STRATEGIC PLAN 2020–2025

Centre for International Governance Innovation

Acknowledgements

CIGI gratefully acknowledges the support of founding partners Jim Balsillie and the Government of Canada, as well as contributions from the Government of Ontario and the City of Waterloo.

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Centre for International Governance Innovation

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We are the Centre for International Governance Innovation: an independent, non-partisan think tank with an objective and uniquely global perspective.

CIGI's Mission, Vision and Values

Mission

CIGI builds bridges from knowledge to power by conducting world-leading research and analysis to offer innovative policy solutions for the digital era.

Vision

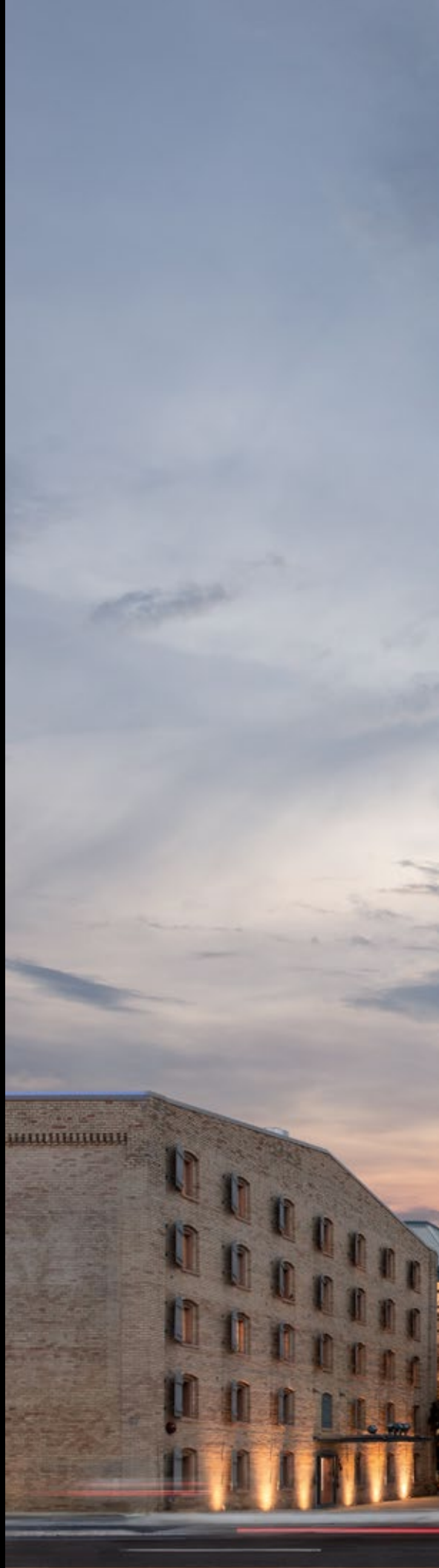
CIGI is an internationally recognized think tank that addresses significant global issues at the intersection of technology and international governance.

Values

Innovation
CIGI fellows and staff demonstrate intellectual curiosity by embracing fresh insights and new policy ideas from a diversity of perspectives. They are willing to take risks and emphasize strengths in the pursuit of creative, groundbreaking governance solutions.

Accountability
CIGI team members take personal responsibility for the quality and timeliness of commitments, regularly communicate expectations, proactively work to address issues as they arise, and act as prudent, efficient stewards of CIGI and partners' resources.

Integrity
CIGI fellows and staff embody the highest professional standards: they behave honestly and ethically; provide open and honest feedback; and seek opportunities to collaborate and consult. They build long-term relationships with internal and external colleagues based on mutual trust and respect.



Contents

RESEARCH THEME:

The Governance Context Is Increasingly Digital

CIGI was founded on the principle that better global governance can improve people's lives. In order to effect better global governance, it is important to identify the gaps (where there are no structures at all) or where the existing arrangements are failing. The institutional, economic and security implications of the governance of data and new technologies present both gaps and failing structures in an alarming way. Twenty years ago, at CIGI's foundation, the glaring gap in global governance was the lack of emerging powers' representation at the tables that mattered, leading to the goal of creating a Group of Twenty (G20) at the leaders' level. Today, the energies of this and other fora have to be harnessed toward creating the norms, rules, policies and institutions to manage the myriad facets of the data-driven digital era. To do this requires bearing in mind the same imperatives of inclusion and good governance that drove the G20 discussions.

The globalization of the last two to three decades has been "unbalanced" — high in movement of finance and the spread of information and communications technologies; slower in the liberalization of trade in goods and services; and lagging in the movement of people and the development of regulatory and other policy responses at the national and supranational levels.

Although globalization is often associated with higher levels of inequality, the reality is more nuanced. Largely due to high growth rates in emerging powers (especially China and India) and anemic growth in developed countries, inequality between countries has declined, while inequality within countries has increased almost everywhere. As the production and ownership of intellectual property (IP), a large and rising factor of production, is concentrated in a few firms in a few parts of the world, inequality trends, absent compensating public policy, will worsen between and within countries. This has created an economy that is fundamentally different from the one of only a few decades ago. Now the value of intangibles, like IP and data, have outstripped the value of tangibles, such as bricks and mortar, plants and steel.

Rising inequality in developed countries, coupled with the hollowing out of the manufacturing sector, has resulted in rising nativism and leadership populism (although the latter is not limited to developed countries). The backlash in many Western countries to globalization in general, and to China in particular, is linked to the fact that educated and skilled workers in developed and developing countries have benefited, while unskilled workers in developing countries have gained at the expense of unskilled workers in developed countries. With the lack of compensating retraining, safety net and other social policies in developed countries (especially the United States and the United Kingdom), the backlash is exacerbated.

Technological change is both a driver and a product of globalization. The digital/intangibles era is characterized by high upfront costs, and very low reproduction costs. It conveys a great advantage to first movers, particularly if the technology becomes an industry standard. This also means that primacy in this matter is a global geopolitical game. And economies of agglomeration are inherent in the production of IP, so existing innovation clusters have a head start over others still in the formative stage.

At the same time that technology creates challenges for public policy making, it also holds potential solutions. Climate change, arguably the most existential threat to the planet, is accelerating and time to address it is running out. A recent Intergovernmental Panel on Climate Change (IPCC) noted that climate change has "led to predominantly negative impacts on food security, water resources, water quality, livelihoods, health and well-being, infrastructure, transportation, tourism and recreation, as well as culture of human societies."[1] Reversing this worrying trend will require bold policy choices that will rely, to at least some degree, on facilitating the

1 *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate.*

growth and adoption of clean technologies, which can reduce greenhouse gas emissions and conserve both energy and natural resources.

The rapid ascent of China, conflict with it and the devolution of the world into a de facto "G2" might be seen in these terms. More broadly, existing institutions and global governance processes are in flux with new geometries (such as the International Grand Committee [IGC], the Democratic 10 [D10], the Belt and Road Initiative [BRI] and the Asian Infrastructure Investment Bank) that are emerging. The Group of Seven might devolve into a larger "democracies only" group with India playing a larger role; the G20 is replacing the United Nations as the forum where unlike countries bash heads.

In the digital era, the lines between "domestic" and "international" are blurring, but one fact remains — national policies work best when backstopped by global cooperation, and vice versa (examples include: taxation of digital multinational firms; pricing carbon; refugee burden sharing; sovereign debt resolution; algorithmic ethics). Likewise, the exciting but ad hoc and nascent governance processes such as the IGC and D10, as well as innovative national responses to digital issues (for example, the French tax on digital firms), will work best if they are supported by established institutions or processes, such as the Organisation for Economic Co-operation and Development and the G20. In what appears to be a bleak landscape for cooperative arrangements, the need to re-energize efforts to support them has never been greater.

> Data governance is the most important public policy issue of our time. Whoever controls the data controls who and what interacts with it. ”
>
> Jim Balsillie at the IMF Statistical Forum

Policy making in this era is complicated by the fact that big data and artificial intelligence (AI) cut across traditional governmental verticals and have implications for the quality of the economy, society and democracy. Governance of big data and AI is in its infancy, in countries and in global cooperation processes. The world is no longer flattening and is effectively balkanized into three data blocs — the state-centric China bloc, the firm-centric US bloc and the person-centric EU General Data Protection Regulation zone. All other countries, which is to say all of the developing world and some of the developed world, including Canada, are frozen out of this system and form a fourth bloc. There is room for hope, meaning the challenge for global diplomacy is to find ways to have the three blocs work more effectively with each other and demonstrate that the losses from balkanization exceed the gains from parochialism. Also, that the countries frozen out of the current system must be dealt into it to avoid an ever-growing patchwork of data policy regimes.

In the digital era, the lines between "developed" countries and "developing" countries are also blurring. The ranks of middle- and high-income technologically adept countries include several countries, such as Malaysia, South Korea and Taiwan, which were formerly classified as developing. China is an obvious recent entrant with India, lagging but catching up. Beyond the list of emerging powers, however, lie some 150 countries that are incidental players. Here, technological change holds great promise, such as the applications of AI to improve human health or agricultural productivity. Yet, the capacity to create the institutional and regulatory structures to harness technologies for the greater good is challenged by limited participation in global discussions. The ideal is to enable what the United Nations Conference on Trade and Development terms the "smart embrace of new technologies" in countries that have historically not participated in either innovation or its governance.

Policy Making Has Converged

In the technologically driven world, there is no longer a distinction between economic prosperity, technological innovation, international institutions and national security. These traditionally discrete areas of policy making have converged against a backdrop of underdeveloped global rules and international institutions that are under increasing pressure. This has created a paradox. On the one hand, states seek to drive wealth creation, economic opportunity and prosperity through the rapid invention and adoption of connected technologies. On the other hand, this is building extreme vulnerability into the core of the economic model.

The real-world effect of poor governance has now jumped from the digital world into the physical one, with devasting effect. One need only look to the use of Facebook by Myanmar military personnel who effectively turned the platform into a tool for ethnic cleansing. This is among a growing list of events that have brought to the forefront the need to improve the governance of platforms, including livestreaming of the terror attacks on two mosques in Christchurch, New Zealand, and the weaponization of Facebook in the Brexit campaign and the 2016 US elections with the assistance of Cambridge Analytica.

In this way, the rapid growth of the technology sector and its appetite for data is reminiscent of the financial services boom in the 1990s and 2000s. Fuelled by light-touch regulation — and, in no small measure, hubris — banks grew tremendously in size, power and interconnectedness, leading to the creation of some exceptionally large global banks. In many instances, this expansion was encouraged, or at least not discouraged, because creating and delivering new financial services to more customers with greater efficiency was seen as a global good. The leading view at the time was that self-interest and pride of reputation would constrain bad behaviour, even as financial wizardry obscured the network effects, risks and consequences. Instead, the global financial crisis began. People, corporations and the financial system as a whole faced significant negative and long-lasting consequences, including plummeting trust in institutions.

Compare that scenario to the current governance gap surrounding data, AI, digital platforms and other technologies. A light-touch approach to regulation means that few countries have data or digital strategies in place, and none have a coherent overarching framework. Before the financial crisis, a few global banks dominated financial services; today, a handful of technology giants dominate data flows, and their operations are as opaque as the banks' were.

The negative impact of the financial crisis would pale in comparison to that from the misuse of big data and AI. These technologies permeate every aspect of our lives, and that will only accelerate in ways we cannot yet envision. The interconnectedness of the Internet of Things (IoT), 5G and digital identities would only intensify the huge systemic risk. A crisis in the system could have profoundly damaging outcomes: cyberwarfare, state surveillance, privacy invasion, data breaches, large economic and personal-income losses, and a global loss of trust. These risks are exacerbated by an East-West geopolitical divide: the United States and China are competing head-to-head for supremacy

> "The global digital governance precedents we set for social media today will affect us, individually and collectively, far into the future.
>
> Susan Etlinger in "What's So Difficult about Social Media Platform Governance?"

in the data realm, with much of this new Great Game playing out in developing countries.

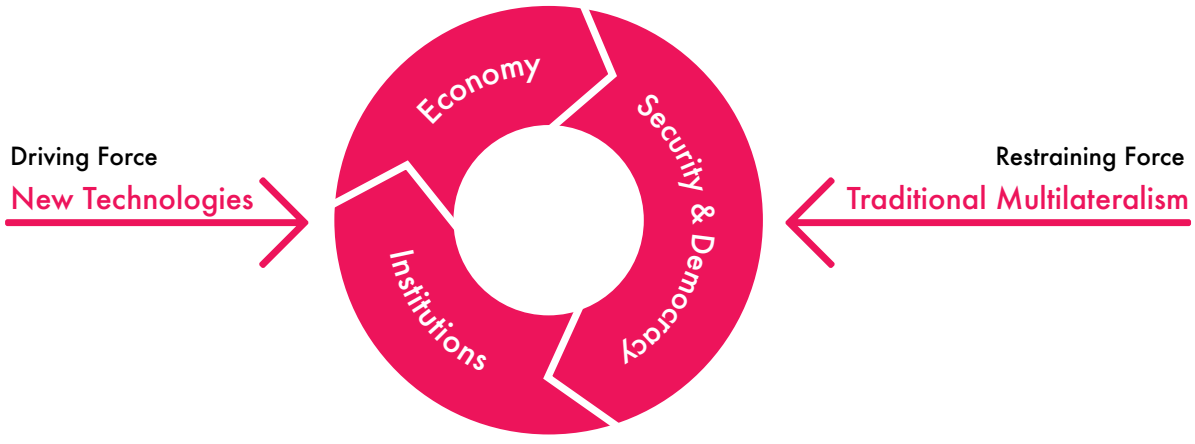
This has created a system calling out for governance innovation. Policy makers have the opportunity to draw from the lessons of the financial crisis and to act before the system crumbles. For example, after the 2008 crisis, G20 leaders established the Financial Stability Board to promote the reform of international financial regulation and supervision. Its innovative multi-stakeholder processes could be adapted for the data crisis. The status quo is simply not sustainable. No matter what form of governance innovation takes place, the question of ensuring global digital stability must be at the forefront for Canadian and global policy makers. The costs of failing to do so are just too high. The opportunity to shape or reshape international institutions is where a think tank such as CIGI can have real policy impact.

This challenge is complicated by the fact that it is both international and domestic. It is a true crosscutting horizontal public policy issue that respects neither disciplinary boundaries, departmental mandates nor organizational authorities. However, this makes CIGI well placed as an organization that has always worked with an "inside/outside" conception of global governance, influence and policy making. Located in Canada, and with the federal government as a major partner, CIGI often works on global issues through the lens of their impact on Canada — and on ways that the Canadian government can influence the shape of those same issues. Even in Canada, CIGI can encourage policy and regulatory transformation away from silos, from vertical to horizontal, and from departments toward a multi-stakeholder comprehensive approach that includes involvement from the public and private sectors as well as civil society.

Given the vast nature of the topic, no one think tank can address all facets. That is why this strategic plan is built on three pillars in governance innovation: the data-driven economy; digital threats to democracy and security; and the modernization of global institutions.

Due to the crosscutting horizontal nature of the policy issues described, there is a dynamic interplay between the pillars, offering multiple entry points to complex governance arrangements through which CIGI will advance existing and new work.

Figure 1: CIGI's Policy Innovation



RESEARCH THEME:

The Economy Is Driven by Data

While the free trade in goods drove tremendous increases in prosperity worldwide, it has also extended humanity's ecological footprint and contributed to socio-economic inequalities within countries. As the driver of growth increasingly shifts toward intangibles — ideas, IP, research and development, economic skills and competencies — and data, including insights from machine learning and AI, regulatory frameworks must ensure sustainability and growth are mutually supported. Indeed, digital transformation holds the potential to alleviate many of the world's most pressing issues, such as climate change, food insecurity and equity.

Done correctly, this transformation can assist corporations, cities and nations meet their sustainability goals. For instance, 3D printing can reduce carbon emissions from shipping and freight. And traditional industries such as agriculture can use water more sustainably through improved irrigation patterns driven by the availability of data.

In the intangibles economy, changes to business models, trade, innovation and growth affect factors of production such as location and taxation. In short, digital transformation is changing all facets of everyday life: how we work; how we produce and trade goods; how we communicate; how governments tax and provide benefits; and more.

> Control over data and networks confers market power, providing new capabilities for firms to hinder entry and extract rent from customers.
>
> Dan Ciuriak in *The Knowledge-based and Data-driven Economy*

The data-driven economy rewards first movers where high-cost sunk investments and near-zero marginal costs give them tremendous advantages, such as economies of scale, while treasure troves of data allow firms to exploit economies of scope and information asymmetries to build monopoly power, pitting not only firms against each other, but also countries — those that have large data stores and those that do not. This asymmetry leads to a winner-takes-all environment, which is diametrically opposed to the free trade environment that the world has become used to. The winners and losers in the data-driven economy will be increasingly determined by the access and control of data that can be harnessed by digital platforms and the rules — or lack thereof — that govern their business models. This has led to rising global tensions, most notably between the United States and China, against a background of China's intention to become a world leader in AI, in standard setting and using its BRI to expand its sphere of influence mainly in developing countries.

In addition to the economic issues, big data, AI and digital platforms also bring a host of governance challenges, including those related to privacy, competition and consumer protection. They raise profound governance questions related to the business models of digital platforms, particularly the unconstrained targeted advertising model of social media platforms that has implications for privacy, electoral integrity and even personal health and security. Indeed, platforms such as Google, Facebook, Twitter and Amazon span the globe, serve billions of users, and now provide core societal functions often analogized to public utilities. But the governance around their functions is ad hoc, incomplete and insufficient. Their operations are global in scope, yet regulation, or that which exists, is domestic in nature. Currently, big data and AI frameworks are a patchwork of existing rules and regulations. But the lack of a consistent set of rules has led to de facto rules being set by platforms, and by some jurisdictions, that spill over globally without a global dialogue related to their suitability and/or the broader implications for society. Indeed, there are no agreed upon "rules of the game"; rather, there is a patchwork of domestic strategies (where they exist) and little international collaboration on fundamental issues such as privacy, competition and platform content, and only a limited understanding of the economic and social implications of the business models of digital platforms.

Although big data and AI are expected to bring extraordinary benefits to the global economy, the policy and legal architecture needed to effectively govern them is far from keeping pace. There are numerous questions and areas that are yet to be addressed where, during this strategic plan, CIGI can play a leading role given its past work on the economics, trade and legal aspects of the data-driven economy, its policy work on the need for standards along the big data value chain, and the research related to internationally coordinated platform governance. During this strategic plan, CIGI will focus its policy research and impact efforts related to governance innovation in *the data-driven economy* along three themes.

Economic Implications

Under this theme, CIGI will continue to explore how to value data and data's contribution to economic growth. This will include an evaluation of the economic and societal implications of, and alternatives to, the targeted advertising model of social media platforms, as well as an examination of how competition policy needs to adapt from a focus on low prices to a broader measure that incorporates elements of privacy, innovation and consumer protection. Indeed, low prices could signal low competitive forces given that scale economies give firms the ability to keep competitors out of the market, using both low

prices and mergers and takeovers. This will require research and analysis surrounding how different competition frameworks could lead to changes in market power and the distribution of rents — across regions and countries and between firms and workers, including an assessment of international developments in this area and how they might be combined for a global governance framework.

There are corresponding implications related to the rise of the different digital platforms for the future of work and the provision of benefits associated with work. These create a number of pointed research questions. How might the public provision of benefits have to change in response to the rise of the gig economy? How might this interact with other policies, for example, fiscal policy and automatic stabilizers?

Legal, Regulatory and Technical Standards

The rapid emergence and social adoption of big data, AI and digital platforms has led to a number of unanswered legal questions surrounding their use. When a person enters a website, uses a digital platform or downloads an app, they consent to a terms-of-use or service agreement. What does such "consent" imply for the use/control of a user's data and their privacy (indeed, how would this be operationalized in a smart city)? What legal frameworks are needed to manage big data in the public interest: for example, data stewardship through data trusts; data pools; independent agency (public/private)? What is the legal basis for claims of "ownership" of data and algorithms? Does domestic law determine who has property rights over data, technology and the creation of machines? Should there be a global data mining exception in IP law that would allow firms access to and use of IP for purposes of machine learning? What is or should be the legal status of machines, robots or AI? What protection is there for the human, corporation or government harmed by big data and AI-related activities? Does criminal law need to be updated to address potential harms from big data and AI, for example, reckless endangerment through technological means? How does domestic law need to change and how will it engage internationally with a global framework? What about developing countries that generate huge amounts of data but play a minimal role in the standard setting that governs its use in wealth creation and advancing the public good?

On top of these nuanced legal questions, there are a number of pertinent issues that arise in relation to technical standards and the governance of these technologies. In the coming years, the use of technical standard setting will be advanced for the big data value chain as a governance mechanism to manage a range of areas from quality control, valuation, portability, processing and storage of data to privacy and the ethical use of AI. In this way, CIGI can add thought leadership at the intersection between technical standards and policy formulation, while also examining the role of standards as a mechanism for wealth creation where standard setters capture the rents associated with the IP of the big data value chain and the distribution of this wealth across countries.

Financial Technology

International financial institutions are dealing with an increasingly complicated, interconnected and technologically enhanced financial system. Ever-

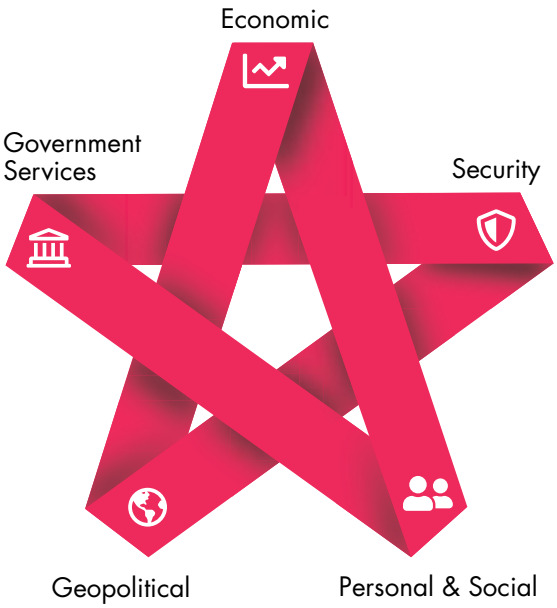
> [Standards] provide a level playing field for industry and help build trust between participants in supply chains. They cover everything from the size of the simplest screw thread to the most complex information technology network.
>
> Michel Girard in *Canada Needs Standards to Support Big Data Analytics*

shifting systemic risk in the global capital and money markets continues to create substantial and difficult-to-predict global vulnerabilities. The changing nature of sovereign debt means that indebted countries are increasingly susceptible to market actors such as hedge funds that are unwilling to compromise on debt resolution and the community of nations cannot agree on solutions to this problem. New financial technology (fintech) presents not only existential threats to the current financial order and the role of central banks, but also transformative possibilities for understanding and overseeing systemic risk. CIGI's work on global governance issues related to sovereign debt resolution, systemic risk in the financial sector and fintech, including blockchain, AI and big data, will contribute to helping existing institutions adapt to new realities and advancing new governance models where appropriate.

Questions are being asked about whether the Bretton Woods institutions established after World War II to finance reconstruction, support economic development and maintain financial stability — the International Monetary Fund (IMF) and the World Bank — have become outdated. Are they well-suited to deal with today's globalized, digitized and interconnected economy, and the integrated nature of social, economic and environmental problem solving, rule making and action that are required to achieve the 2030 Agenda for Sustainable Development? Are they capable of addressing the threats to political and economic stability and security that have emerged as a result of the unchecked dominance of commercial internet platforms? Questions such as these suggest that this could be an appropriate time to review, reinvent and reconstruct global institutions to address today's challenges.

Fintech could help to diffuse risks, open up oligopolistic structures and provide new services and/or lower-cost services to individuals. Open banking represents a way to do this. Fintech can help to deepen financial markets domestically and internationally and bring services to the underserved. But privacy and cyber security issues are pervasive. What progress has been made in this area and what can it tell us about how to deal with these issues that could serve as a guide to other sectors? The advent of digital currencies poses challenges for regulation and, potentially, monetary policy. These must be weighed against the benefits that could arise for consumers via lower costs. A synthetic global digital currency could also provide tremendous global benefits, but the implications of such a currency for investment, trade and currency are areas that need to be fully explored.

Figure 2: The Crosscutting Nature of Digital Governance



Our research, opinions and public voice make a difference in today's world by bringing clarity and innovative thinking to global policy making.

RESEARCH THEME:

New Technologies Threaten Democracy and Security

The international security and geopolitical landscape has changed considerably. Thirty years ago, the fall of the Berlin Wall ended the Cold War, closing a period of bipolar strategic struggle between the two Great Powers paying a so-called peace dividend — where Western nations could decrease military spending. In this new unipolar world, the United States was the dominant guardian of global peace. That was until almost 20 years ago when, on September 11, 2001, a series of coordinated terrorist attacks by al-Qaeda took place, killing almost 3,000 people and causing over US$10 billion in damage, forever changing the New York skyline, countless lives and US security posture. Then, while the United States and allied coalitions were preoccupied with the corresponding wars in both Afghanistan and Iraq, the security environment shifted again.

In the current environment, traditional security issues still feature prominently as Chinese and Russian expansion and power projection have again moved the world away from unipolarity, toward an unstable multi-power world — once again characterized by great power rivalry. Iran and North Korea also lend dangerous and destabilizing forces to the mix.

The complexity of these traditional issues is equally matched by the non-traditional security issues that have surfaced. By most definitions these include the emergence of non-state actors, terrorist networks, drug cartels and maritime piracy webs as security actors. Intra-state conflict continues to create pockets of regional instability. There are also issues of resource scarcity, irregular migration, global climate change, pollution and natural disasters, as well as public health epidemics that can cause catastrophic global consequences.

On top of this, it is now almost impossible to read the news without coming across a lead story cataloguing the latest cyber breach or misuse of data. IP is being stolen from companies at an alarming rate. Foreign actors are meddling in elections through fake social media accounts, along with other more nefarious means — including the surreptitious access of internal campaign emails. Criminals use the dark recesses of the internet to sell drugs, guns and even people. And terrorist groups now use digital media to recruit and inspire prospective adherents the world over.

This is not even the worst of it. Countries are creating advanced cyber weapons capable of devastating real-world effects. At the same time, more and more critical infrastructure is being digitally enabled and is also, therefore, capable of being digitally disabled. This is all set to be compounded with advancements in quantum computing, AI, autonomous and unmanned systems, and biotechnology. It is on this latter suite of issues, where technology confounds the governance of security issues, that CIGI will focus over this strategic plan. In this way, CIGI will focus its policy research and impact efforts related to *digital threats to democracy and security* along three themes.

Threats to Democracy

In wrestling with the topic of platform governance, one macro-level objective over the duration of this plan will be to support democracy and social cohesion in Canada in an increasingly digital world. Increased digitization within society has led to a number of benefits, including free expression, social and cultural exchange, and economic progress. Rapid digitization has also come with a cost. Disinformation, hate speech and terrorist and violent extremism have become all too prevalent in today's online interactions. Information has been weaponized by foreign adversaries to undermine Canada's democratic institutions and the very fabric that provides for social cohesion in the country.

Canada is not alone in wrestling with this new reality. While there are characteristics that particularize the Canadian case, governments across the globe are experiencing comparable difficulties. CIGI, as a think tank, is unique in being able to address both the domestic and international dimensions of this key governance gap. CIGI can support further efforts to counter online disinformation, online harms and threats to democracy through a coordinated domestic and international research agenda and policy development effort.

Online platforms provide an unprecedented opportunity for citizens, political candidates, activists and civil society groups to communicate. However, in many instances they have been used to spread harmful content or misinformation, threatening a country's democracy and social cohesion. Platforms are being challenged in court over their activities; they are being vilified by the public and in the press for their actions (or inaction), and distrust by the public is growing on a number of fronts. Indeed, there has been a wide range of significant efforts related to democratic integrity, including the European Commission High-Level Expert Group on Fake News and Online Disinformation. Against this background, governance innovation is required to create an integrated framework at the national level and then to extend it to the global level.

Smart Cities and Standards for the Security Agenda

Over the past 25 years, international standards-setting bodies such as the International Organization for Standardization, the International Electrotechnical Commission (IEC) and the International Telecommunication Union (ITU) have developed a wide range of cyber security management standards aimed at organizations and systems, as well as technology-specific cyber standards for new products. However, with the emergence of state-sponsored espionage and cyber attacks, international standards

> “ Platforms are global organizations, which, in the absence of enforced national rules, will default to their own terms of service and business practices.
>
> Taylor Owen in *The Case for Platform Governance*

bodies have struggled to keep up with both the growing sophistication of cyber threats and an increasing fear from nation-states to engage with counterparts they do not trust. This has considerably slowed down international standardization activities to frame cyber security issues for the new technologies that will make up the backbone of "smart" cities, such as 5G and the IoT.

For example, at its 2018 Annual General Meeting, the IEC invited regulators from around the world to discuss emerging issues faced by nation-states in relation to standardization. Regarding the growing threats posed by cyber attacks and the need for a new generation of cyber standards covering new technologies, representatives from the United States declared that US-based agencies were no longer interested in global approaches. Rather, organizations like the National Institute of Standards and Technology would be investigating the development of regional standards with a coalition of like-minded countries in order to avoid "sharing sensitive information with their adversaries."

This will all come to a head with smart cities. There are no internationally accepted rules surrounding how to govern or properly secure the massive amounts of data generated from the technology that will come to define smart cities. At present, the World Economic Forum, in collaboration with the G20 presidency, is trying to lead an effort to establish universal norms for the implementation of smart city technology. This effort is seeking to build a governance framework around the core principles of transparency, privacy and security. However, Japan's G20 presidency was the first time that smart city technologies entered the main agenda and it is now clear that standards will need to be designed to cover the IoT and smart cities; also, global institutions such as the G20 will require assistance in doing so, and that a distinct Canadian perspective will be an important one.

Including a Canadian perspective is extremely important because even though standards are usually considered the prerogative of technical experts, devoid of politics, this characterization misses the core reality that standardization itself is driven by the strategic agendas of both government and corporate actors. The setting of a standard is not a solely technical matter — it is an economic one that will crown winners and spite losers. It is also one that is increasingly geopolitical, and one that has come to both reflect and enhance power. In short, technical standards have become another tool used in global competition.

> How do we build and realize the potential of 'smart' cities in which residents are more than just lab rats in an increasingly intricate maze?
>
> Teresa Scassa in *The Hill Times* op-ed "As Smart Cities Become Our Norm, We Must Be Smart About a Data Strategy"

In this environment, manufacturers of these technologies should be accountable for the digital security and safety of their products. Industries and standards bodies should work together to create a unified cyber security strategy such as a comprehensive global standard that addresses product systems and processes around developing these products. Notwithstanding the importance of the issue, most think tanks (especially in Canada) are not looking at the interplay between geopolitics and international law, domestic policy and cyber standards. Over the term of this strategy, CIGI will advance research efforts to assist policy makers in understanding the problem and potential solutions.

Espionage and Cyberwar

Interstate economic cyber espionage has reached alarming levels. It has increased tension between the United States and China, boiling over late last year when the United States indicted 10 Chinese intelligence agents following a hack on US and European aviation companies. Canada is no stranger to economic cyber espionage either, with the fall of Nortel linked to foreign spies.

To put it bluntly, there are no clear rules to govern international economic cyber espionage. But there should be. The lack of rules is leading to a more dangerous and unstable world. It is also undermining companies, which offends a basic principle of fairness; people are stealing prosperity from others. There should be robust international rules prohibiting this conduct and clear, meaningful, multilateral sanctions when impugned conduct is attributable (under international law) to a state.

> “Ultimately, the paradigm of ‘field it fast, fix it later,’ which continues to hold sway in the technology industry, must be overcome.
>
> Melissa Hathaway in *Patching Our Digital Future Is Unsustainable and Dangerous*

Canada has a clear interest in seeing a more robust rules-based framework. In fact, David Vigneault, director of the Canadian Security Intelligence Service, recently remarked that “economic espionage represents a long-term threat to Canada’s economy and to our prosperity.” He based this assessment on “a trend of state-sponsored espionage in fields that are crucial to Canada’s ability to build and sustain a prosperous, knowledge-based economy [including] areas such as A.I., quantum technology, 5G, biopharma, and clean tech.” Owing to the highly sophisticated nature of these efforts, the reality is that adversarial nations are targeting the very “foundation of Canada’s future economic growth.”[2]

There are also failing arrangements related to cyberwar. One example of this is the strained application of international humanitarian law (the “laws of war”) to the cyber realm. To be clear, there have been significant efforts to advance the understanding that pre-cyber-era international law applies to cyber operations, with the leading authority on the subject likely being the *Tallinn Manual on the International Law Applicable to Cyber Warfare.* This all begs the question: why continually attempt to apply law that was designed before computers existed to the modern digital age? Why not update the international governance structure to account for contemporary technological realities? This is especially pressing because state and non-state actors are increasingly pursuing their agendas using hybrid methods in the “grey zone” that exists just below the threshold of armed conflict.

This has led to two competing rules development initiatives at the United Nations. One route, sponsored by the United States, is the new Group of Governmental Experts (GGE) mandated to study how international law applies to state action in cyberspace and to identify ways to promote compliance with existing cyber norms. The second route is a resolution, sponsored by Russia, that creates an open-ended working group to study the existing norms contained in the previous UN GGE reports, identify new norms and study the possibility of “establishing regular institutional dialogue…under the auspices of the United Nations.” It is open to all 193 UN member states, and the open-ended nature means it could continue indefinitely.

These two competing initiatives are clear examples of the tumultuous nature of global governance in the cyber realm. But, given the importance of cyber to the contemporary world, the need to have a more clearly articulated rules structure could not be more important. Given that, over the term of this strategic plan, CIGI will lend its research efforts, expertise and network to an effort aimed at advancing the application of global rules to cyberspace.

2 Remarks by David Vigneault at the Economic Club of Canada, December 4, 2018.

By working across disciplines and in partnership with the best peers and experts, we are the benchmark for influential research and trusted analysis.

RESEARCH THEME:

Global Institutions Must Adapt to the Digital Era

Shaping international institutions — or reshaping, as the case may be — is one of the primary ways that an organization such as CIGI can advance a coherent and impactful policy agenda. Given the looming challenges of the modern technologically driven world, there is a clear need to reinvigorate existing institutions and create new institutions of global governance that are responsive to today's big challenges. Isolationism, dysfunction and stalemate have become all too common in fora that were originally designed to channel conflict, develop consensus on solutions to global issues and foster peaceful relations.

Emerging and growth-leading economies (EAGLEs) such as Brazil, China, Egypt, India, Indonesia, South Korea, Mexico, Russia, Taiwan and Turkey have increasing importance in regional and global economies and are changing the dynamics of international negotiations. Multilateralism — the foundation for global peace, prosperity, security and rule of law — has never been easy, but in the current multipolar world it is becoming ever more complex. There is a tendency toward like-minded coalitions or blocs that can advance new ideas but also risk entrenching geopolitical divisions.

Combatting Inequality

The global economic system has made winners and losers. Economic inequality has been increasing over the last three decades. Policy and political choices are creating a widening gap between the very rich and everyone else. The issue of inequality has been studied extensively, but the institutions of global governance have not yet offered a coordinated response, other than espousing the end of poverty and the reduction of inequality within and among countries in the Sustainable Development Goals (SDGs). One of the challenges with this issue is that it has interlocking economic and human rights dimensions, but existing global institutions — for example, the IMF, the OHCHR (UN Office of the High Commissioner for Human Rights), the World Trade Organization (WTO) and the World Bank — tend to operate as distinct and disconnected pillars of the international architecture. Various UN special rapporteurs have tried to draw attention to these areas of intersection, but progress in connecting and resolving these tensions is slow. This issue lies within most, if not all, of CIGI's research into reform of institutions of global governance, for example, IP reform, the digital economy, the multinational corporation, emerging technology, sovereign debt resolution, and trade and investment reform. CIGI, over the duration of this strategic plan, will include a critical socio-economic and international development lens in its new research to advance policy thinking on this important issue.

Intellectual Property

IP and its commercialization have become a significant source of global economic development and wealth creation, such that intangible assets comprise an increasing portion of corporate wealth, with the "innovation economy" largely built on the commercialization of invention and creation and the extraction of value from ownership of IP. The main international governance challenge for policy makers is to design, establish and foster a domestic IP regime that stimulates the creation, commercialization and diffusion of new knowledge to promote economic growth and development while providing affordable access to much of these innovations. Developing global minimum standards of protection and access is an important means to ensure that people of all countries can enjoy the benefits of creating, commercializing and using innovations.

The Agreement on Trade-Related Aspects of Intellectual Property Rights and more recent preferential trade agreements have increased the protection for IP in international trade, arguably tipping the balance too far in terms of protecting ownership and restricting access to new knowledge, inventions and creations. Instead of promoting innovation, this international IP regime risks creating a Hobbesian order in which IP giants have the resources to control inordinate market share and suppress disruptive knowledge, innovation and creation. These risks are coming into sharp focus in relation to traditional knowledge, genetic resources and drug patenting, and sharing clean technology globally to help fight climate change — all of which are of particular importance for developing countries. With new digital technologies, AI and big data there are additional concerns about locking in a system of IP rights protection through e-commerce provisions in trade agreements that may potentially have negative economic, political, developmental and societal effects. CIGI will continue to explore how to reshape the international trade and IP system so that it is capable of meeting new challenges consistently with the SDGs.

> "Intellectual property rights secure our creative and innovative efforts so that we can extract commercial value from them. In this way, IP is increasingly becoming the most important global currency.
>
> Myra J. Tawfik in *The Globe and Mail* op-ed "Why It's So Important for Canadians to Be Able to Leverage Their Intellectual Property"

Trade and Technical Standards

Restructuring or shaping global institutions is one of the key methods for a think tank like CIGI to advance a clear policy agenda that has impact. As an example, the WTO is experiencing a crisis of legitimacy and is struggling to respond effectively to the challenges of rapid economic, political, social, technological and environmental change. The global trading system that evolved over many decades now seems locked in an out-of-date governance paradigm, in need of a new program of work with which to start to address the urgent and encompassing challenges of the twenty-first century. Trade wars — especially the current conflict between China and the United States — are challenging the very core of the rules-based trading system. CIGI will examine the governance challenges and opportunities for the WTO and its diverse membership and map out possible options for building a new program of work to improve the monitoring of existing rules, safeguard and strengthen the dispute settlement function, and modernize trade rules for the twenty-first century.

During this plan, CIGI could advance analysis of how the intangibles economy changes the nature of trade and how trade rules need to adapt. The CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership) and CUSMA (Canada-United States-Mexico Agreement) have provisions related to data flows that define data flows and carve outs, but the implications of these data provisions are not well understood. Further, what would a global agreement on data flows look like and how might it be limited by the provisions already in place in these trade agreements? What do data, IP and AI provisions in trade agreements imply for developing countries? What role should the WTO play in regulating the data-driven economy? How are digital technologies changing global trade and geopolitical tensions? How does national security fit into this arena?

A trade reform agenda could also consider the relationships between trade, international investment and labour. International trade allows capital to move freely and securely, but not workers. Workers are susceptible to global competition for cheap labour and the easy movement of capital, and this tends to drag down wages and labour standards while exacerbating the growing inequality gap between rich and poor. Workers may be stranded in their home state unless they can buy legal or illegal entry into another state. Developed and developing states are rethinking international investment agreements and questioning how to assert their right to regulate and tax transnational corporations, while civil society is seeking to strengthen corporate investors' accountability for their decisions about global operations. As CIGI advances research on the global governance issues related to trade and investment reform and the digital economy, it would be useful to consider impacts on the future of work and how to develop precautionary policies to mitigate job losses and foster new forms of work and civic engagement.

While reforming traditional international institutions to account for a data-driven economy is an important feature of global governance, there are also existing institutions that are taking on greater and more important roles. One such institution is the ITU. This specialized agency of the United Nations has typically been responsible for radio spectrum, assigning satellite orbits and telecommunication infrastructure. However, it is now also the table where a geostrategic battle is being waged, between the United States and China, over control of the digital economy. One such example is the current concerted effort by Chinese technology companies to shape facial recognition and surveillance standards.

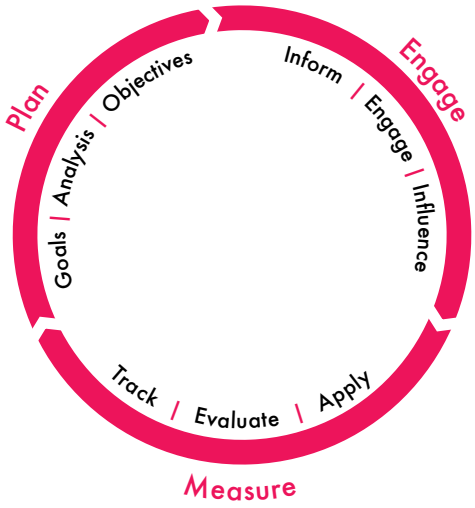
Technical standards development had previously been viewed by many governments as the prerogative of engineers as designers, not a matter of political or strategic importance. That has all changed. Standards development is not a neutral exercise where the best technology wins out. Rather, standards are a tool being used in highly lucrative and competitive markets and are an instrument of global competition. In addition to that, these standards will come to define how the developing world accesses and uses technology. Standards that are ratified by the ITU are often adopted by states in Africa, which also dovetails with Chinese infrastructure efforts under its BRI. Over the course of this plan, CIGI will seek to provide policy recommendations on how to best attenuate the negative effects of this competition and how to promulgate standards that respect and advance human rights.

Plan, Engage and Measure to Amplify Research and Analysis

Two strategic goals, first articulated in the 2010–2015 Strategic Plan, have informed CIGI's work: "produce world-leading research and analysis" and "promote policy innovation." Unlike academic institutions, CIGI's goals cannot be met purely through the articulation of research and analysis. It must include all the outreach efforts to build dialogue with decision makers to influence policy.

In fact, impactful policy making is the end product of a process that begins with deliberate planning and objective setting, recruiting the best staff and fellows, audience-specific tactics to communicate policy innovation, and tracking and evaluation. The "cycle of impact" at CIGI has been described as plan, engage and measure. Adherence to this approach creates a virtuous circle whereby tracking and evaluation informs better planning, and audience engagement can help recruit new staff and fellows or establish networks for future work.

Figure 3: Cycle of Impact Model



In this model, research and communications will go hand-in-hand throughout the design, execution and evaluation of projects to ensure, as the 2015–2020 Strategic Plan put it, "impact is built into the plans."

Plan

Many of the most pressing global issues requiring governance action unfold over years, if not decades. As a think tank with stable funding, CIGI is well positioned to deliver sustained initiatives as long-term projects are more likely to deliver the analytical depth and strategic relationships associated with impactful policy.

Planning at CIGI will evolve to account for a cycle of impact that is rarely bound by annual planning exercises. Rolling two-to-three-year planning cycles, updated on an annual basis, will be introduced to ensure strategic, operational and budget alignment, so that research projects have the resources and capacity to succeed.

Distributed efforts such as fundraising and government relations must also be underpinned with strategies to coordinate staff and fellows toward a common goal. Coordination will also ensure that fundraising and government relations are not relegated to ad hoc exercises.

Engage

Elected politicians and government officials are two important actors in policy making and represent CIGI's primary audiences. To the extent they are able to influence policy makers, opinion leaders in

academia, institutions, corporations, media and the public are also prominent.

"Engagement-first" efforts are increasingly central to planning how impact will be achieved, recognizing that to influence an audience is a journey that begins with being informed and engaged. Rather than build a project strictly around CIGI's interests, an engagement-first approach begins with asking how the organization can meet the audience's goals. Designing a project according to the needs of the audience will inform the research product(s), the communication channel(s) and messaging to ensure their receptiveness.

CIGI will embed engagement in all its research projects and, practically, introduce capacity-building opportunities for civil servants, develop case studies for elected politicians and seek new opportunities for expanded relationships with tier 1 media globally.

Measure

In 2015, James McGann of the University of Pennsylvania wrote: "There is a running debate about how to properly measure the impact of think tanks in promoting policy. This challenge is certainly not unique to think tanks. However, it is easier to link an [intergovernmental organization] resolution to domestic legislation than to do the same for the report or policy recommendations of an individual think tank, because many other civil society actors are involved in the policy formulation process."[3]

Efforts to qualify "impact" have often been measured by publication downloads, media mentions or social following, to name a few popular metrics. True impact, however, is when policy research is applied. The quantitative data for downloads, media hits and social presence are only useful when they point to CIGI's ability to influence an audience.

With this in mind, relationship data and tracking will be emphasized to track on- and offline communications with individuals across CIGI's audiences to accelerate and customize the informed-to-influenced journey. More broadly, CIGI continues to be committed to ongoing reflection and learning about its programming and operations. CIGI will continue to conduct organization-level evaluations every five years, as required by the Government of Canada, and progress on the evaluation recommendations will be tracked annually. Periodic program and project evaluations will also be conducted. These assessments are an important tool to not only evaluate how CIGI is delivering on its strategic objectives, but an opportunity for senior management to identify and share learnings to be applied to future work.

3 *2014 Global Go To Think Tank Index Report.*

People and Partnerships Deliver a Global Reach

In order to provide world-leading research and analysis on a range of themes, CIGI utilizes a model that relies on internal and external resources, including partnerships.

Internally, CIGI employs a dedicated team of professionals to ensure quality, consistency and timeliness of functions such as Publishing, Communications, Digital Media and Events to support the Research objectives, as well as back-office functions of Finance, IT, Legal, Facilities and Human Resources. CIGI also employs Research expertise in the form of research directors and a small staff of in-house research fellows, associates and program management resources.

CIGI augments internal research expertise with more than 100 external fellows, who contribute specific perspectives and analysis. This global network of fellows contract with CIGI based on research and analysis deliverables, including speaking engagements, media relations, policy briefs, essays and opinion editorial writing. Therefore, while CIGI's research is led by the president and full-time research directors, many individual initiatives will be guided by external expert fellows with subject matter expertise. By using this modality of external, part-time experts as fellows, CIGI is able to be responsive and agile in relation to emerging research and policy priorities, to draw on a wide pool of experts, and also be cost-effective.

Given the complexity of the issues under examination throughout the duration of this plan, it is clear that no one institution can "go it alone." Therefore, CIGI also partners strategically with other organizations or institutions where the partnerships advance CIGI's research and impact objectives. These relationships can include the Government of Canada, provincial governments, international institutions, foundations and individuals.

Typically, partnerships aim to: enhance subject matter or substantive expertise in programmatic research or analytical capacity; access an audience that CIGI does not otherwise possess; or provide additional resources that can further strengthen programmatic efforts. By pursing strategically valuable partnerships, CIGI seeks to position itself, and like-minded organizations, as thought leaders on the array of issues related to the rise of a data-driven economy and emerging technology.

A Think Tank for the Digital Era

The emergence of a data-driven economy, and an increasing reliance on technology across all industries, has created a multi-faceted set of public policy issues. The complex nature of these issues is compounded by the truly "horizontal" nature of challenges. The interplay between data governance, technological innovation and IP expose the limitations of traditional departmental and bureaucratic mandates. The governance questions raised here are — at the same time — matters of international trade, national security, domestic economic policy, health, privacy and defence, among others. They are also simultaneously both international and domestic.

This will require governance innovation in at least two ways. First, in most governments, properly addressing the various interrelated facets will require novel bureaucratic and policy structures that transform traditional policy-making silos into horizontal multi-stakeholder structures. Second, the prevalence of both governance gaps and failing institutional structures at the global level make clear the need for new structures capable of dealing with not only the monumental shift taking place in the global digital economy but also its after-effects.

CIGI will focus its efforts on governance innovation in the data-driven economy, including the long-term implications, the interplay between AI and digital platforms, and technical standards, including how digital technologies will impact the financial sector. Through advanced research and policy analysis, CIGI will advance policy-making efforts surrounding digital threats to democracy, smart cities, espionage and cyberwar. And, it will encourage governance innovation at international institutions to combat inequality and create a more fair and equitable regime in the areas of IP and international trade.

By leveraging partnerships and its network of fellows around the world, CIGI will focus its work to maximize its relevance, impact and reach. The organization will plan its projects in a detailed way, engage its audience in a meaningful way and measure the results in a telling way, all with a view to making people's lives better through governance innovation.

> The question in the digital era is not whether to participate but how best to participate effectively. ”
>
> Rohinton P. Medhora in *Rethinking Policy in a Digital World*

About CIGI

We are the Centre for International Governance Innovation: an independent, non-partisan think tank with an objective and uniquely global perspective. Our research, opinions and public voice make a difference in today's world by bringing clarity and innovative thinking to global policy making. By working across disciplines and in partnership with the best peers and experts, we are the benchmark for influential research and trusted analysis.

Our research initiatives focus on governance of the global economy, global security and politics, and international law in collaboration with a range of strategic partners and have received support from the Government of Canada, the Government of Ontario, as well as founder Jim Balsillie.

À propos du CIGI

Au Centre pour l'innovation dans la gouvernance internationale (CIGI), nous formons un groupe de réflexion indépendant et non partisan doté d'un point de vue objectif et unique de portée mondiale. Nos recherches, nos avis et nos interventions publiques ont des effets réels sur le monde d'aujourd'hui car ils apportent de la clarté et une réflexion novatrice pour l'élaboration des politiques à l'échelle internationale. En raison des travaux accomplis en collaboration et en partenariat avec des pairs et des spécialistes interdisciplinaires des plus compétents, nous sommes devenus une référence grâce à l'influence de nos recherches et à la fiabilité de nos analyses.

Nos projets de recherche ont trait à la gouvernance dans les domaines suivants : l'économie mondiale, la sécurité et les politiques internationales, et le droit international. Nous comptons sur la collaboration de nombreux partenaires stratégiques et avons reçu le soutien des gouvernements du Canada et de l'Ontario ainsi que du fondateur du CIGI, Jim Balsillie.

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