

Globalization's Implications for G20 Governance¹

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Abstract

The rapid globalization of money, goods, services, taxation, knowledge, people, political ideas, digitalization, and especially pathogens and ecological pollutants has intensified, along with rising inequality, multipolarity, protectionism, isolationism and geopolitical tensions. Together these factors present new challenges to 21st century global governance led by the systemically significant states which make up the Group of Twenty (G20). G20 governance has expanded in response, but with more success on its old, incompletely globalized economic agenda than on its newer, more globalized digitalization, health pandemics and climate change agendas. The most recent G20 summit in Osaka, Japan on 28–29 June 2019 did make advances on tax and digitalization but not on the looming health risks and the existential threat of climate change. Preparations for the Saudi Arabian-hosted Riyadh summit, to be held on 21–22 November 2020, have made some progress on the latter amidst the unprecedented crisis posed by the COVID-19 pandemic. The crisis shows that the G20's architecture needs to be further strengthened by institutionalizing G20 environment and health ministers' meetings; inviting the executive heads of the United Nations (UN) bodies for climate change, biodiversity, the environment and health, as well as the leaders of key outside countries, to the summits; giving the UN and World Health Organization the same G20 status as the International Monetary Fund and World Bank; and holding a second annual summit at the UN each September focused on the sustainable development goals.

Key words: G20; globalization; digitalization; climate change; Sustainable Development Goals

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Introduction

The Challenge

The rapid globalization of goods, services, taxation, knowledge, people, digital technology, and above all pathogens and ecological pollutants, along with rising inequality and multipolarity, presents new challenges to 21st century global governance by the systemically significant states which make up the Group of Twenty (G20). Such changes have intensified protectionism, isolationism and geopolitical tensions. They have rapidly made climate change, biodiversity loss and health threats such as the current COVID-19 pandemic the greatest threats

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to strong, sustained, balanced, inclusive economic growth and to the G20's distinctive foundational missions of promoting financial stability and making globalization work for all [Kirton, Kokotsis, 2015].

The Debate

These dynamics have inspired a debate among several schools of thought about the dynamics of contemporary globalization and the effectiveness of the G20 in response.

The first school sees G20 failure. Martin Gilman [2018, p. 9] claims that “deglobalization has become a factor in the internal politics of too many countries” and that its source in the economic dynamics and policy “in some of the major G20 economies cannot be sustained much longer.” He writes that “the concerted, post-crisis efforts of the G7 [Group of Seven major market democracies], abetted by the G20, to restore the prevailing liberal global economic framework have been misguided.” He adds that “the G20, especially at the summit level, has become an anachronistic photo op” [Ibid., p. 10]. He concludes that “ironically the forces of deglobalization are intensifying almost despite the global reach of the internet – as seen in areas from security, migration, taxation and trade” [Ibid., p. 12]. He locates the cause in a declining, disruptive United States under President Donald Trump, the decline of G7 economies, and the rapid rise of the emerging G20 economies.

The second school sees G20 decline. Harold James [2017] writes: “Each major challenge – the 1970s inflation and oil price shocks and the recent global crisis – produced some new approaches to multilateral cooperation and coordination: the G5 in 1975 and the G20 advanced and emerging market economies in 2008. In each case, however, a productive initial meeting was followed by a process of routinization that sapped the urgency and capacity to generate major breakthroughs and policy improvements.” He points to Big Data and transparency as a solution. Jean Pisani-Ferry [2019, p. 2] similarly states that “the elevation of the G20 to leaders’ level adjusted the political leadership to the new reality of the global economy... but international macroeconomic coordination was short lived.” A variant sees a role for the G20 in confronting the COVID-19 crisis, but only if its most powerful states cooperate and it adds a G4 inner steering group of the United States, China, Germany and France [Stephens, 2020]. Thus, due to U.S. – China disagreements, the G20 produced only limited results at its emergency summit on 26 March 2020 [Goodman, Segal, Sobel, 2020].

The third school sees G20 economic success and ecological failure. Stephen Bernstein [2019, p. 18] see the G20 effectively responding to the 2008 global financial crisis in international financial institutional reform, development and trade with their environmental failures, but not on environmental issues. They see the G20 doing better than either the G7 or the BRICS grouping of Brazil, Russia, India, China and South Africa in this regard. They conclude “that much more serious repercussions for the international order follow failures of economic leadership and responsibility than follow failures of environmental leadership or great power responsibility.” In a similar spirit, Michael Motala [2019a] concludes that the G20 and the Organisation for Economic Co-operation and Development (OECD) have been a partial success on tax, with their achievements on first order compliance not extending to enforcement.

The fourth school sees continuing G7 success in governing globalization, even with the advent of the more inclusive G20 in response to the global financial crises of 1997 and 2008 [Oldani, Wouters, Andrione-Moylan, 2019, p. 5]. However, both the G7 and G20 struggle to cope with the upsurge in antiglobalization populism in many of their most powerful members. Others see similar potential for the G20 to induce the United States, China and others to cooperate in response to the proliferating COVID-19 shock [Albright et al., 2020; Nye, 2020].

The fifth school sees increasing G20 success on digitalization. John Kirton and Brittany Warren [2018] see G20 digitalization governance expanding in breadth and depth beyond its 2008 framework, moving from crisis response to crisis prevention. This success was fuelled partly by “the shocking surge in populism bred by inequality in the UK and U.S. in 2015 and 2016, by the failure of the established multilateral organizations in response, by the global predominance and equalizing capabilities of G20 members in specialized digital capabilities and their convergence in the economic growth through openness that digitalization brought” [Ibid., p. 16]. However, the G20’s hosting by China in 2016 and Germany in 2017 were the primary causes of success.

Puzzles

Although each of these schools offers valuable insights, all omit a comprehensive, systematic analysis of the dynamics of globalization in the major processes through which it unfolds. Nor do they focus on how each of the major global governance institutions, led by the G20, recognize and frame the process of “globalization,” its causes and its consequences, and how, why, and how well they respond. Moreover, the focus remains on the old pioneering globalization processes of finance and trade rather than shifting to processes of digitalization, health, and climate change in which globalization is more advanced and where the opportunities and threats are more extreme. This study makes a distinctive contribution to the literature by filling these important gaps.

Thesis

This study argues that the rapid globalization of money, goods, services, taxation, knowledge, ideas, people, digital technology and above all pathogens and ecological pollutants – combined with rising inequality, multipolarity, protectionism, isolationism and geopolitical tensions – presents new challenges to 21st century global governance. G20 governance has expanded in response, but has had more success with its old, incompletely globalized economic agenda than on its newer, more fully globalized digitalization, health, and climate change agendas. The G20 summit in Osaka, Japan on 28–29 June 2019 made advances on tax and digitalization, yet failed to cope with the major health risks and the existential threat of climate change. Preparations for the Saudi Arabian-hosted summit to be held in Riyadh on 21–22 November 2020 have been more promising, especially as the United Nations (UN)-based process of delivering the sustainable development goals (SDGs) intensifies and after the COVID-19 crisis struck (see [Kirton, 2019b]). Yet the crisis shows that G20 architecture needs to be further strengthened by institutionalizing the new G20 environment ministers’ meeting; inviting the executive heads of the UN bodies for health, climate change, biodiversity, the environment and health, as well as the leaders of countries most vulnerable and most rapidly becoming carbon neutral to the summits; giving the UN secretary-general and director-general of the World Health Organization (WHO) the same G20 status as the heads of the International Monetary Fund (IMF) and World Bank; and holding a second annual summit at the UN each September, focused on the SDGs.

To support this thesis, this study examines in turn the dynamics of 21st century globalization, G20 summit performance in key aspects of globalization, its performance at the Osaka summit in July 2019, preparations and prospects for the Riyadh summit in November 2020, and the potential to strengthen governance through five institutional reforms.

Globalization in the 21st Century

The creation of the G20 at the level of finance ministers and central bank governors was spurred by the demand for a new form of global governance, driven by the latest stage of globalization in the form of the Asian-turned-global financial crisis from 1997 to 1999 [Kirton, 2013]. It arose in the familiar field of finance, but two decades later acquired the new central dimension of climate change. Here globalization became geographically complete, fully inclusive, far more harmful than helpful, and extremely difficult to control or reverse, even with the increasing action taken by the G20 summit from 2008 to 2020 [Kirton, Kokotsis, 2015; Kirton, Kokotsis, Warren, 2019].

Globalization's Growing Demand for Global Governance

Among scholars there has been great debate about when globalization began, what forms it has taken, what its course and consequences have been and how the concept is best conceived [Sassen, 2007; Scholte, 2005; Sen, 1999; Stiglitz, 2002; Woods, 2006]. In the current era of mass, multidimensional globalization, people have become more directly globally connected through language, information, communication, transportation and technology, the internet and mobile phones, terrorist attacks, global financial crises, health pathogens, biodiversity loss, ocean pollution, and climate change. This was fuelled by the massive opening and democratization of many states and societies brought by the Cold War victory in 1989, much of which remains intact.

Contemporary globalization consists of the unprecedented, step-level increases in the speed, scope, scale, inexpensiveness, global reach, contributing actors, and domestic intrusiveness of natural and socially driven transborder flows of information, images, individuals, money, goods, technology, disease, and pollutants. This creates a single global society that national governments acting alone cannot control. This intensely increasing interconnectedness produces the death of distance, the death of delay, and the death of discreteness, but not the death of difference, as shown by the current protectionist, populist and nativist blowback in leading countries [Kirton, 2019a].

Globalization can be measured by how many people are instantly and directly involved in it as contributing actors or as subjects experiencing its consequences. By this measure, its pace and level have varied widely across its many component parts.

In finance, the 2008 American-turned-global financial crisis was much stronger on all dimensions than its 1997–99 predecessor had been. Yet many people remain uninvolved in finance, even in the most basic sense of having a bank account, let alone a mortgage.

In the related economic fields of trade and investment, the same is true. Moreover, in the first seven months of 2019 world trade declined, with exports down in July by 0.4%, according to the Netherlands Bureau for Economic Policy Analysis [Romel, 2019]. In tax, only a minority of the world's people are now directly engaged in international taxation, tax avoidance or tax evasion, or have been directly affected by those who engage in these activities.

In digitalization, by 2018, 90% of people lived within range of at least a 3G mobile network, but many could not afford to use it [United Nations, 2019, p. 12]. The digital divide remained, as over 80% of individuals in developed countries were online, but only 45% in developing countries and only 20% in the least-developed ones. By 2019, five billion smartphones were being used globally and over half of the world's population was connected to the internet in some form. However, not everyone could freely communicate through the national firewalls or shutdowns that some countries imposed.

In health, people have become more interconnected due to the global spread of non-communicable disease, emerging threats such as antimicrobial resistance, and the periodic eruption of acute outbreak events, notably severe acute respiratory syndrome (SARS) in 2003, the Middle East respiratory syndrome and Ebola in 2014, and the latter again in 2019. The current COVID-19 pandemic was a step-level jump. By 7 April 2020, four months after it started in China in December 2019, it had infected 1,381,014 people and caused at least 78,269 reported deaths in over 200 countries and territories, bringing feature and behavioural changes with it.

Unlike the 1918–19 influenza pandemic, the COVID-19 pandemic rapidly became an economic, trade, financial, employment, social, political, and security crisis. By early April, the world had plunged into a severe recession, international trade was cut, and the International Labour Organization (ILO) had estimated that 195 million jobs would be lost globally [Strauss, 2020]. The pandemic helped Hungary turn from democracy to authoritarianism, reduced the military capacity of the U.S. and others, and increased tensions between the United States and China.

Moreover, the COVID-19 crisis showed how the world's most capably country could quickly become the most vulnerable one, due to the intense interconnectivity created by globalization. By early April, the United States led the world in the number of recorded COVID-19 cases and soon after would also lead in recorded deaths. It was the states of the G7 and G20 that were the most vulnerable; the global death toll on 6 April was led by Italy with 17,127, the United States with 12,854, France with 10,328 and the United Kingdom with 6,159, followed by China with 3,333, Germany with 2,016, Turkey with 725, Brazil with 688, and Canada with 381. All G7 members but Japan were in the top 10 in terms of the global death toll, all G20 members had recorded deaths, and G20 members along with Iran led the world's death toll.

In the less visible, cumulative dimension of climate change, and the closely related fields of biodiversity and oceans, globalization is complete. Compounding catastrophic consequences make climate change the greatest financial and economic threat of the current and coming decades. A report released by the Intergovernmental Panel on Climate Change (IPCC) on 8 October 2018 noted that the world would suffer \$54 trillion in economic damages due to global warming of 1.5°C between now and 2040 [Hoegh-Guldberg et al., 2018; Keefe, 2018]. Between 1998 and 2017, direct economic damages from disasters totalled almost \$3 trillion, with climate-related disasters accounting for 77% and rising by 151% [UN, 2019, p. 23]. Global investors estimated that climate change could cause permanent economic damage of up to four times that of the 2008 global financial crisis, with one member estimating that a 4°C temperature rise beyond pre-industrial levels could cause \$23 trillion in global economic losses by 2100 [Nace, 2018]. Hans Helbekkmo of McKinsey added that “we could see loss rates [from mortgage defaults] similar to the 2007 [subprime crisis] in the next 10 to 20 years” (quoted in [Tett, 2019]). Climate change is also associated with health risks such as antimicrobial resistance and COVID-19 as it helps concentrate animals in closed spaces close to humans, transmitting pathogens from animals to humans who have no natural resistance to them, nor treatments or vaccines.

Contemporary globalization requires G20 governance. The transnational spread of natural, social and economic forces requires governments to engage in greater international cooperation as protective national measures largely fail. Among the many candidates, the G20 stands as the institution most likely to govern globalization effectively. This is due to its 21st century design as a group of systemically significant states commanding not only globally predominant relative capability in almost all relevant spheres, but also to the intense connectivity and resulting mutual vulnerability that renders them all effectively equal in their need to cooperate to save themselves and the global community as a whole [Kirton, 2013].

G20 Summit Performance in Globalization's Key Sectors

From its start in 2008 through to 2019, the G20 summit governed the leading sectors of contemporary globalization with varying degrees of effectiveness (see Appendix A).

The concept of globalization was first introduced into global summit governance at the 1988 G7 summit in Toronto [Kirton, 2013]. In 1999 the first official G20 statement quoted Canadian finance minister and G20 chair Paul Martin as saying "The G20's work will focus on translating the benefits of globalization into higher incomes and better opportunities for people everywhere... There is virtually no major aspect of the global economy or international financial system that will be outside the group's purview" [G20, 1999a]. The communiqué of the first meeting of G20 finance ministers and central bank governors, held in Berlin on 15–16 December 1999, similarly stated: "They discussed a range of possible domestic policy responses to the challenges of globalization, and... the role of the international community in helping to reduce vulnerability in crisis" [Ibid., 1999b]. At their second meeting, held in Montreal on 25 October 2000, their communiqué focused fully on globalization and added to its trade and finance components tax evasion, money laundering, corruption and "serious issues such as infectious disease, agricultural research and the environment" [Ibid., 2000].

While G20 summitry began in 2008, leaders have recognized the process of globalization in their outcome documents at only three of the 14 summits they have held to 2019.

At their second summit, in London in April 2009, G20 leaders [2009] stated: "We believe that the only sure foundation for sustainable globalisation and rising prosperity for all is an open world economy based on market principles, effective regulation and strong global institutions." They agreed to reform "our international financial institutions for the new challenges of globalisation." In contrast to the post-1945 compromise of embedded liberalism (see [Ruggie, 1983]), social protection from international openness was now to come from international regulatory institutions, rather than domestic redistributive ones.

However, when the G20 next addressed globalization at Cannes in November 2011, the leaders returned to the traditional 1945 formula. They stated: "We are determined to strengthen the social dimensions of globalisation. Social and employment issues, alongside economic, monetary and financial issues, will remain an integral part of the G20 agenda" [G20, 2011].

This return to the traditional embedded liberalism acquired new components when the G20 [2017] next addressed globalization, at the Hamburg summit in July 2017. Its declaration said: "Globalisation and technological change have contributed significantly to driving economic growth and raising living standards across the globe. However, globalisation has created challenges and its benefits have not been shared widely enough. By bringing together developed and emerging market economies, the G20 is determined to shape globalisation to benefit all people." To do so the leaders pledged to "exchange experiences on... technological change, and on appropriate domestic policies." To achieve "an inclusive, fair and sustainable globalisation" they committed to "fostering the implementation of labour, social and environmental standards and human rights." They identified as the driving forces "the impact of new technologies, demographic transition, globalisation and changing working relationships on labour markets." They thus added digitalization and the natural environment to their globalization problématique.

In general, G20 summit performance was high among the core economic subjects (macroeconomic policy, financial regulation, tax) on which the G20 summit first focused, but not on trade where globalization remained relatively low. G20 performance was lower in the newer fields of health, digitalization, climate change and energy, where globalization was relatively high. The G20 has thus been an effective governor of the old economic globalization in re-

sponse to the shocks that globalization has brought, but has been less effective in proactively governing the new globalization, or the acute shocks that have proliferated in recent years. A systematic examination of G20 summit performance by the established methodology supports this claim [Kirton, 2013; Kirton, Kokotsis, 2015; Global Governance Program, 2019a; 2019b].

On the core economic subject of macroeconomic policy from 2008 to 2019, 467 commitments were made at G20 summits, constituting 19% of the 2,526 commitments made. This put macroeconomic policy in first place. Compliance averaged a high 80%, well above the 71% compliance average overall [Wang, 2019]. The closely related field of financial regulation had 340 commitments (13% of the total) and compliance of 80% [Nikolaeva, 2019]. Tax received 85 commitments (3.5% of the total) and compliance averaged a very high 85% [Motala, 2019a; 2019b]. Trade received 169 commitments (7% of the total) and had compliance only 67% [Marchyshyn, 2019].

Digitalization had 28 core commitments and 37 related ones, for a total of 65. Compliance with the five core commitments assessed averaged a very low 57%. However, the four digitally related development commitments assessed averaged a high 85% [Williams, 2019]. Health had 75 commitments with 73% compliance [Warren, 2019b] (see Appendix B). Climate change had 92 commitments with 69% compliance [Ibid., 2019a] (see Appendix C). The closely related field of energy had 155 commitments with 71% compliance [Kokotsis, 2019].

Thus, the core subjects of the old, partial economic globalization tended to have high G20 performance and those of the newer, more complete digital, health, and ecological globalization had low G20 performance.

G20 Governance at the Osaka Summit in 2019

This pattern was evident at Osaka in June 2019, where G20 leaders performed well on their priorities of tax and digitalization, did less well on health, and failed on the urgent, existential threat of climate change.

Tax

On the old issue of tax the G20 excelled in partnership with the OECD. At Osaka, G20 leaders agreed to produce by 2020 a revolutionary regime to ensure that companies paid their fair share of taxes in the countries where the value was created by their customers and users, rather than in the country where they arbitrarily declared their headquarters to be. The historic formula based on static, exclusive, sovereign territorial states that had prevailed since 1648 would be replaced by one appropriate for the 21st century world of globalized flows. The new regime could be accompanied by a minimum tax on firms to ensure they could not hide in tax havens. The new regime, once implemented, will do much to help the governments poor and rich countries alike to raise the financial resources required to meet their people's needs.

Digitalization

The G20's greatest achievement was the launch of the Osaka Track for "data free flow with trust," Japanese prime minister Shinzo Abe's signature initiative as host of the summit. Almost all G20 leaders, including U.S. president Donald Trump and Chinese president Xi Jinping, agreed to launch this process for rules-based multilateral trade liberation by providing a highest-level political push to the e-commerce negotiations at the World Trade Organization (WTO), aiming for substantial progress by June 2020. Although India, South Africa and Indo-

nesia did not join, Indian prime minister Narendra Modi privately assured Abe that he would not oppose the launch. It was remarkable that China and Saudi Arabia, with their restrictive approaches to international e-commerce and state-controlled approaches to privacy, joined the United States and the other G7 members to launch trade liberalization negotiations in the sector that will dominate international trade and the global economy in the years to come.

A second advance on digitalization came in the security sphere. At Osaka, G20 leaders added a new thrust to their long-standing global security governance [Kirton, 2017]. They adopted, in a stand-alone statement, an Australian initiative, supported strongly by Russia, to combat the use of social media for the radicalization, recruitment, financing, or planning of terrorism, the deadly effects of which had just been seen in the attacks in Christchurch, New Zealand and Sri Lanka.

Health

On health, the Osaka leaders did well relative to their past performance. Their 14 commitments were the third highest among G20 summits to date. The G20 encouraged all developing countries to adopt universal health coverage, highlighted as SDG 3 Target 8, in the near term, and to rely on their domestic resources to finance it as a driver of their own development by 2030. To reinforce the thrust, G20 ministers of health and finance met for the first time on the sidelines during the summit itself. Yet the leaders did nothing to anticipate or prevent the COVID pandemic that was to erupt before the year was out.

Climate Change and the Environment

Osaka's greatest failure came on climate change. It did launch the first global regime to curb plastic and other waste in the world's oceans. This regime would begin with coordinated G20 government action to define the problem, gather reliable data on how much plastic and other waste enters the oceans, determine from where and to what effect, and would then share solutions to reduce and ultimately remove it. G20 leaders also launched the Osaka Blue Ocean Vision to reduce additional marine plastic litter pollution to zero by 2050.

However, on the climate crisis itself, G20 leaders merely prevented a retreat from the meagre consensus reached at Buenos Aires. Nineteen G20 members reaffirmed their intention to implement the 2015 Paris Agreement and improve their commitments there. The United States repeated its intention to withdraw from the Paris Agreement and extolled U.S. accomplishments in promoting clear energy technology and reducing greenhouse gas emissions. No G20 leaders promised new measures to confront the climate crisis already at hand. The entire G20 did repeat the historic commitment from the 2009 Pittsburgh summit to phase out inefficient fossil fuel subsidies in the medium term. Yet, it ignored the fact that the G20 had failed to comply with this commitment by the 2014 due date. Moreover, it added a new condition – “subsidies that encourage wasteful consumption” – that diluted the strength of the original commitment.

This failure on climate change presents a puzzle for the systemic hub model of G20 governance. There were high levels of the model's first key cause – shock-activated vulnerability in the field of climate change and the environment, but low G20 performance as a result [Kirton, 2013].

Japan from the start had given climate change and natural disasters a place on the Osaka agenda, spurred in part by the typhoon that had flooded and closed the Osaka airport in 2018 and the tsunami that had devastated Fukushima and created a nuclear threat in 2011. Awakening these memories was a 6.7 magnitude earthquake in Niigata on 18 June 2019 [Sugiyama, 2019]. Japan set new record highs for heat in early June 2019.

In spring 2019 the United States had historically high and damaging floods in its Midwest farm belt. In June 2019, unusually strong heat waves hit Russia's Siberia, India, Poland and France. Canada's western provinces were struck by an escalating wave of wildfires. In the same year Germany experienced its highest average temperature on record, causing it to shut down a nuclear reactor as a precaution [Batchelor, 2019].

At Osaka, Russian president Vladimir Putin noted the escalating costs of climate change, reversing his position expressed at an Arctic forum in 2017 where he had highlighted the benefits of climate change [The Economist, 2019]. Russia was now warming more than twice as fast as the global average. The number of severe weather events identified by Russia's weather service had risen from 141 in 2000 to 580 in 2018. Yet, in 2019 only 55% of Russians believed humans caused climate change, as they had for the previous decade. They ranked climate change ninth among their main concerns, giving the economy and corruption the top spots.

These visible, directly felt, harmful extreme weather events gave growing public credence to the alarming scientific findings highlighted in the 2018 Intergovernmental Panel on Climate Change report [Hoegh-Guldberg et al., 2018]. The findings showed rising emissions passing a tipping point, leaving only a dozen years at most to prevent the possible extinction of human life. In 2019 a similarly credible report showed severe, unprecedented biodiversity loss [IPBES, 2019].

Adding more visibility were the soaring and spreading mass protests and strikes over climate change. Inspired by 16-year-old Greta Thunberg, student strikes spread across Europe and beyond. The Extinction Revolution movement partially shut down the centre of London and the global financial services centred there. *Our Planet*, the compelling documentary series produced by Sir David Attenborough, rendered publicly visible to many the damage from plastics to the oceans and their fish.

Energy shocks also arose. Between January and April 2019, the world oil price for Brent Crude spiked by 40% to surpass \$75 a barrel. It was widely expected to rise further in the following months due to shutdowns in Venezuela and Libya, and the U.S. decision in late April to end all legal oil exports from Iran. The oil price spiked again, and a new supply cut-off emerged, with the attack on two oil tankers in the Gulf of Oman on 13 June.

Preparations and Prospects for Saudi Arabia's Riyadh Summit in 2020

The prospects were more promising for the G20's Riyadh summit on 21–22 November, given the Saudi Arabian host's priority agenda and incentives as 2020 unfolded.

Priority Agenda

For Riyadh, Saudi Arabia's initial approach had been outlined by Crown Prince Mohammed bin Salam to his fellow leaders in the final session of the Osaka summit. Of his 13 agenda priorities, five were economic: the multilateral trading system and WTO reforms; taxation in the digital economy; economic inclusiveness and fairness; the encouragement of entrepreneurs and small- and medium-enterprises; and infrastructure, artificial intelligence, and the Internet of Things. Three were social: youth and women's empowerment; investment in human capital and skills; and future work, up-skilling and re-skilling. One was related to security: cybersecurity, data flow, and science. Five priorities were ecological: climate change and emissions reductions; financing for the SDGs; food security; energy and water access; and water security and sustainability globally and particularly in the Middle East. Leaders would also address the G20's inherited, built-in agenda, including international health.

Ecological priorities and climate change itself had an unexpectedly premier position. The sixth priority was climate change and emissions reduction, presented directly and in their own right. This was a clear reversal from the agendas of the G20 and G7 in 2019, both of which had downplayed climate change due to the actual and anticipated opposition of U.S. president Donald Trump.

These priorities were intensified and expanded when Saudi Arabia outlined its plans on its official G20 website, launched on 1 December 2019 with the formal start to Saudi Arabia's year as host [G20 Saudi Arabia, 2019]. Its overall theme was "Realizing Opportunities of the 21st Century for All." The three pillars of its agenda were "Empowering People," "Safeguarding the Planet" and "Shaping New Frontiers."

The 22 priorities, for the first time in G20 history, put the natural environment first [Kirton, 2019c]. The six priorities identified under "Safeguarding the Planet" were managing emissions for sustainable development, combating land degradation and habitat loss, preserving the oceans, fostering sustainable and resilient water systems globally, promoting food security, and cleaner energy systems for a new era.

Environmental components also arose directly in three priorities (sustainable development, tourism, and space) under the other two pillars. This offered a foundation for an ecologically mainstreamed, synergistic, multiple benefits approach. "Empowering People" started with scaling up efforts for sustainable development, including SDG implementation and accountability, and contained tourism, including its environmental impact, along with the priorities on education, health, women and youth, tourism, and trade and investment. "Shaping New Frontiers" started with promoting space cooperation, including to "contribute significantly to the protection of common global goods such as climate and the oceans" and continued with the priority areas of digital economy, tax, infrastructure, cities, financial technology, and corruption [G20, 2019].

The Initial Meetings in December 2019

These prospects were strengthened by the discussions at the first preparatory sherpa meeting, held in early December in Riyadh. Sherpas easily accepted the very broad, well-prepared and quite innovative Saudi priorities. It seemed that the three issues of climate change, trade, and digitalization would dominate the summit.

On climate change and the integrally related energy issue, Saudi Arabia offered the apparently strong solution of a circular carbon economy, which all partners could embrace. It included removing and recycling emissions and ensuring an energy transition to a cleaner, greener result. This well-regarded pragmatic approach allowed partners to advance their priorities, including cleaner fossil fuel technologies, which are expected to dominate the energy mix for the next 10–15 years, and which therefore need to be made cleaner. Tourism was welcomed as a priority pragmatically driven by Saudi Arabia's desire to diversify its economy away from its heavy reliance on oil and gas. The sherpas also discussed water management for agriculture. There was no mention or discussion of the priority of space.

On health, the Saudi approach had considerable support. It featured value-based health care, digital health and patient safety.

Digitalization was a cross-cutting issue that elevated the priority of the digital economy and cybersecurity. It was central to the infrastructure priority, as the Saudis for the first time advanced the concept of "infrotech" or the digitalization of infrastructure. It was seen as a way of attracting finance, improving human health and enhancing the ecology.

Incentives for Success

As the Saudi year as host unfolds, several incentives have spurred the Riyadh summit to likely success on the new globalization issues of climate change and, above all, health.

A first incentive is the increasing ecological stress on Saudi Arabia and its neighbours created by climate change. Heat intensified by climate change has been high and rising. It spiked to approach levels in some parts of Saudi Arabia and its neighbours with which the human body cannot not physiologically cope. Climate change has also reduced the availability of fresh water, and harmed agriculture and health in many ways. Such ecological stresses intensified by climate change are also rising in the other Muslim majority members of the G20, including Indonesia, which joined Saudi Arabia as a key member of the Organisation of Islamic Cooperation.

A second incentive is the desire of the Saudi government to diversify its economy away from the hydrocarbons that currently dominate toward a wide array of sectors as outlined in its 2030 strategy [Jalilvand, Westphal, 2018; Kingdom of Saudi Arabia, 2016]. These include the priorities of “Living Healthy, Being Healthy,” “Achieving Environmental Sustainability,” “A Renewable Energy Market,” and promoting sectors such as tourism. Pursuant to this strategy, on 29 September 2019, the new Mutjededa facility at the Saudi Industrial Development Fund started receiving applications for 1.2 billion riyals’ worth of loans for those wishing to create renewable energy facilities or manufacturing components and those wishing to use their products [Nereim, 2019].

A third incentive is the transformation of the global energy market, with the United States emerging as the first-ranked producer, and the growing shift from hydrocarbons to renewables. Here, Saudi Arabia has the potential to be a solar energy superpower. Its long coastlines offer abundant opportunities for offshore wind and tidal power. The devastating missile strike on the key Aramco oil production sites in September 2019 showed that a vulnerable Saudi Arabia cannot not rely on its oil production and exports for its energy security and economic growth, even in the short term.

A fourth incentive is the diminishing political support from a climate change-denying Donald Trump and his fellow Republicans in the United States. They face re-election on 3 November 2020, immediately before the Riyadh summit is scheduled to start. The U.S. president could arrive at the Riyadh summit as a lame duck, or with less congressional support than he had at the start of Saudi Arabia’s year as G20 host.

Support From the UN’s 2030 Agenda and the SDGs

Further support for a focus on climate change control and environmental sustainability at the Riyadh summit comes from the increasing action to implement the UN’s 2030 Agenda for Sustainable Development and the SDGs (see [Warren, 2019c]). Unlike the preceding eight millennium development goals, with three dedicated to the traditional development priority of health, the 17 SDGs are much more ecologically focused. The seven dedicated to ecological sustainability are SDG 13 on climate, SDG 6 on water, SDG 7 on clean energy, SDG 11 on sustainable cities and communities, SDG 12 on sustainable production and consumption, SDG 14 on sustainable oceans, and SDG 15 on terrestrial ecosystems and biodiversity. The G20 had long governed most of these seven to varying degrees, and many of the other related SDGs as well (see Appendix D).

Moreover, the UN has already moved to mount more summits dedicated to climate change, rather than waiting to do so only at the half-decade intervals as it has been since 1992. In particular, the G20’s Riyadh summit will build on the results of the unprecedented cluster of five UN summits which took place in New York in September 2019. These began on 23 Septem-

ber with the climate action summit (to which over 63 country leaders came, including Donald Trump, who made a brief appearance to hear German chancellor Angela Merkel and Indian prime minister Narendra Modi speak) and the high-level meeting on universal health coverage. They continued with high level meetings on financing for development, SDG implementation, and small island developing states (SIDS) a few days later.

UN Climate Change was scheduled to hold COP26, the 26th conference of the UN Framework Convention on Climate Change (UNFCCC), at the leaders' level in Glasgow, Scotland on 9–19 November 2020, ending the day before the Riyadh summit starts. Leaders were due to make stronger commitments on climate change control than the inadequate ones they made at the Paris summit in December 2015. They would be spurred to do so by the failure of COP25 in Madrid in December 2019, which was unable even to agree on the rulebook needed to launch a global carbon trading system. However, due to the COVID-19 crisis engulfing the United Kingdom by late March, UN Climate Change postponed the Glasgow summit until 2021. It is thus left to the G20 Riyadh summit to make the necessary advances.

The COVID-19 Crisis and the 26 March Emergency Summit

By far the greatest spur to success at Riyadh is the proliferation of the deadly and destructive crisis in January 2020, the resulting G20 ministerial meetings for health, finance, and energy, and the convening of the first G20 emergency summit, held by videoconference on 26 March [Kirton, Warren, 2020]. At the latter, G20 leaders, in their 1,494-word, 30-paragraph statement, admirably put health first. They opened by declaring that “the unprecedented COVID-19 pandemic is a powerful reminder of our interconnectedness and vulnerabilities” [G20, 2020]. They then declared: “Tackling the pandemic and its intertwined health, social and economic impacts is our absolute priority.” This is a distinctly different message from the one some leaders from the western hemisphere had previously proclaimed when they were home alone, and suggests that they have been converted by G20 summitry to the common, correctly focused cause. They added an empathetic human touch to connect with the people suffering from “the tragic loss of life” and expressed their support to the front-line workers fighting the pandemic. They then promised to do “whatever it takes” to protect lives, safeguard people’s jobs and incomes, and improve people’s economic fortunes.

The first section of the statement, entitled “Fighting the Pandemic,” contains four paragraphs covering a wide range of instruments [Ibid., 2020]. True to the G20’s first focus as an economic and finance forum, the second section on “Safeguarding the Global Economy” offers measures in five paragraphs to minimize the social as well as economic damage, restore growth, and maintain market stability. The third section, on “Addressing International Trade Disruptions,” has three short paragraphs on trade measures to “support the health and well-being of all people.” In the concluding section, on “Enhancing Global Cooperation,” five paragraphs integrate the G20’s health, economic and trade measures, while adding tourism, refugees and migrants, and the security issues of border management and citizen repatriation.

Together the G20 leaders took many important steps. In their principled and normative direction setting, they affirmed the G20’s first distinctive foundational mission of promoting financial stability, but gave more attention to the G20’s second mission to make globalization work for all. On the latter, they specified that they would protect the most vulnerable, send supplies “where they are most needed,” offer “adequate social protection,” “support the health and well-being of all people,” and help developing and least-developed countries, Africa, small island states, and refugees and displaced persons [Ibid., 2020]. On the causal component of the principles they affirmed, they promised to mount a science-based global response, in contrast

to messages heard from some G20 leaders in their instinctive, impromptu, self-confident utterances back home.

In their decision-making, the G20 leaders produced 47 public, precise, future-oriented, politically obligatory commitments, covering a wide range of subjects. They again put health first, with 20 commitments, followed in turn by the global economy with nine, trade with seven, international cooperation with four, financial stability and development with three each, and labour and employment with one. This compares with the performance of G7 leaders in their emergency videoconference 10 days earlier on 16 March which produced 33 commitments, including 21 on health and 12 on the economy, to confront a crisis that was at that time less deadly than it is now.

The 47 commitments made by G20 leaders on 26 March contained many that promised to mobilize new money for health, economic growth, jobs, and development. Here the economy came first, with the headline number of \$5 trillion devoted to this purpose.

To help deliver these decisions, G20 leaders instructed their health and finance ministers to follow up on at regular meetings. These meetings of ministers responsible for a particular subject are the strongest predictor of members' higher compliance with their leaders' related commitments under that same presidency. This thus suggests that greater compliance will come. Compliance with the 75 health commitments that G20 leaders have already made at their regularly scheduled summits averages 73%, so there is a firm basis on which to build.

In the institutional development of global governance, G20 leaders guided their own institutions and those outside in many ways. Inside the G20, they tasked their "Health Ministers to meet as needed to share national best practices and develop a set of G20 urgent actions to jointly combating the pandemic by their ministerial meeting in April" [G20, 2020]. They called for a joint meeting of finance and health ministers in the coming months, an institutional innovation Japan, as host, had pioneered at the Osaka summit in 2019. G20 leaders now also asked their finance ministers and central bank governors "to coordinate on a regular basis to develop a G20 action plan" and declared their support for the Financial Stability Board they had created and control [Ibid., 2020].

Beyond the G20, they made seven references to the WHO, declaring "We fully support and commit to further strengthen the WHO's mandate in coordinating the international fight against the pandemic, including the protection of front-line health workers" [Ibid., 2020]. They followed by guiding the IMF and World Bank Group with three references each, and the Coalition for Epidemic Preparedness and Innovation, Gavi, the Vaccine Alliance, the UN, ILO and OECD with one apiece.

Yet despite this promising start, several shortcomings stand out. First, there was no increase in the permanent base budget of the WHO. Second, G20 leaders did not mandate medical assistance to be provided across borders, nor did they commend the world of non-governmental organizations such as the Red Cross, the Red Crescent, and Médecins Sans Frontières, which selflessly help perform such tasks. Third, G20 leaders did not commit to debt relief for the poorest in a way that could give hard-pressed recipients the funds for health care that they badly need. Fourth, their promise to liberalize trade in health and related goods and services was partial and weak. Even in the section on trade the G20 leaders did not refer to the potential role of the WTO in this regard. Nor did they promise to temporarily suspend some of their members' trade sanctions on Iran, Venezuela and other such countries now struggling with a COVID-19 crisis that could easily spread to their G20 neighbours close at hand. Fifth, there was no reference at all to gender. Sixth, there was no move to make the WHO director-general a permanent member of the G20 summit, as the IMF and World Bank have been from the start. Finally, the G20 leaders thus left much undone as the COVID-19 pandemic escalates in the

coming months. But unlike the G7 leaders 10 days before, the G20 leaders did not promise to meet again the following month to continue their work.

Strengthening G20 Governance

Given this recent G20 and UN failure on the most complete and threatening form of globalization despite the external shocks and compelling science, the G20 architecture needs strengthening through the following reforms.

The first is to institutionalize the new G20 environment ministers' meeting created in 2019 (see Appendix E). It could be combined with the energy ministers' meeting, with each convening separately and then joining for a combined meeting on their many related concerns. G20 health ministers should also meet more frequently. Such ministerial meetings enhance compliance with the commitments their leaders make on the same subjects at their summit [Rapson, Kirton, 2020].

The second reform is to invite to the summit and the relevant lead-up ministerial meeting the heads of UN Climate Change, UN Biodiversity, UN Environment and the WHO, all of whom have the relevant scientific expertise to shape solutions to these key threats.

The third reform is to invite to the summit and ministerials the leaders of the small countries most rapidly becoming carbon neutral, such as Costa Rica, and those currently most vulnerable to climate change, including the SIDS. They can speak from first-hand experience of their vulnerabilities and solutions, and can expand the representational inclusiveness and legitimacy of the G20.

The fourth reform is to give the UN secretary-general and the director-general of the WHO the same formal status as a G20 member that the heads of the IMF and World Bank have enjoyed from the start. This would match the great broadening of the G20 summit agenda since 2008, including its strong move into the ecological, health, and even political security spheres [Kirton, 2017]. It would also reflect the G20's growing concern with the UN's 2030 Agenda and its SDGs.

The fifth reform is to hold a second annual G20 summit at the UN in September each year. G20 governance was most successful when two summits a year were held, as they were from 2008 to 2010.

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Appendix A: G20 Summit Performance, 2008–2019

Summit	Grade	Domestic Political Management			Deliberation			Direction Setting				Decision-Making		Delivery		Development of Global Governance							
		Attendance, %	# Compliments	% Members Completed	# Days	# Documents	# Words	Stability	Inclusion	Democracy	Liberty	# Commitments	Compliance, %	# Assessed	# References	Spread	# References	Spread	# References	Spread	# References	Spread	# References
2008 Washington	A-	100	0	0	2	2	3,567	16	2	10	2	95	75	8	0	4	39	11	0	0	0	0	
2009 London	A	100	1	5	2	3	6,155	29	6	9	0	129	57	7	12	4	120	27	0	0	0	0	
2009 Pittsburgh	A-	100	0	0	2	2	9,257	11	21	28	1	128	67	15	47	4	115	26	0	0	0	0	0
2010 Toronto	A-	90	8	15	2	5	11,078	47	32	11	1	61	68	15	71	4	164	27	0	0	0	0	0
2010 Seoul	B	95	5	15	2	5	15,776	66	36	18	4	153	67	41	99	4	237	31	0	0	0	0	0
2011 Cannes	B	95	11	35	2	3	14,107	42	8	22	0	282	74	22	59	4	247	27	4	2	4	2	2
2012 Los Cabos	A-	95	6	15	2	2	12,682	43	23	31	3	180	77	20	65	4	138	20	7	2	7	2	2
2013 St. Petersburg	A	90	15	55	2	11	28,766	73	108	15	3	281	69	24	190	4	237	27	9	5	9	5	5
2014 Brisbane	B	90	10	40	2	5	9,111	10	12	1	0	205	70	27	39	4	42	12	0	0	0	0	0
2015 Antalya	B	90	0	0	2	6	5,983	13	22	0	2	198	71	24	42	4	54	11	8	6	8	6	6
2016 Hangzhou	B+	95	7	25	2	4	16,004	11	29	34	5	213	71	29	179	4	223	19	14	6	14	6	6

Summit	Grade	Domestic Political Management			Deliberation			Direction Setting			Decision-Making	Delivery		Development of Global Governance				
		Attendance, %	# Compliments	% Members Complimented	# Days	# Documents	# Words	Stability	Inclusion	Democracy		Liberty	# Commitments	Compliance, %	Assessed	Internal	External	Engagement Groups
2017 Hamburg	B+	95	0	0	2	10	34,746	42	61	2	11	76	26	6	307	19		
2018 Buenos Aires	B-	90	0	0	2	2	13,515	23	53	7	2	79	20	5	24	15		
2019 Osaka	B	95	2	5	2	2	6,623	13	16			-	-	5	54	17		
Total	N/A	N/A	65	N/A	28	62	187,370	439	429	188	34	N/A	278	60	2,001	289		
Average	N/A	95	4.6	19	2	4.4	13,384	31.4	31	14.5	2.6	71	20	66.7	4.3	143	21	

Notes.

N/A = not applicable. Only documents issued at a summit in the leaders' names are included.

Grade is based on a scoring scheme created by John Kirton, as follows: A+ = Extremely Strong, A = Very Strong, A- = Strong, B+ = Significant, B = Substantial, B- = Solid, C = Small, D = Very Small, F = Failure (including made things worse). See <http://www.g20.utoronto.ca/analysis/scoring.html>.

Domestic political management: participation by G20 members and at least one representative from the European Union and excludes invited countries; compliments are references to full members in summit documents.

Deliberation: duration of the summit and the documents collectively released in the leaders' names at the summit.

Direction setting: number of statements of fact, causation and rectitude relating directly to stability, inclusion, open democracy and individual liberty.

Decision-making: number of commitments as identified by the G20 Research Group.

Delivery: scores are measured on a scale from -1 (no compliance) to +1 (full compliance, or fulfillment of goal set out in commitment). Figures are cumulative scores based on compliance reports.

Development of global governance: internal are references to G20 institutions in summit documents; external are references to institutions outside the G20; engagement groups are references to official engagement groups. Spread indicates the number of different institutions mentioned.

Appendix B: G20 Performance on Health

Year	Domestic Political Management		Deliberation			Direction Setting		Decision-Making		Delivery		Development of Global Governance	
	Attendance, %	Communique Complements	Words		Documents	Financial Stability	Equality	Commitments	% Overall	Compliance	#	In	Out
			#	%									
2008 Washington	100	0	118	3.2	1	0	0	0	0	–	–	0	1
2009 London	100	0	59	0.9	1	0	0	0	0	–	1	0	0
2009 Pittsburgh	100	0	284	3	1	0	0	0	0	–	1	0	0
2010 Toronto	90	0	139	1.2	1	0	1	0	0	–	–	0	1
2010 Seoul	95	0	643	4.1	4	0	1	0	0	–	1	3	2
2011 Cannes	95	0	470	2.9	3	0	1	0	0	–	–	1	0
2012 Los Cabos	95	0	250	1.9	2	0	0	0	0	–	–	0	1
2013 St. Petersburg	90	0	1340	11.2	5	0	2	0	0	–	–	6	4
2014 Brisbane	90	0	769	8.4	3	0	1	33	16	+0.43 (72%)	4	4	9
2015 Antalya	90	0	481	3.5	3	0	1	2	1.7	+0.20 (60%)	2	5	3
2016 Hangzhou	100	0	234	1.4	4	0	0	3	1.4	–0.40 (30%)	1	4	5
2017 Hamburg	100	0	707	2	3	0	3	19		+0.95 (98%)	1		
2018 Buenos Aires	100	0	316	4	2	0	4	4		+0.85 (93%)	1		
2019 Osaka	100	0	934	14	1	0	6	14		–			
Total	N/A	0	6,744	N/A	34	0	20	75	N/A	–	5	23	26
Average	95	0	482	4	2	0	1.4		1.7	+0.45 (73%)	1.3	2.1	2.4

Appendix C: G20 Performance on Climate Change

Summit	Domestic Political Management		Deliberation		Direction Setting					Decision-Making	Delivery		Development of Global Governance			
	# Communiqué Complements	% Communiqué Complements	# Words	% Words	Financial Stability	Globalization For All	Priority Placement	Democracy	Human Rights	Commitments	Commitments		In		Out	
											Score	% Assessed	Ministers	Officials	# References	# Bodies
2008 Washington	0	0	64	1.7	0	0	0	0	1	0	–	–	0	0	0	0
2009 London	0	0	64	1.0	0	0	1	0	0	3	–0.10 (45%)	33 (1)	0	0	1	1
2009 Pittsburgh	1	5	911	9.7	0	0	4	0	0	3	+0.86 (93%)	33 (1)	4	0	10	5
2010 Toronto	1	5	838	7.4	0	0	0	1	0	3	+0.42 (71%)	100 (3)	0	0	3	3
2010 Seoul	2	10	2,018	12.7	0	0	2	1	0	8	+0.05 (53%)	50 (4)	5	3	20	11
2011 Cannes	2	10	1167	8.2	0	0	0	1	0	8	+0.38 (69%)	37 (3)	2	0	11	7
2012 Los Cabos	0	0	1,160	9.1	0	0	0	1	0	6	+0.59 (80%)	50 (3)	1	5	6	5
2013 St. Petersburg	1	5	1,697	5.9	0	0	1	0	0	11	–0.17 (42%)	27 (3)	0	3	10	7
2014 Brisbane	0	0	323	3.5	0	0	0	0	0	7	+0.51 (76%)	71 (5)	0	0	4	2
2015 Antalya	0	0	1,129	8	0	0	0	0	0	3	+0.70 (85%)	85 (1)	1	1	5	3
2016 Hangzhou*	0	0	1,754	11	0	1	0	1	0	2	+0.58 (79%)	100 (2)	1	3	5	4
2017 Hamburg	0	0	5,255	15	0	0	1	1	1	22	+0.62 (81%)	14 (3)	0	11	26	9
2018 Buenos Aires	0	0	532	6	0	0	0	0	0	3	+0.57 (79%)	79 (2)	0	0	3	3
2019 Osaka	0	0	2034	31	1	1	0	0	0	13	N/A	N/A	1	1	10	9
Total	7	N/A	18,946	N/A	1	2	9	5	2	92	N/A	31	15	27	114	69
Average	0.78	4	1,353	9.3	0.1	0.1	0.88	0.4	0.1	6.6	+0.38 (69%)	69	1.1	1.9	8.1	4.9

Notes.

Domestic political management includes all explicit references by name to the full members of the summit that specifically express the gratitude within the context of climate change of the institution

to that member. The % of members complimented indicates how many of the 20 full members received compliments within the official documents, depending on how many full members there were that year.

Deliberation to number of times climate change is referenced in the G20 leaders' documents for the year in question. The unit is the paragraph. % refers to the percentage of the overall number of words in each document that relate to the climate change.

Direction setting, as priority placement refers to the number of times climate change is referenced in the chapeau or chair's summary for the year in question. The unit of analysis is the sentence. The number in parenthesis refers to environment references. Democracy refers to the number of times there was a reference to democracy in relation to climate change. Human rights refers to the number of times there was a reference to human rights in relation to climate change. The unit of analysis is the paragraph.

Decision-making refers to the number of climate change commitments.

Delivery refers the overall compliance score for climate change commitments measured for that year. % assessed represents percentage of commitments measured. The numbers in parenthesis refer to energy commitments.

Development of global governance refers to the number of references to institutions inside the G20 made in relation to climate change. Ministers refers to ministerial groups. Officials refers to official level groups. Out refers to the number of external multilateral organizations related to climate change. The unit of analysis is the sentence.

*2016 Hanzghou Communiqué reference to climate change-GGA: "We are determined to foster an innovative, invigorated, interconnected and **inclusive** world economy to usher in a new era of global growth and sustainable development, taking into account the 2030 Agenda for Sustainable Development, the Addis Ababa Action Agenda and the Paris Agreement.

Appendix D: G20 Summit SDG Governance, 2008–2018

Sustainable Development Goal		G20 Subject	Deliberation	Domestic Political Management	Direction Setting		Decisions	Delivery		Development of Global Governance	
					Financial Stability	Globalization for All		Score, %	Number Assessed	Inside	Outside
1	Poverty	Development									
2	Hunger	Food and agriculture	13,098	2			123	73	9		
3	Health	Health	5,810				75	73	9		
4	Education	Education	10,341				5	–	0		
5	Gender	Gender	9,881				55	60	11		
6	Water										
7	Energy	Energy	11,440				157	73	21		
8	Jobs	Labour and employment	28,253				153	75	20		
9	Infrastructure	Infrastructure	9,530				44	90	2		
10	Inequality										
11	Cities	Cities	1,706								
12	Consumption										
13	Climate change	Climate change	16,912				91	69	31		

Sustainable Development Goal		G20 Subject	Deliberation	Domestic Political Management	Direction Setting		Decisions	Delivery		Development of Global Governance	
					Financial Stability	Globalization for All		Score, %	Number Assessed	Inside	Outside
14	Oceans	Oceans	1,827								
15	Land	Biodiversity									
16	Peace/Justice	Regional security									
17	Partnership	International cooperation									

Notes.

Compiled by Brittany Warren, 25 September 2019.

*Sustainable Development Goals:

1. No Poverty: End poverty in all its forms everywhere.
2. Zero Hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
3. Good Health and Well-Being: Ensure healthy lives and promote well-being for all at all ages.
4. Quality Education: Ensure inclusive, equitable and quality education and promote lifelong learning opportunities for all.
5. Gender Equality: Achieve gender equality and empower all women and girls.
6. Clean Water and Sanitation: Ensure availability and sustainable management of water and sanitation for all.
7. Affordable and Clean Energy: Ensure access to affordable, reliable, sustainable and modern energy for all.
8. Decent Work and Economic Growth: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
9. Industry, Innovation and Infrastructure: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
10. Reduced Inequalities: Reduce inequality within and among countries.
11. Sustainable Cities and Communities: Make cities and human settlements inclusive, safe, resilient, and sustainable.
12. Responsible Consumption and Production: Ensure sustainable production and consumption patterns.
13. Climate Action: Take urgent action to combat climate change and its impacts.
14. Life Below Water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
15. Life on Land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation, and halt biodiversity loss.
16. Peace, Justice and Strong Institutions: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
17. Partnership for the Goals: Strengthen the means of implementation and revitalize the partnership for sustainable development.

Appendix E: Ministerial Meetings, 1999–2019

Finance	1999–
Employment and Labour	2010–
Tourism	2010–2013
Agriculture	2011, 2012, 2015–2017, 2019
Development	2011
Trade	2012, 2014–2016, 2019
Foreign Affairs	2012, 2013, 2017, 2018, 2019
Energy	2015, 2016, 2018, 2019
Digitalization	2017, 2018, 2019
Health	2017, 2018, 2019
Environment	2019