics, or financial regulation had no statistically significant effect on leaders' compliance. It may be that holding more meetings of finance ministers and central bank governors enhances overall compliance rather than subject-specific compliance and that more meetings in all issue

areas leads to greater international cooperation overall.

There was a strong positive relationship between the number of pre-summit ministerial meetings and the number of commitments made at the subsequent leaders' summit. It is possible that the ministers responsible for a specific issue area help to define detailed commitments and thus increase compliance in the following year. The G20 leaders should therefore instruct their ministers to hold pre-summit ministerial meetings and to shape the upcoming summit commitments.

Compliance catalysts

Catalysts are specific words or directions embedded in the commitments, in part to guide implementation and enhance compliance (Kirton and Larionova 2018b).² There have been 135 commitments assessed for compliance that contain at least one of the 18 catalysts identified. For this study, the effect of the substantive catalysts contained in the text of each commitment on members' compliance was estimated. The results show that embedding compliance catalysts into commitments can hinder compliance, except for the catalyst of a reference to ministers and some other catalysts with country-specific positive effects.

Most compliance catalysts had no statistically significant effect on compliance. However, several compliance catalysts embedded in the commitments hindered compliance. In particular, commitments that referred to a multi-year timetable, requests for self-monitoring, references to other international organizations and regional organizations, and mention of a specific country or region lowered compli-

ance. The results of the multiple regression analysis showed that a multi-year timetable lowered compliance by 7.4%. Self-monitoring mechanisms lowered compliance by 22%. References to international organizations lowered compliance by 21%. References to a specific country or region lowered compliance by 17%. In sharp contrast, mentioning ministers responsible for a specific issue increased compliance by 23%. References to ministers may make those ministers accountable for the specific commitments.

The effect of catalysts on compliance varied by country. There were a few cases with significant positive effects. The minister-reference catalyst increased Brazil's compliance by 45%, Saudi Arabia's by 63% and South Africa's by 40%. The catalyst of a reference to a past summit increased Germany's compliance by 15%, and the United Kingdom's by 15%. The catalyst of setting a numeric target enhanced Italy's compliance by 18%. Money mobilized increased Korea's compliance by 28%.

However, there were more cases with significant negative effects. The numeric target catalyst decreased Argentina's compliance by 20%. A reference to a specified agent decreased Canada's compliance by 15%, Saudi Arabia's by 18% and India's by 21%. Multi-year timetables decreased the EU's compliance by 14%, Germany's by 17%, India's by 19%, the United States' by 24% and Turkey's by 26%. A reference to self-monitoring decreased Australia's compliance by 30%, the UK's by 37% and Germany's by 39%. A reference to other international organizations lowered Germany's compliance by 38%. Money mobilized decreased India's compliance by 30%. A reference to international law decreased

India's compliance by 23%. A reference to a country or region decreased Korea's compliance by 74%. A reference to the private sector decreased Mexico's compliance by 30% (see Table 1).

The more catalysts in a commitment, the lower the compliance. Compliance for commitments without catalysts was 76%.

Indeed, compliance with commitments with one catalyst was 70%, with two 68%, with three 66%, with four 64%, with five 69%, and with six 50%.

Thus, although some catalysts enhance compliance, most decrease it. Commitments that do not contain any catalysts perform better. Leaders should,

Table 1: Country specific effects of catalysts

| Country | Catalysts | |
|--------------|----------------------------------|-------|
| Argentina | Target | - 20% |
| Australia | Self-monitoring | - 29% |
| Brazil | Ministers | + 45% |
| Canada | Specified agent | - 16% |
| China | - | |
| EU | Multi-year timetable | - 14% |
| | One-year timetable | - 16% |
| France | - | |
| Germany | Multi-year timetable | - 17% |
| | Other International organization | - 38% |
| | Past reference to summit | + 15% |
| | Self-monitoring | - 39% |
| India | International law | - 23% |
| | Money mobilized | - 30% |
| | Multi-year timetable | - 19% |
| | Specified agent | - 21% |
| Indonesia | + | |
| Italy | Target | + 18% |
| Japan | - | |
| Korea | Country or region | - 74% |
| | Money mobilized | + 28% |
| Mexico | Private sector | - 30% |
| Russia | - | |
| Saudi Arabia | Ministers | + 63% |
| | Specified agent | - 18% |
| South Africa | Ministers | + 41% |
| Turkey | Multi-year timetable | - 26% |
| UK | Past reference to summit | + 15% |
| | Self-monitoring | - 38% |
| USA | Multi-year timetable | - 24% |

therefore, avoid using compliance catalysts in their commitments and thus give those who work directly for the leaders and must implement those commitments greater flexibility and freedom in how they do so.

»Smaller clubs that are more strongly interconnected follow one another in compliance.«

Hegemony, reciprocity, and component clubs

Does any G20 member's compliance affect the other members' compliance? According to the theory of hegemonic stability, the most powerful countries influence the actions and performance of the remaining weaker countries (Cormier 2018). In the G20, the "follow the leader" variant of the hegemony hypothesis predicts that when the United States or China fully complies, all others will follow. An alternative theory is reciprocal compliance. It hypothesizes that any member, not just the most powerful, can influence compliance. The results of a correlation analysis show that the G20 acts as a reciprocal group. Neither the United States nor China is a hegemonic leader in G20 compliance. Moreover, the

estimation of the joint power of the United States and China demonstrates that the two superpowers counteract rather than co-direct each other's influence on the remaining G20 members.

The G20 as a whole acts as a reciprocal group, but smaller clubs that are more strongly interconnected follow one another in compliance. The correlation analysis suggests that individual members' compliance was determined by their membership in other smaller component clubs, notably the G7, BRICS, and, above all, the European Union. In particular, the correlations among the G7 members and the BRICS members stood out. Members' compliance in these groups is more aligned than the overall reciprocal relationship in the G20. However, these two groups comply highly with different commitments. Moreover, the average G20 compliance of BRICS members was 67.6%, substantially lower than the G7 members' average of 77%.

Countries that are closely connected in the international arena, share common values of democracy, and are highly interdependent (as G7 and EU members are) comply together to a high degree. One plausible explanation for this trend is the homogeneity of the G7, BRICS, and the EU and the heterogeneity of the G20. G7, EU and BRICS members have relatively similar economic and political structures. For example, the G7 members have experienced relatively low economic growth, have high gross domestic product (GDP) per capita, and are stable democracies. BRICS countries have experienced higher economic growth on average, and have lower GDP per capita.

The similarity in compliance was approximated with the correlations of each member's GDP growth with every other

member, using World Bank GDP growth data (World Bank 2018). Countries with similar GDP growth tend to comply with the same commitments. However, when the membership in the G7 and BRICS is accounted for, the effect of GDP growth becomes insignificant.

»Countries with governments that are most closely politically interconnected in component clubs tend to comply with the same commitments.«

The Freedom House Democracy Index was used to approximate political similarity (Freedom House 2018). Democracies

have higher compliance than authoritarian governments, but authoritarian governments often comply with the same commitments as democratic governments and the governments with the same democracy score often comply with different ones. It appears that the similarity in compliance is driven by the international political factors, namely being members of other clubs such as the G7, BRICS or the EU, rather than by the GDP growth or democracy levels of the members. A potential explanation for higher compliance similarity within clubs may be that members of the G7 and BRICS now meet more often or at more regular intervals than the G20, resulting in stronger networks of national leaders' cooperation. In addition, these two groups may compete with each other within the G20 for influence on the global stage. Similarly, G20 members that are also members of the Organization for Economic Co-operation and Development tend to comply with the same commitments, as do G20 members of the North Atlantic Treaty Organization.

In conclusion, countries with governments that are most closely politically interconnected in component clubs tend to comply with the same commitments. The goal of the G20 leaders should therefore be to bridge the gap in compliance between the G7 and the BRICS and to encourage inter-club cooperation.

¹ This figure includes interim compliance scores from the Hamburg Summit. Available online at: <http://www.g20.utoronto.ca/compliance/2017hamburg-interim/index.html>.

² See "Appendix 1-B: Compliance Catalysts" for a full explanation of catalysts, available at <http://www.g20.utoronto.ca/accountability/01-app-1b.html>.

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A key message from the Paris Peace Forum

Defusing cross-national misperceptions and advancing inclusive global governance

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The V20 is an inclusive coalition of global scholars, think tanks, and policy makers aiming at providing a long-term perspective and solutions to address the challenges of global economic and environmental governance. [The principals of the V20 include the University of British Columbia, led by Yves Tiberghien; the Munk School of Global Affairs & Public Policy at the University of Toronto, led by Alan S Alexandroff; and the Brookings Institution led by Homi Kharas and Colin Bradford]. The V20 has held four summits or workshops to date (Hangzhou, 2016, Washington DC, 2017 and 2018, Buenos Aires 2018 (<http://www.thevision20.org>)).

“Friends, a lack of willingness and inability to engage in dialogue are exactly what fed mistrust and the logic of war that set in motion the violent juggernaut of 1914. Lack of communication. There is a book about the First World War that refers to ‘sleepwalkers’ – this was the main reason behind the collective failure that led to crisis and catastrophe.”

Speech by German Chancellor Angela Merkel at the opening of the Paris Peace Forum on November 11, 2018

“Of these ceremonies for the centenary of the 1918 Armistice, history will no doubt remember an image: 84 heads of state and government from once warring nations, peacefully reunited in Paris under the Arc de Triomphe. But what remains uncertain for the future is the way that image will be interpreted; will it be the vivid symbol of a lasting peace between nations or, on the contrary, a photograph showing a final moment of unity before the world descends into fresh chaos? And this depends on us alone.”

Introductory speech by French President Emmanuel Macron at the Paris Peace Forum, November 11, 2018

“In his book *The Sleepwalkers*, the historian Christopher Clark re-examined

the origins of the First World War. As part of his analysis of national rivalries, he insisted that the political leaders of the time were blind. Locked into distorted perceptions of their enemies, cut off from the realities of the world and its peoples, they precipitated an unlimited war [...]

Ladies and gentlemen, a weakening of the democratic spirit of compromise and an indifference to collective rules are twin poisons for multilateralism [...]

Without the multilateral system and respect for international rules, we risk a return solely to power relations, reward-sanction mechanisms and a cycle of frozen conflicts.”

Address to the Paris Peace Forum by UN Secretary General António Guterres, November 11, 2018

»We are now engaged in a great race against time and against the traditional gravity of international politics.«

The Paris Peace Forum (PPF) on November 11–13, 2018 was both a sober

recollection of the horrors unleashed by humanity over its recent history and a celebration of the human potential to reinvent its common planetary governance. The summit convened by French President Emmanuel Macron, with strong support from German Chancellor Angela Merkel and UN Secretary General António Guterres, brought together 65 heads of state and government, 10 heads of international organizations, hundreds of civil society leaders, large foundations and private companies, academics and think tankers, along with 6000 visitors.¹ As noted by the President of the PPF Steering Committee, Pascal Lamy, the forum had 3 key objectives:

- commemorate the sacrifices of World War I;
- make a plea for multilateralism at a time of great crisis; and
- incubate new solutions to advance the work of global cooperation.

What were the messages and the impact of the Paris Peace Forum? All activities of the PPF were focused on five themes: peace and security, the environment, sustainable development, new technologies, and inclusive economy. For its participants, the PPF was a deeply moving but paradoxical experience. Through its truly innovative high-level, yet inclusive, roundtables, the forum encouraged a robust exchange of ideas among diverse stakeholders and catalyzed new thoughts. The forum organizers also orchestrated a global competition about 850 multi-stakeholder grassroots projects offering new solutions to global problems and hosted the top 121 such projects on the main floor of the forum. These energetic teams from around the world collectively offered some of the most hopeful and diverse innova-

tions seen in global governance forums. The forum's open structure and multiple parallel sessions of all sizes and without any walls provided a spirit of solidarity and a sense of happening rarely seen in other summits.

At the same time, a sense of crisis and urgency permeated participants. US President Donald Trump, present in Paris that day, refused to attend the forum and sent out instead angry tweets. UK Prime Minister Theresa May left Paris before its opening. May was distracted by the all-consuming Brexit grinder back home. And not a single major state leader from Asia attended the forum. Everyone could sense the presence of growing threats to the global order.

In sum, we are now engaged in a great race against time and against the traditional gravity of international politics. The PPF, the Berlin Global Solutions Summit, the UN, and the Think 20 (led this year by Japan) continue the 100-year effort to defuse destructive power politics and offer instead a cooperative, inclusive, and rules-based order. These initiatives carry the torch of the Wilsonian tradition that inspired the League of Nations, the spirit of the 1928 Briand-Kellogg Pact Against War, and the 1944-1945 efforts that incubated the UN and the Bretton Woods institutions.² They also carry forward the momentum of 2015, when the world came together in crafting the Sustainable Development Goals (SDGs) and the Paris Agreement on climate change. Yet, this global multilateral approach is now engaged in a struggle with today's forces of nationalism, populism, power politics, and cultural misperceptions. Most pointedly is the rising conflict between the US and China, which

threaten stability and prosperity. These are the forces that led the world to destruction one hundred years ago. The remainder of this essay outlines key global risks today before turning to key contributions and deliverables of the PPF. The essay also discusses the limits of the PPF and offers a possible working agenda.

THE HUMAN GOVERNANCE PARADOX TODAY

Over the last two decades, the world has faced the challenges of an unequal globalization, growing systemic risks such as climate change, pandemics, or migration; and the prevalence of conflict and even genocide in many regions of the globe. At the same time, there was a sense of progress in the advances of global governance in trade, environment, cultural protection, and regional integration. There was also a sense of optimism around the narrative of convergence between developing and established economies.

Today, we are facing risks of greater urgency and risks. In fact, if we believe Eurasia Group's Top Risks 2019 Report,³ we have currently entered in a deadly geopolitical cycle that is eroding domestic institutions in key countries, all global institutions and alliances, and even trust among people from various parts of the world. This is happening precisely when we are facing more intense climate and environmental risks, social and migration risks, cyber risks, and other global economic risks (World Economic Report, the Global Risks Report 2019).⁴

I see five primary forces working against global cooperation:

a. Peak globalization and the start of de-globalization, due to the failure of glob-

al rules and national systems to fairly distribute the gains of globalization. Domestic political forces have started to demand major adjustments and protectionism in the U.S. and Europe. The key risk here is that globalization is an asymmetric process: states are often willing to cooperate toward deregulation and a bigger common pie but cannot find a consensus about the process of de-globalization. History shows that unilateral and rapid actions are more likely to happen, leading to tit-for-tat responses by other countries, resulting in an uncontrolled spiral.

»The PPF is an effort toward the creation of new paradigms and coalitions.«

b. Conflicts over global governance: systematically important countries today (starting with the US and China) are unable to agree on fixing, improving, or even maintaining fundamental rules of the cooperative game. Should a financial crisis occur, there is great uncertainty whether key players will be able to cooperate as well as they did in 2008-2009.

c. The current hegemon and anchor of nearly all global governance structures (including the dollar-based global monetary system and the system of global military alliances guaranteeing global stability) has turned against its creation and

is pounding against all dimensions of the global institutional setup. We don't know yet how long this onslaught will last.

d. As China reached the sensitive level of 65 percent of US GDP in nominal dollar terms, the relationship between the dominant power and the rising power has turned extremely competitive and is threatening to engulf the rules-based order. As the US takes on China, China has responded with rigid responses (so far). Both sides see the other as breaking all legitimate commitments. Security folks start winning domestic policy debates in both countries.

e. Facing the threat of fragmentation and erosion of global rules, all players in the world are seeking adjustments, be they regional, bilateral, or unilateral. There is a great sense of uncertainty permeating the global system.

The current struggle, it seems to me, is the embodiment of a greater human governance paradox, along with its three corollaries: the modern humanity paradox, the peace paradox, and the justice paradox:

- The Human Governance Paradox: why can we develop AI and modern medicine, and yet struggle to cooperate on the future of the Earth?

- The Modern Humanity Paradox: how could the internet revolution give us both amazing connectivity and worsening cross-national misperceptions?

- The Justice Paradox: how can justice both be the driver of human excellence and the trigger of human decadence?

- The Peace Paradox: how can we both be so eager and so complacent with peace?

Ultimately, resolving these paradoxes requires us to resolve a deeper paradox: the Human Nature Paradox, along with the Reciprocal Empathy Paradox:

- The Human Nature Paradox: How can we build our systems on the basis of our rationality and then let our emotions take the key decisions?

- The Reciprocal Empathy Paradox: how can we behave reciprocally in groups and ignore the consequences of our actions at the global level?

What is needed is a large-scale counter-movement: a shift in human reflexes favoring deeply rooted local identities and narratives toward a deeper acceptance of global interconnections and identities. This requires triggers, catalysts, and new coalitions. The PPF is an effort toward the creation of such new paradigms and coalitions.

CONTRIBUTIONS AND INNOVATIONS OF THE PARIS PEACE FORUM

It is hard to describe the energy, communication, and creativity that were present at the Paris Peace Forum. The drivers of this new energy were youth, diversity, and a sense of freedom. The leadership was decentralized and diverse and the French organizers succeeded in harnessing hundreds of young volunteers, along with the contributions from the private sector. The entire budget was fundraised within private companies and foundations, a truly revolutionary model in France.

I believe that the PPF made five contributions to the search for global cooperation and innovative solutions to global challenges:

1. An inclusive and hybrid summit: building on the success of the COP 21 in 2015 (that led to the Paris Agreement on climate), the PPF aimed at disrupting traditional and elite forms of global governance. Its organizers built an open structure com-

binning multi-stakeholder conversations in open spaces, with smaller brainstorming sessions, and civil society-driven debates.

»The PPF was an unprecedented gathering of people who rarely meet and yet share a common thirst for human solidarity and mutual care.«

2. Connectivity to the UN agenda: the PPF engaged UN institutions and UN priorities, lending a platform to the discussion on a Global Pact for the Environment, climate change, migration, and, of course, the SDGs.

3. Engagement of top leaders: the PPF sought to pull in national leaders from around the world and to make this global platform relevant to their national audiences. This dialogue between global public good and national politics is often a weak link in the G20 or other traditional forms of global governance.

4. Bottom-up competition for solutions: one of the most inspiring features of

the PPF is its massive bottom-up planetary competition among grassroots solutions to global challenges. The PPF received 850 applications, selected 121 to present their solutions on the floor of the forum with totally equal spaces and formats, and then selected 10 winning coalitions for support and funding by the partners of the PPF. The 10 winning projects were:

- African Union / EU Youth – African Union Commission
- Antarctica 2020 – Ocean Unite
- Climate Resilient Zero-Budget Natural Farming in Andhra Pradesh – Government of Andhra Pradesh
- Data to Combat Torture – World Justice Project
- Digital Democracy Charter – Omidyar Network
- Entreprise et partage de la valeur – Synopia
- International Gender Champions – International Gender Champions / Women@thetable
- Kumekucha – Green String Network
- Ranking Digital Rights – New America
- The World Benchmarking Alliance – Index Initiative, United Nations Foundation & Aviva⁵

5. Innovative public-private partnerships: at the heart of the concept of the PPF is a coalition between the French foreign ministry (Justin Vaïsse), two foundations (Mo Ibrahim Foundation and Körber Foundation), one university (Sciences Po Paris), and two think tanks (the Institut français des relations internationales and the Institut Montaigne). With them, the coalition including a large group of other foundations (many American) and companies that provided much of the funding, along with think tanks, NGOs, and indi-

vidual thought leaders from around the world. This coalition offered a rare and extremely energetic partnership among many stakeholders of global governance from around the world. This is a highly promising experiment.

CONCLUSION – THE AGENDA AHEAD

The PPF was an unprecedented gathering of people who rarely meet and yet share a common thirst for human solidarity and mutual care. It was a hopeful moment, where national leaders met with grassroots innovators and shared a common path for a few hours. It unleashed astonishing energy, hope and connectivity. Its experience has much to contribute to the G20, the UN, and the Berlin Global Solutions Summit.

The PPF did have limitations. First, leaders of key systemically important nations did not join the forum itself: US, China, India, Japan, UK, Indonesia among others. For some, the fact that the forum was incubated from the anniversary of World War I made it less relevant or still painful (China, India, Korea). For others, the ambivalent role of the US or domestic constraints provided disincentives for supporting the initiative.

Ultimately, no positive effort to advance global inclusive cooperative solutions to global challenges, create new global narratives, and save the planet and humanity can succeed if it does not deeply engage key players such as China, India, Japan, Indonesia, Africa, and the US. The future global order will be incubated through a dialogue between the advanced countries that led the current order and the now emerged countries of the collective South or it will not exist.

The PPF needs to go further to engage in the current paradox of worsening cultural misperceptions in the midst of globalization and the internet. There is a huge amount of homework ahead in reconciling national narratives with a global human narrative that must be co-created.

The PPF then needs to be scaled up further and to take the energy from local solutions to address larger-scale challenges.

In the midst of rising global tensions and tit-for-tat cycles of accusations among all parts of the world, the PPF and the Berlin Global Solutions Summit are beacons of hope. For them to play a systemic role in reversing fragmenting dynamics, they must embrace all stakeholders from all regions of the world in an effort to incubate a new inclusive and multiple human narrative for the future our common planet.

¹ <https://parispeaceforum.org/2018/11/16/bringing-together-global-governance-actors-for-3-days-a-major-challenge-successfully-met/>

² See Hathaway, Oona and Scott Shapiro. 2017. *The Internationalists: How a Radical Plan to Outlaw War Remade the World*. Simon and Schuster.

³ <https://www.eurasiagroup.net/issues/top-risks-for-2019>.

⁴ <https://www.weforum.org/reports/the-global-risks-report-2019>

⁵ <https://parispeaceforum.org/2018/11/16/bringing-together-global-governance-actors-for-3-days-a-major-challenge-successfully-met/>

<https://www.bundesregierung.de/breg-en/news/speech-by-federal-chancellor-angela-merkel-at-the-opening-of-the-paris-peace-forum-on-11-november-2018-1549780>

<https://onu.delegfrance.org/Emmanuel-Macron-s-speech-at-Paris-Peace-Forum>

<https://www.un.org/sg/en/content/sg/speeches/2018-11-11/address-paris-peace-forum>

The Global Solutions Initiative for the G20

The Global Solutions Initiative (GSI) is a global collaborative enterprise to envision, propose and evaluate policy responses to major global problems addressed by the G20. It supports the T20 process for think tanks and provides a long-term advisory structure to the G20 and other international institutions. The policy recommendations and strategic visions are generated through a disciplined research program by leading research organizations, and are elaborated in policy dialogues between researchers, policy makers, business leaders and civil society representatives.



German Chancellor Angela Merkel discusses with BBC anchor Evan Davis at the Global Solutions Summit 2018

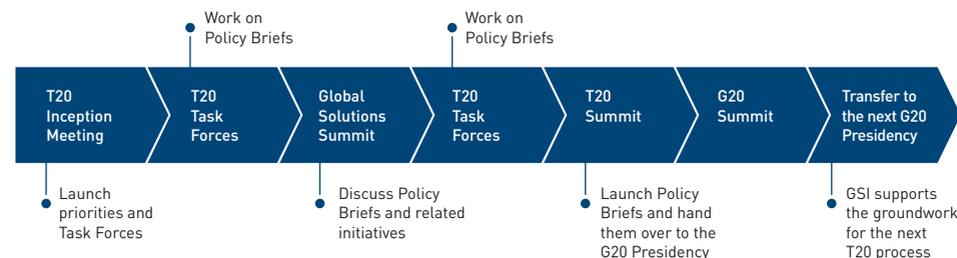
Contributions

- Global research contribution:**
 The GSI is based on a global network of research institutions, connecting national and international expertise in the service of global citizenship.
- Implementation-oriented contribution:**
 The GSI is inherently solution-driven and generates cutting edge policy briefs for the policy leaders of the G20, G7 and other international associations.
- Organizational continuity:**
 The GSI strives to provide a permanent trans-national, trans-organizational structure that is adjusted year by year on a stable platform to promote continuity and policy coherence.

Activities

- Global Solutions Summit:**
 The annual summit, held mid-way through the G20 calendar in Berlin.
- Global Solutions Summer School:**
 Future leaders work on their vision for Global Solutions and take an active role within the summit.
- Publications:**
 - The Global Solutions Journal disseminates policy recommendations from scientists and implementers.
 - The G20 Insights Platform publishes policy recommendations.
- Workshops and conferences:**
 Researchers and implementers take “deep dives” into particular policy areas.

G20/T20-Timeline & the involvement of the GSI



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