Centre for International
Governance Innovation

I.A.R.I.W.

The Valuation of Data: Findings and Discussion

Robert Fay and Keldon Bester

The Valuation of Data: Findings and Discussion

Robert Fay and Keldon Bester

Centre for International Governance Innovation

I.A.R.I.W.

About CIGI

The Centre for International Governance Innovation (CIGI) is an independent, non-partisan think tank whose peer-reviewed research and trusted analysis influence policy makers to innovate. Our global network of multidisciplinary researchers and strategic partnerships provide policy solutions for the digital era with one goal: to improve people's lives everywhere. Headquartered in Waterloo, Canada, CIGI has received support from the Government of Canada, the Government of Ontario and founder Jim Balsillie.

About IARIW

The International Association for Research in Income and Wealth has as its major interests:

→ the furthering of research on national, economic and social accounting, including the development of concepts and definitions for the measurement and analysis of income and wealth;

→ the development and further integration of systems of economic and social statistics; and

→ related problems of statistical methodology.

In particular, the IARIW is concerned with the international aspects of the following areas:

→ the global comparisons of income and wealth;

→ the use of economic and social accounting for budgeting and policy analysis in different countries; and

→ the experiences of different countries in the development of economic and social accounting systems.

Credits

Managing Director of Digital Economy (until February 2024) Robert Fay

Director, Program Management Dianna English

Program Manager Jenny Thiel

Publications Editor Susan Bubak

Graphic Designer Sami Chouhdary

Centre for International Governance Innovation

67 Erb Street West
Waterloo, ON, Canada N2L 6C2
www.cigionline.org

Table of Contents

About the Authors

Robert (Bob) Fay is a highly accomplished and respected leader in the field of digital economy research. With more than 30 years of experience working in the public and private sectors, he has developed expertise in economics, policy analysis and strategic planning.

Bob served as managing director of digital economy at the Centre for International Governance Innovation (CIGI) from 2018 to February 2024, leading a network of researchers focused on the intersection of technology, trade, innovation and governance. In this position, he played a key role in shaping the discourse around the digital economy and contributed to numerous policy debates and research initiatives on topics such as data governance, digital innovation and the future of work.

Before joining CIGI, Bob held various leadership positions at the Bank of Canada (BoC), where he was responsible for the assessment of digital technologies for Canada's economy and international economic developments, and provided short-term forecasting, structural analysis and policy advice. He was also special assistant to BoC Governor Mark Carney and his chief of staff, playing a key role in delivering policy direction. Bob began his career as an economist at the Organisation for Economic Co-operation and Development, where he worked on labour market issues and country-specific analyses.

Bob holds an M.A. in economics from Queen's University and has published numerous research papers and policy briefs on a range of economic and policy topics.

Keldon Bester is a CIGI fellow and an independent consultant and researcher studying issues of competition and monopoly power in Canada.

He has worked as a special adviser at Canada's Competition Bureau and as a fellow at the Open Markets Institute, and contributed to the UK Treasury's *Unlocking Digital Competition: Report of the Digital Competition Expert Panel*. Keldon holds a master of public policy degree from the Harvard Kennedy School.

Introduction

This conference report summarizes the main findings and discussions from the International Association for Research in Income and Wealth (IARIW) and the Centre for International Governance Innovation's (CIGI's) conference on the valuation of data, held in Waterloo, Ontario, Canada, at the CIGI Campus on November 2–3, 2023. Bringing together a global group of researchers and speakers, the conference was preceded by a call for papers on the opportunities and challenges associated with the valuation of data and its role in the global economy. It does not purport to cover everything that was discussed in the 19 papers that were presented. Instead, it provides a high-level summary of some of the main points from the papers and the ensuing discussions.

Despite its increasing centrality to economic activity and how we make sense of the world around us, the value of data is far from a settled subject. An outgrowth of the statistical, economic and political work done to understand an increasingly intangible economy, a range of disciplines are moving toward methods of understanding and measuring the contribution of data to the modern economy. By canvassing these approaches and the emerging policy questions that intersect them, the conference sought to answer why — long after the concept of big data became commonplace and with the growing relevance of artificial intelligence (AI) — the value of data remains effectively a black box, particularly against the backdrop where data is expected to be recognized as a produced asset in the international guidelines for national accounts in the 2025 System of National Accounts (SNA).

The conference was opened by Diane Coyle, Bennett Professor of Public Policy at the University of Cambridge, followed by a series of sessions spanning proposed methodologies of data valuation, economic perspectives on the value of data and intangible assets, the valuation of personal and health data, the importance of data governance, and policy implications for the valuation of data. The conference closed with a panel discussion on the intersecting issues facing policy makers

in relation to the valuation of data and directions for future analysis and action.

Why Value Data?

The conference centred on a question at once obvious and provocative. Data has been a watchword for economic policy discussions for nearly two decades, a phenomenon only set to increase as AI capabilities hungry for data explode in use and prominence. Firms at the technological frontier have used data to boost their own productivity and create positive feedback loops that have seen market valuations skyrocket relative to their peers. Even among laggard firms, there has been an increasing focus on the potential for data production, collection and utilization to augment business models, breaking down the barrier between so-called digital and more traditional markets. But these success stories are not without complications. Individuals and communities are increasingly enmeshed in markets where constant surveillance is the norm, and the gap between a handful of firms and the broader economy widens as barriers to entry create moats that threaten the contestability of key markets.

In such an environment, understanding the value of data, how that value is realized and who realizes it, are pressing questions for anyone trying to build a picture of the economy today and shape its direction tomorrow. Where the benefits and risks of data fall can vary widely depending on the context and the roles of stakeholders across the value chain. Policy makers looking to promote a wider distribution of the benefits of data must grapple with this question as much as the firms looking to put data to use in improving their offerings to customers. So, too, must regulators and courts that are increasingly faced with how data shapes competitive outcomes in markets and the exchange of value between those producing data and those benefiting from it.

But the answer to what is the value of data is not straightforward. From an economic standpoint, understanding the value of data has multiple dimensions. Data holds value because, although it may be non-rivalrous in

nature, it is often excludable by the parties that collect and control it. Data can have increasing, decreasing or flat marginal returns, and can rapidly depreciate or grow in value, depending on the time horizon. The collection and use of data includes both fixed and marginal cost components, and complementary investments are often required to unlock its value. A comprehensive view of the value of data must also take into account the externalities, both positive and negative, generated by the collection and utilization of data. But beyond simply the economic lens, the value of data is also highly dependent on its contextual factors. Data varies widely in terms of its source or provenance, including whether its generation is the passive by-product of another process or a more active end in itself. But that same diversity of sources can generate data of different value depending on the type, subject, sensitivity and specificity of that data. In putting the data to use, a key determinant of its value is the accuracy with which it reflects reality and therefore its usefulness in informing decision making. Finally, value is determined by the ability of actors to access, combine and recombine that data with complementary assets to form actionable insights. From both an economic and contextual lens, the value of data can take on a dizzying number of dimensions. That data has intrinsic value at all remains a contestable claim, with arguments that the business models and processes that turn data into actionable insights are the real sources of value rather than the data itself.

The scale of the challenges to valuing data is equal to its role in the economies of today and tomorrow. However, that challenge is being met by a diverse set of actors across jurisdictions and disciplines. In surveying these approaches in its call for papers, the conference aimed to promote the cross-pollination of ideas and methodologies and foster a more multi-dimensional view of how to value data with the potential for dramatic economic, political and social consequences.

How Can We Value Data?

Accepting that valuing data is a task worthy of public and private sector effort, the next step is the creation of methodologies that are up to the task of addressing the challenges in valuing data. Well placed to respond to this task are the national statistical organizations (NSOs) that have led the charge in incorporating intangible assets such as research and development (R&D) into the internationally comparable SNA. Although a view into the value of intangible assets such as data can be glimpsed when companies are bought and sold, an accurate view of an economy's GDP requires a sense of how value is generated from data in the operation of companies and recorded on their balance sheets beyond the more nebulous and all-encompassing category of goodwill. Far from an academic exercise, determining the accuracy of SNA and GDP figures is core to their usefulness to public and private sector actors as representations of economic activity; the exclusion of data can cast doubt on their accuracy. As initial analysis by statistical agencies shows investment in data and other intangibles rising faster than investment in tangible assets, with investment in data assets leading the charge, the need to bring an informed view of the value of data into national accounts will only become more pressing.

The approach undertaken to date by NSOs has largely been what is referred to as a "sum-of-costs" approach, which attempts to derive value of a given asset based on the cost required to facilitate its production. While other approaches such as market price and net present value methods are also available to NSOs, they suffer from a dearth of data points and dependency on often unavailable contextual information. Using databases of occupations and time spent on tasks categorized as relating to data within those occupations, coupled with estimates of the capital associated with own-account production of data, NSOs use a sum-of-costs approach to create a bottom-up estimate of the resources dedicated to the collection, analysis and use of data. While multiple NSOs have been rowing in the same direction for several years and standardized international approaches are coming into view, this kind of iterative process takes time. Investment in R&D, another milestone in the measurement of intangible assets, was

added to SNAs 15 years after the introduction of the first intangible asset measures.

Although NSOs have landed on the sum-of-costs approach to the valuation of data, there are material limitations and assumptions that affect its usefulness within and outside the SNA context. Data produced outside of occupations, consumers and business users is effectively absent in this approach. Identifying the labour costs associated with data generation requires assumptions to identify the occupations and proportions of those occupations dedicated to data that must accept some simplification of reality. There is also likely overlap with efforts directed at R&D and software, two areas of intangibles measured by the SNA. Treating data as an asset at all also requires the assignment of some level of depreciation like any other stock of capital, and depreciation estimates underlying the sum-of-costs approach to data have varied widely to date. Beyond the variance of these estimates, the question remains whether the concept of depreciation itself is ill-suited to an understanding of how data generates value. This is particularly the case given the lack of clarity around the concept of the service life of data and the open question of whether data is better considered as an intermediate input in these accounts. With these limitations in mind, NSOs are employing novel methods and data sets to shrink the distance between assumption and reality when it comes to understanding the value of data.

Concerns over the soundness of a macro-oriented approach to the value of data were echoed in discussions, with participants saying that focusing on understanding the macroeconomic contributions of data trades off a number of important dimensions of analysis in exchange for a consistent and comparable methodology. Rather than attempting to create a unified approach to assessing the value of data, an alternative suggested starting point was to focus on the diverse sites of the production and use of data within firms and even households. By understanding how data is produced and put to work at the micro level (for example, via time-use surveys of households), statistical organizations can begin to sketch out a picture of the diversity of ways in which data can generate value. While moving ahead with sum-of-costs approaches, NSOs were clear that they were looking to factor this kind of microsurvey approach into their assessment of the valuation of data going forward.

At the firm level, market price has been explored as an alternative approach to determining the value of data, with prominent tech companies as the unit of analysis. While the value of data generated by a single user may be clear to firms with discrete product offerings, the task of ferreting out the value of a given user's data in a corporate entity with a kaleidoscope of both collection and uses of data presents a more complex problem. For example, a firm such as Google creates a vast network of services with the intent not of generating value independently, but of feeding data into its core business model. Adopting a firm-level market price approach to the value of data can offer snapshots into that value at times of private investment, initial public offerings, merger and acquisition activity, and in the event that portions of a business are to be sold off in bankruptcy. Amid rising privacy and antitrust scrutiny, legal inquiry into the competitive conduct of firms can also open windows into how the value of data is realized within major firms. Another approach is to examine the impact on a firm's organizational capital as proxied by "selling and general and administrative expenses" and linking it to the value of data — a methodology that can also be applied to value cross-border data flows. While the source of potential insights, the approach is limited by the inconsistency of access to the data feeding into the analysis. Although it was suggested that the ultimate representation of value might simply be the market cap of a given firm, this view is less helpful when trying to determine the value of data at the level of the individual, or separate from the value of the firm, which is necessary to understand the distribution of risks and benefits arising from that data.

Taking a different approach to the micro perspective on valuing data, case studies were explored that highlighted the value arising from methods of data production that often go unnoticed in analysis and commentary. In the health-care space, the act of providing care generates data that can be used to better inform treatment and pharmaceutical approaches. With the provision of care as a microcosm of the collection and application of data, unlocking that value on a larger scale can place an undue burden on care providers. Valuable data can also be produced as the result of more mundane processes that might often go unseen. Whether it is a recently hired employee filling out tax forms when starting a new job, an individual taking out and servicing a mortgage

for their home or insurance companies tracking clients' driving behaviour, each of these processes spins off "free" data as collateral information that can be utilized. Given the vast scope and frequency of these activities in an economy such as the United States', conservative estimates of the value of this so-called free data quickly climb into the trillions of dollars, providing a reminder of the scale of the motivation for the conference's guiding question. A final case study explored was that of the value of data offered by public sector actors, not limited to NSOs. While public sector organizations have been encouraged to make more data available to the public, the question of what value that data generates and who benefits from it remains on the minds of governments overseeing the prudent use of public resources. Beyond fiscal considerations, evaluation of the value generated from public data is also important to agencies wishing to better understand how to meet the needs of their stakeholders.

In other jurisdictions, policy makers are focused less on ascertaining the value of data and more on ensuring that the value is realized by the public and private sectors. In China, local and national governments have taken a direct role in the creation and operation of data-trading systems, aiming to create institutions akin to stock exchanges. Although still accounting for a small portion of data trading in the country, the exchanges have revealed a number of important issues related to data governance, including data ownership rights, lack of clarity in pricing and mistrust between transacting parties. In the Caribbean, governments are exploring how public sector data could be used to drive value in important tourism and agriculture markets to address persistent growth challenges that characterize their economies. At the same time, statistical agencies in countries such as Tanzania are working to increase the efficiency and accuracy of data collection within their own jurisdictions to improve the capacity for data-driven policy making in the future.

The variety of approaches and goals of researchers and policy makers, from valuing data to unlocking its value, brings forward the ways in which the value of data touches a range of policy goals depending on the context and stakeholders. The primacy of data in economic, political and social decision making means that how we value data is inseparable from the thorny policy issues that arise from the production and use

of data, as well as those issues whose solution may depend on realizing the value of data.

How Policy Depends on the Value of Data

Over the course of the conference, the only topic with greater breadth than potential approaches to valuing data was the range of intersecting policy implications arising from the value of data. Depending not only on the type of data but also the circumstances in which it is produced and employed, the value of data can trigger consideration across a number of policy areas. Surveying a sample of the discussions, the value of data has implications for the future of accounting and financial markets, intellectual property (IP) regimes, competition policy frameworks and our ability to improve health outcomes and, indeed, social outcomes. In each policy area, success is dependent on creating an accurate picture of the value of data.

While much of the conference centred around emerging techniques to refine the SNA, the accounting practices that make up the foundation of modern financial markets must also adapt to the data-driven reality. Despite acknowledging that the concept of the book value of assets has lost relevance in an economy where an increasing percentage of market value is driven by intangibles, the accounting profession has been slow to adjust to this reality. Far from an esoteric matter of accounting policy, the inability to properly value intangibles serves as a barrier to entrepreneurs who might depend on recognition of the value of those intangible assets to access the financing needed to expand their operations. The accounting profession has faced methodological challenges in the past, which has led to, among other things, the development of consolidated balance sheets driven by investor needs to better understand what is happening at the firm level. In a similar manner, venture capitalists today are trying to value data-driven firms, yet the needs of finance may yet again drive further changes in accounting methods.

At the same time, the purpose of gathering data, particularly personal data, is to serve people. To do so requires breaking down silos and bringing

various disciplines together to determine for whom we are trying to understand the value of data. This process is not the sole responsibility of one profession, nor should it address the needs of one community. It is important to talk to many communities to ensure that their needs and voices are heard. Analogies can be a powerful tool, especially since many already exist around data. However, they need to be considered carefully as analogies often become the basis for policy decisions. Communities can provide this context — how they want their data to be used, what types of governance they would like by governments and private actors — including in fundamental areas such as equity, inclusion, ethics, privacy and human rights. Data governance is much broader than data management, a lens that is often applied.

Many of these issues are playing out in Africa. As an example, while there is excitement around the potential of generative AI, it is based on a number of strong assumptions. These include an abundance of data and institutional capacity, effectively regulated competitive markets and access to infrastructure, including digital and data, that does not exist or is underdeveloped in many regions. The valuation of data is not simply an economic issue but also one of political economy. The African Continental Free Trade Area provides an opportunity to improve this situation. As a framework for harmonization, it would allow Africa to get economies of scale and scope that are needed for data markets and to effectively compete globally, in sharp contrast to a narrow focus on data localization or sovereignty. It can also allow for the creation of an enabling environment for data flows, including digital ID and data infrastructure, to harness data for development. At the same time, value needs to move beyond corporate value to include the public value so far sidelined to areas such as digital government services. A broader perspective is that of digital public goods and examining how artificial scarcity in data may be created via commercial privatization of data but also through regulation and policy. It requires an examination of the uneven impact of harms, and at the same time opportunities, to individuals and communities and different data structures to allow value creation such as through various data governance structures and economic policies. Data can be the primary source of value for a firm and, indeed, an economy, and once it is incorporated into figures such as GDP, it will be hard to ignore. But the rules being developed to

guide that incorporation cannot simply reflect the views of advanced economies where expertise has been developed. Consultations on these rules to date have been global, but international institutions have an important role to ensure all countries are represented, especially those that have yet to develop such deep technical expertise.

Another global community necessarily invested in the future of the value of data is that of policy makers. The value of data that individuals, communities and entrepreneurs seek to unlock is a product not only of its collection and use, but also of the policies that shape those processes and how value is captured from them. IP rules create the process through which innovators and organizations realize the gains from their ingenuity, and policy makers tread a fine line between capturing value and creating economic moats. In a global environment where entrenched incumbents can benefit from IP regimes that are too strict or too lax, policy makers are tasked with creating frameworks that address the asymmetry between upstarts and incumbents and allow the value of data to be realized more broadly. There is a fine balance for policy makers to achieve as they try to spur innovation. On the one hand, too strong an approach reinforces the benefits that flow predominantly to those incumbents with strong IP and data positions; on the other hand, if IP rights are lowered, it allows those incumbents to easily profit from the work of new challengers. To navigate this scenario within and beyond IP, appropriate governance structures are required to drive economic prosperity. Creative mechanisms can help achieve this balance. Patent collectives give freedom to operate to data collectives that provide access to data assets. In an era of strategic governance, it must be understood that you cannot commercialize what you do not control. An analogy used in the conference was that you must first claim the castle, then build the walls and the moats. Build walls before claiming the castle and you lock yourself out.

Questions of policies that determine ownership, control and the power they confer run parallel with the systems that promote and protect competition in our economies. A recurring theme of the conference was the implication of the value of data on its role as either an enabler or barrier to competition. It is clear that the use of data has unlocked tremendous value and allowed firms to grow at a speed and scale not

seen before, creating firms that have come to define entire global markets. But today, those who appeared to be tackling yesterday's gatekeepers have found themselves in control of economic chokepoints that global antitrust authorities are now questioning. In assessing the conditions for intervention, competition authorities and courts are now forced to wrestle with how data can be both a source of information and a barrier to challengers attempting to preserve the dynamism on which our economies rely.

While much of the policy discussion focused on strictly economic and legal matters, where data may drive some of the highest value for the future of human progress is also where the risk of misuse or release of that data is the highest. Across the health-care spectrum, from patients to providers and researchers, data is a core input to diagnosis and the development of specialized and emerging treatments. While patients can receive the most value from the use of data — it can be literally lifesaving in some cases — data about an individual's health is also some of their most sensitive information. These situations call for a framework for assessing the interplay of costs and net social benefits of the collection and use of such sensitive data. Borrowing from analysis applied in the competition policy context, an assessment of the net value of the use of such data could be useful in guiding decisions by practitioners and policy makers but risks narrowing the focus on quantitative factors seen in the competition policy space. In attempting to realize the value of health data while avoiding the potential for risk to the sources of that data, efforts to create privacy-protecting synthetic data are a promising avenue to redrawing the balance between benefit and risk in the use of health data.

economic, political and social issues, the question of how we actually value data remains open.

While national accounts statisticians have a well-defined methodology to value data, building off approaches to other intangible assets, that methodology rests on assumptions that may limit its relevance beyond macro contexts and risks generalizing the heterogenous nature of data and its uses. Approaches that attempt to build a more micro picture from the ground up may create a more detailed picture of the diversity of value across types and uses of data, but they may struggle to create a picture of the role of the economy as a whole. Nevertheless, the result of pursuing differing paths toward the same goal is a richer analysis of an issue yet to be solved. Because of their differences — and not in spite of them — efforts at both levels are complementary toward the aim of understanding the value of data. Embarking on a diverse set of approaches is key to wrestling with the question of how to value data, not just to understand the value itself, but also how that value is created and distributed within society.

Although participants did not leave the conference with easy answers to the task at hand, IARIW and CIGI are hopeful that exposure to diverse approaches to this important issue will build the foundation for continued fruitful exploration and collaboration moving forward.

Acknowledgement

Conclusion

Data has unlocked a phenomenal amount of value for individuals and organizations across the global economy. Coincident with that explosion of value has been the emergence of policy issues across the areas of equity, privacy, health and competition, to name a few. But despite the growing prominence of data in discussions of

Agenda

Note: Names of presenting authors are in bold.

Thursday, November 2, 2023

8:00 a.m.–9:00 a.m.   **Registration and Breakfast**

9:00 a.m.–9:15 a.m.   **Opening Remarks**

→ Catherine Van Rompaey (IARIW and World Bank)

→ Robert (Bob) Fay (CIGI)

9:15 a.m.–10:00 a.m.   **Keynote Address**

→ **Chair: Catherine Van Rompaey (IARIW and World Bank)**

→ Diane Coyle (University of Cambridge): "Why Do We Need to Value Data?"

10:00 a.m.–11:00 a.m.   **Session 1: Methodologies of Data Valuation — National Accounts Approaches**

→ **Chair: Diane Coyle (University of Cambridge)**

1. "Toward Data as an Asset in the System of National Accounts"

    John Mitchell (Organisation for Economic Co-operation and Development), Nicola Massarelli (Eurostat), **Richard Heys** (Office for National Statistics [ONS]) and Erich Strassner (International Monetary Fund [IMF])

    Discussant: Tim Sargent (Centre for the Study of Living Standards [CSLS] and CIGI)

2. "Estimation of Investment in and Stock of Data and Databases in the Canadian System of National Accounts"

    Brenda Bugge (Statistics Canada), Koami Amegble (Statistics Canada) and **Amanda Sinclair** (Statistics Canada)

    Discussant: Marshall Reinsdorf (IMF, retired)

11:00 a.m.–11:30 a.m.   **Break**

| 11:30 a.m.–1:00 p.m. | **Session 2: Methodologies of Data Valuation I** |
| | → **Chair: Catherine Van Rompaey (IARIW and World Bank)** |

1. "Valuing the U.S. Data Economy Using Machine Learning and Online Job Postings"

   José Bayoán Santiago Calderón (Bureau of Economic Analysis [BEA]) and Dylan G. Rassier (BEA)

   Discussant: Amanda Sinclair (Statistics Canada)

2. "Online Platforms' Creative 'Disruption' in Organizational Capital — The Accumulated Information of the Firm: The Depreciation of the Value of Data"

   Wendy Li (Moon Economics Institute) and Peter J. Chi (University of California, Los Angeles)

   Discussant: John Deighton (Harvard University)

3. "Data Enclaves: Valuing Google's Data Assets"

   Kean Birch (York University)

   Discussant: John Deighton (Harvard University)

| 1:00 p.m.–2:00 p.m. | **Lunch** |

| 2:00 p.m.–3:00 p.m. | **Session 3: Methodologies of Data Valuation II** |
| | → **Chair: Bob Fay (CIGI)** |

1. "Unpacking the Valuation of Data in the Data-Driven Economy" (Proposal)

   Dan Ciuriak (CIGI)

   Discussant: Sean McDonald (CIGI and Digital Public)

2. "An Inquiry into the Production of Data and How It Creates Value Throughout the Ambient Economy"

   David Eliot (University of Ottawa and Pierre Elliott Trudeau Foundation [Ph.D. Scholar])

   Discussant: Georgia Meyer (London School of Economics and Political Science [LSE])

| 3:00 p.m.–3:30 p.m. | **Break** |

| 3:30 p.m.–5:00 p.m. | **Session 4: Methodologies of Data Valuation — Special Topics** |

→ **Chair: Andrew Sharpe (IARIW and CSLS)**

1. "Measuring the Value of Official Statistics: Testing and Developing a Measurement Framework"
   Richard Heys (ONS)
   Discussant: Michael Wolfson (University of Ottawa)

2. "Private Funding of 'Free' Data: A Theoretical Framework"
   Rachel Harris Soloveichik (BEA)
   Discussant: Diane Coyle (University of Cambridge)

3. "Global Distribution of Economic Values of Cross-Border Data Flows"
   Wendy Li (Moon Economics Institute)
   Discussant: Dan Ciuriak (CIGI)

| 5:30 p.m.–6:30 p.m. | **Reception (Delta Hotel)** |

| 6:30 p.m.–9:00 p.m. | **Conference Dinner** |

→ **Chair: Bob Fay (CIGI)**

"From Past Tech to Present AI: How Our Economy Is Set to Be Disrupted"

Speakers:

→ Joel Blit (CIGI and University of Waterloo)

→ Jimmy Lin (University of Waterloo)

Friday, November 3, 2023

| 8:00 a.m.–9:00 a.m. | **Breakfast** |

| 9:00 a.m.–10:00 a.m. | **Session 5: Economic Perspectives on the Value of Data and Other Intangibles** |

→ **Chair: Bob Fay (CIGI)**

1. "Data, Intangible Capital, and Economic Growth in Canada"
   Rupert Allen (Canadian Heritage), **Wulong Gu** (Statistics Canada) and Ryan Macdonald (Statistics Canada)
   Discussant: Tim Sargent (CSLS and CIGI)

2. "Valuing Data or Collecting Data on Data — Which Priorities?"
   Michael Wolfson (University of Ottawa)
   Discussant: Marshall Reinsdorf (IMF, retired)

| 10:00 a.m.–10:30 a.m. | **Break** |

| 10:30 a.m.–12:00 p.m. | **Session 6: The Valuation of Personal and Health Data** |

→ **Chair: Carolina Rossini (Datasphere Initiative)**

1. "Be Careful What You Wish Measure (For): An Onto-Epistemological Fable of ('Personal') Data Between Web 2.0 and Web 3.0"
   Georgia Meyer (LSE)
   Discussant: Hayane Dahmen (University of Toronto)

2. "Data as Representation" (Proposal)
   Sean McDonald (CIGI and Digital Public) and Ben Gansky (Arizona State University)
   Discussant: Kean Birch (York University)

3. "Flipping the Script: A Buyers' Perspective on the Value of Data"
   Jennifer Webster (Pfizer), Beverly Buckta (Pfizer), Richard Urena (Pfizer) and Joseph Donaldson (Pfizer)
   Discussant: Keldon Bester

| 12:00 p.m.–1:00 p.m. | **Session 7: Data Governance** |

→ **Chair: Tim Sargent (CSLS and CIGI)**

1. "Better Governance to Unleash the Value of Data: China's Practice of Building a Data Trading System"
   Alex He (CIGI) and Rebecca Arcesati (Mercator Institute for China Studies)
   Discussant: Hongying Wang (CIGI and University of Waterloo)

2. "Establishing a FAIR, CARE, and Efficient Synthetic Health Data Sharing Ecosystem for Canada"
   Helen Chen (University of Waterloo), Maura R. Grossman (University of Waterloo), **Anindya Sen** (University of Waterloo) and Shu-Feng Tsao (University of Waterloo)
   Discussant: Michael Wolfson (University of Ottawa)

| 1:00 p.m.–2:00 p.m. | **Lunch** |

2:00 p.m.–3:00 p.m.	**Session 8: Policy Implications of the Valuation of Data**

→ **Chair: Anindya Sen (University of Waterloo)**

1. "Data Valuation for Knowledge Sharing and Decision Making"
   Gabriel Kulomba Simbila (National Bureau of Statistics, Tanzania)
   Discussant: Carolina Rossini (Datasphere Initiative)

2. "Increasing the Value in Use of Open Government Data in Small Island Developing Economies"
   Lila Rao-Graham (Mona School of Business & Management, University of the West Indies [UWI]) and Maurice McNaughton (Mona School of Business & Management, UWI)
   Discussant: Catherine Van Rompaey (IARIW and World Bank)

3:00 p.m.–3:15 p.m.	**Break**
3:15 p.m.–4:55 p.m.	**Closing Panel on Policy Issues Related to the Valuation of Data**

→ **Chair: Bob Fay (CIGI)**

Panellists:

→ Alison Gillwald (Nelson Mandela School of Public Governance and Research ICT Africa)

→ Jim Hinton (CIGI and Own Innovation)

→ Patricia Meredith (CIGI)

→ Marshall Reinsdorf (IMF, retired)

→ Carolina Rossini (Datasphere Initiative)

4:55 p.m.–5:00 p.m.	**Closing Remarks**

→ Bob Fay (CIGI)

→ Catherine Van Rompaey (IARIW and World Bank)

Centre for International
Governance Innovation