

6 October 2023

Basel Committee on Banking Supervision
Bank for International Settlements
CH-4002 Basel
Switzerland

Submitted via website

RE: Consultation on the Revised Core Principles for Effective Banking Supervision

INTRODUCTION

Starling Insights, Inc (“Starling Insights”), a US-based public benefits corporation, offers a membership-based platform that is a resource for and by the community of leaders, experts, and practitioners working to bring new ideas and tools to the governance and supervision of cultural, behavioral, and other nonfinancial risks and performance outcomes. We are pleased to collaborate in this with a number of global organizations, among them, the Financial Markets Standards Board, the Institute of International Finance (IIF), the Chartered Banker Institute (CBI), and the Association of Certified Chartered Accountants (ACCA). Please note that comments offered here are our own.

Through our thought-leadership and industry engagement, Starling has become recognized as an expert resource on the topics of governance, culture, and risk. Our annual white-paper, *Culture and Conduct Risk Management in the Banking Industry*, (aka the Starling ‘Compendium’), has become a must-read reference on the latest trends and strategies taken by financial sector firms and supervisors globally to address non-financial operational risks.

In our thought-leadership curation, we draw upon expertise from across a range of perspectives including academia, regulators & supervisors, legal experts, and the accounting & audit community. We were honored to include past contributions from those listed in the attached addendum.

We are grateful for the opportunity to provide comments to the BCBS’s Consultative Document on the Revised Principles for Effective Banking Supervision (the “Revised Principles”). Our comments will focus on the proposed amendments related to culture supervision. That includes Principles 14 and 15 that specifically address culture supervision but they will also reference other material risk areas where we believe culture is relevant.

BACKGROUND

Historically, banking supervision has largely emphasized the adoption of systems and processes to manage risk. In the decade-plus since the publication of the last update to the Core Principles in 2012, attention began to broaden to recognize the importance of a firm's culture in delivering good outcomes. Notable examples include the Financial Stability Board's (FSB) *Guidance on Supervisory Interaction with Financial Institutions on Risk Culture* published in 2014, the BCBS's *Corporate Governance Principles for Banks* in 2015, and the FSB's *Strengthening Governance Frameworks to Mitigate Misconduct Risk* toolkit published in 2018. We would also acknowledge the leadership shown by numerous individual supervisory jurisdictions around the globe who are implementing novel approaches to the management of culture and behavioral risk.

We are therefore extremely pleased to see the addition of culture to the current Revised Principles and believe this is an important step towards raising the role of culture and behavior in bank supervision.

While firms have invested heavily in Governance, Risk, and Compliance (GRC) platforms, control systems, and process management, tools for managing behavioral propensities and culture have lagged. Specifically, they have failed to facilitate an operationally-oriented understanding of how leaders can drive the cultural norms and behavioral predilections required of staff if they are to manage risk management systems and processes successfully.

Without this emphasis on people, investments in reporting systems and processes have historically resorted to being heavily rules-based, often defaulting to self-reporting mechanisms, and reliant on simple tick-box exercises. At worst, this approach may actually encourage poor conduct outcomes as task completion becomes the goal and is viewed as absolving leaders of responsibility, so long as processes are followed.

The BCBS and others have correctly responded by shifting to more of an outcomes-based approach, including with these Revised Principles. However, diverting the focus to Outcomes without a corresponding improvement in understanding the Inputs (how work actually gets done in the enterprise), supervisors, and even senior management teams, can remain largely blind to their true risk exposure, notwithstanding large investments in risk and control systems and processes.

These blind spots persist because effective governance and risk management depends upon a complex web of interactions and critical behaviors among business managers and risk management specialists to function effectively. Systems must be configured and operated effectively by well-trained analysts, issues appropriately escalated, and risks properly monitored and often manually followed up. As a result, firms have heavily invested in risk management and internal controls, only

to realize later that they must spend roughly the equivalent to effectively embed appropriate behaviors into the culture of their organizations for those systems to work properly.

In summary, effective supervision requires a comprehensive approach that incorporates the measurement and assessment of culture and behavioral risk in a way that is integrated with current practices, tied to systems, processes, and controls, and with a view to the performance outcomes and the implicit impact this has for shareholder and stakeholder interests.

WHAT'S MISSING

An effective risk management and internal controls system is one that effectively balances formal structures (systems and processes) and informal structures (cultural norms and the conduct these promote). How these are implemented can be determined by individual firms, but success depends upon continuous measurement of both formal and informal structures and reporting mechanisms that allow the Board to provide effective oversight.

While each firm has a unique culture and values, there are certain behaviors that have been shown to be consistent with effective risk management. For example, many organizations focus on setting the right “tone from the top.” However, this is only effective if that tone is carried through the organization with engaged managers and teams across the organization – referred to by some as “the echo from the bottom.” Further, whatever values an organization adopts, management must encourage certain supporting behaviors. Examples include an embrace of executive accountability, a willingness among employees to escalate problems by fostering a culture of psychological safety, and an encouragement of speak-up behaviors for situations when concerns arise.

The banking sector has adopted the “three lines of defense” (3LoD) model as an accepted global standard over the past two decades. In simplified form, the framework recognizes that the first line of defense (management and the business areas) has primary responsibility for the risk; the second line of defense (risk experts and compliance officers) helps in assessing and establishing frameworks and monitoring efforts; and the third line audit function conducts an independent review. Given its widespread adoption, firms outside of banking and financial services are increasingly adopting this approach.

However, as banks have discovered, merely implementing a framework like the 3LoD is only half of the battle.¹ Effective implementation requires complex coordination among individuals across all three lines. Since the greatest source of risk-taking occurs on the first line, most accountability and control activities take place there as well. But first line employees must constantly balance profit-seeking with appropriate and safe business practices. Such determinations cannot be left to risk

¹ <https://insights.starlingtrust.com/content/compendium/rearranging-the-deckchairs-1>

and control processes alone. Rather, it requires a culture that supports continuous engagement and collaboration between all three lines, to include business leaders, risk experts, and audit teams.

THE SOLUTION

Addressing culture for good governance and risk management means to equip management and the board to demonstrate that critical behaviors and cultural norms (informal structures) have been effectively embedded in their organizations and are aligned with their overall approach to firm governance and risk management (formal structures).

The Revised Principles describe culture as an influencer of decisions and behaviors related to risk. But when it comes to managing material risks such as liquidity risk, credit risk, operational risk, and others, the Revised Principles emphasize systems, controls, and processes, formal structures for banking supervision that are also more tangible and more easily quantifiable.

It is challenging to expect supervisors to evaluate and provide guidance on a firm's culture and informal structures more broadly unless they are equipped with similar capabilities for measuring and assessing culture and behaviors as they are for other material risks. In the absence of standard practices and metrics, the risk is that culture supervision may not live up to that which is required. In the worst case, culture may be looked upon as an intractable and subjective factor that may be taken as a proxy for unrelated failings at a bank.

Multiple supervisory bodies around the world are responding to this challenge by developing innovative approaches that seek to add more structure and rigor to culture supervision. Efforts are underway to implement effective culture and behavior assessments, design more effective executive accountability regimes, improve root cause analysis, and embed effective behaviors into first-line operations. Key to these efforts is the development of reliable metrics by which firms can assess themselves on culture and behavioral risk indicators and compare themselves vis-à-vis peers on a horizontal-review basis.

In recent years we have seen an acceleration in such supervisory trends, as a result of the rapid mainstreaming of artificial intelligence and machine learning, and in response to the risk governance failures at firms like Silicon Valley Bank and, more illustratively, Credit Suisse.

Specifically, machine learning has made it possible to process vast troves of internal corporate data at scale. Addressing culture specifically, by applying novel approaches in the field of “computational social science,” it is now possible to detect signals within those data sets that tie to particular behaviors of interest to management and supervisors. This may be behaviors that represent a predilection for questionable conduct or, equally, behaviors that reinforce good governance

practices. Further, by incorporating network science, it becomes possible to determine the key influencers of such behavior and to map likely pathways of “behavioral contagion” within a firm. Such insights position management and supervisors to engage in proactive interventions.

New technologies have enabled the production of “predictive behavioral analytics” – continuously updated behavioral indicators that provide an accurate, real-time view of the state of a firm’s culture and governance processes *in vivo*. Analyzing these signals, we can establish metrics that reveal where specific behavioral propensities are likely to appear, and link those to key performance indicators, key risk indicators, and other relevant management information.²

Through use of these predictive behavioral analytics, a new generation of management tools can illuminate the pathways by which certain behaviors are most likely to spread – contagion-like – throughout an organization.³ Such ‘behavioral epidemiology’ positions management to operate from the front-foot. It also allows precision targeting of audit activities and risk management interventions, enabling firms and Boards to scale their risk oversight and to act in a more timely, effective, and efficient manner.

As this trend continues, we are already seeing signs of a future where the supervision of culture and behavioral risk is as tangible as the systems and processes designed for financial risks. When this happens, culture will not be viewed as something specifically tied to risk management, but will be embedded in a consistent approach to management challenges right across the enterprise.

RECOMMENDATIONS

Banking sector supervisors in multiple jurisdictions have recognized that building supervisory capacity to integrate culture and behavioral risk will positively impact corporate governance and lead to better risk outcomes. The addition of culture by the BCBS in these Revised Principles is an important step in this regard. In this context, we offer the following recommendations as to how the BCBS may clarify or enhance these Revised Principles to support this trend.

The Revised Principles currently addresses firm culture in two areas, Principle 14, related to Governance, and Principle 15, related to Risk Management Processes. However, these two Principles approach culture in separate and distinct ways.

Principle 14 refers to a firm’s overall culture and treats it as one of several factors that contribute to firm governance. Because it is presented without frameworks or references for evaluation, the outcome could be broadly interpreted. In addition, by including it as one of many possible

² <https://fmsb.com/wp-content/uploads/2023/07/FMSB-Conduct-and-Culture-MI-Report-July-24-2023.pdf>

³ <https://insights.starlingtrust.com/content/compendium/peer-perspectives-organizational-culture-is-caught-not-taught>

reference points for evaluating good governance, it could be interpreted that culture is not a necessary factor and therefore may be considered or ignored given different circumstances.

Recommendation #1: Principle 14 – Governance

Principle 14 encourages the consideration of general firm culture and values in the evaluation of a firm's governance. We note that the draft Principle offers few details as to how culture should be assessed or how it should be considered relative to other governance-related factors. We would suggest that the BCBS consider making it more explicit that firm culture is a necessary component of good governance and provide guidance as to how it is to be assessed most credibly, and for greatest management and supervisory impact.

Principle 15 which deals with Risk Management Processes specifically mentions *risk culture* rather than the more general firm *culture* mentioned in Principle 14. We support the setting the expectation that banks must institute an effective culture that supports effective governance and risk management. However, by emphasizing *risk culture* and putting it in the context of Principle 15 and Risk Management Processes, this could be overly limiting.

As defined by the BCBS in this document, “(R)isk culture refers to a bank's norms, attitudes and behaviours related to *risk awareness, risk-taking and risk management, and controls that shape decisions on risks*. Risk culture influences the decisions of management and employees during their day-to-day activities and has an impact on the risks they assume.”

Emphasizing risk culture, as opposed to culture in general, can create the impression that risk culture is somehow distinct from the overall culture of the firm. This impression may be reinforced by restricting a discussion of culture only to Risk Management Processes rather than something that is relevant to all aspects of a bank's operations. One of the challenges faced by those who would operationalize their interest in proactive culture management has been that it is often viewed as something specifically relevant to human resources, risk, or another function, rather than something that is broadly owned, including by 1st Line functions.

Recommendation #2: Principle 15 – Risk Management Process

We would recommend the BCBS reconsider its current focus on *risk culture*. We believe that what is defined in this document as *risk culture* should not be differentiated from the firm's overall culture and that better outcomes will be achieved by firms which approach culture management more holistically.

In addition, as currently drafted, requirements associated with Principle 15 as related to culture (40.34(1)(a)) specifically place responsibility for demonstrating a sound culture on the board. We would point out that this will likely require that boards implement new approaches to their assessment of the soundness of their firm's risk culture in order to provide such assurance. As we describe earlier in this comment, such tools are becoming more available. Given that, we would urge the BCBS to provide additional guidance in Principle 15, to direct supervisors to establish reporting requirements and to provide guidance regarding those culture and behavioral risk metrics that will better enable boards to be responsive to this requirement.

Recommendation #3: Principle 15 – Risk Management Processes

Given the new expectations set for boards to demonstrate a sound culture to their respective supervisors, boards will need to establish new metrics and assessment systems that specifically address culture and behavioral risk. We would therefore urge the BCBS to add additional guidance to Principle 15 to encourage supervisors to adopt such metrics and assessment tools as needed in order to support boards in meeting this requirement.

Finally, we note that other material risks related to financial risks as well as operational risk and resiliency, (Principles 16 through 26), provide far more prescriptive guidance than what is offered for culture risk. We would point out that many of the requirements set out in each of these Principles describe reporting requirements and decision-making processes for boards and senior management teams. Such requirements are only effective in the presence of a sound culture. We would therefore encourage the BCBS to consider emphasizing sound culture where appropriate in Principles 16 through 26, in addition to the amendments to Principles 14 and 15,

Recommendation #4: Principles 16 through 26 – Other Material Risks

In this Revised Principles, culture and risk culture are only mentioned in connection to Principle 14 related to Governance, and Principle 15, related to Risk Management Processes. Culture has impacts that have impacts across risk areas. We would encourage the BCBS to revisit it's approach to restrict culture to Principles 14 and 15 and consider embedding the expectation of sound *culture* management throughout all relevant material risks. Tying culture management to specific risk requirements may also have the added benefit of providing more prescriptive guidance as to what sound culture looks like.

Thank you for your consideration.

For questions or further commentary, please contact Erich Hoefer at ehoefer@starlingtrust.com



The Starling *Compendium*

Contributors 2018-2023

The Starling *Compendium* is our annual report in which we seek to be a neutral chronicler of events that have transpired over the years, curating and collating information from around the world regarding a regulatory reform agenda that addresses culture and conduct-related risks in the financial sector. The *Compendium* series has featured over 100 contributors over the years from leading regulatory and supervisory bodies, industry, scholars, and other stakeholders.



PREAMBLE



ANDY HALDANE (2021)

Chief Economist,
Bank of England



MICHAEL HSU (2023)

Acting Comptroller, US Office of the
Comptroller of the Currency



WIJNAND NUIJTS (2020)

Department Head, Expert Centre for
Governance, Behaviour and Culture,
De Nederlandsche Bank



GILLIAN TETT (2022)

Chair of the Editorial Board and Editor-
at-Large, *Financial Times*

IN FOCUS

With leading policymakers, regulators and industry bodies



TIM ADAMS (2021)

President & CEO, The Institute of
International Finance



ONG-ANG AI BOON (2021)

Director, Association of
Banks in Singapore



CLARE BOLINGFORD (2021)

Director of Banking &
Insurance, Financial Markets
Authority (New Zealand)



BRIAN BROOKS (2021)

Past-Acting Comptroller, US Officer of
the Comptroller of the Currency



SENATOR ANDREW BRAGG (2022)

Chair, Select Committee on Australia
as a Technology & Financial Center



WAYNE BYRES (2022)

Chair, Australian Prudential
Regulation Authority



F. CHRISTOPHER CALABIA (2022)

Chief Executive, Dubai Financial
Services Authority



BILL COEN (2022)

Past-Secretary General, Basel
Committee on Banking Supervision



MARK COOKE (2020)

Chairman,
Operational Risk Exchange



ALISON COTTRELL (2021)

CEO, UK Financial
Services Culture Board



JONATHAN DAVIDSON (2021)
Former Director,
UK Financial Conduct Authority



KATHERINE GIBSON (2021)
Deputy Commissioner,
Financial Services Conduct
Authority (South Africa)



MICHAEL HELD (2021)
EVP, Legal Group,
Federal Reserve Bank of New York



JAMES HENNESSY (2020, 2022)
Senior Vice President,
Federal Reserve Bank of New York



HO HERN SHIN (2021)
Deputy Managing Director for
Financial Supervision, Monetary
Authority of Singapore



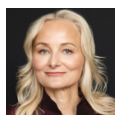
FRANCESCA HOPWOOD ROAD (2022)
Head of the Bank for International
Settlements Innovation Centre, London



HANK HUANG (2023)
President, Taiwan Academy of
Banking and Finance



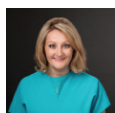
BRYAN HUBBARD (2023)
Past-Deputy Comptroller for Public
Affairs, US OCC



EVA HÜPKES (2023)
Head of Regulatory and Supervisory
Policies, Financial Stability Board



IAN JOHNSTON (2023)
Chief Executive Officer,
Dubai Financial Services Authority



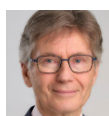
MARION KELLY (2020)
Chief Executive Officer,
Irish Banking Culture Board



MARCUS LIM (2022)
Assistant Managing Director,
Monetary Authority of Singapore



CHARLES LITTRELL (2022)
Inspector of Banks and
Trust Companies, Central
Bank of the Bahamas



TED MACDONALD (2022)
Senior Technical Specialist,
Financial Markets Standards Board



STUART MACKINTOSH (2022)
Executive Director,
The Group of Thirty



MOTONOBU MATSUO (2021)
Secretary-General,
Japan SESC



GREG MEDCRAFT (2020)
Director, Directorate for Financial and
Enterprise Affairs, OECD



MARTIN MOLONEY (2023)
Secretary General,
IOSCO



THOMAS M. NOONE (2022)
Counsel and Assistant Vice President,
Federal Reserve Bank of New York



KEITH NOREIKA (2023)
Past-Acting Comptroller, US Officer of
the Comptroller of the Currency



CRIS PARKER (2020)
Director, Australian
Banking & Finance Oath



RANDAL QUARLES (2023)
past-Vice Chair for Supervision,
Board of Governors, US Fed



T. RAJA KUMAR (2023)
President,
Financial Action Task Force



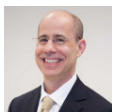
SARAH RAPSON (2022)
Executive Director of Supervision,
UK Financial Reporting Council



CHRISTOPHER RICH (2022)
General Counsel,
Financial Markets Standards Board



MARK ROE (2021)
Head of Risk Culture, Australian
Prudential Regulation Authority



JOSHUA ROSENBERG (2023)
Advisor,
Federal Reserve Bank of New York



PETER ROUTLEDGE (2022)
Chief, Office of the Superintendent of
Financial Institutions, Canada



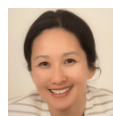
YOSHIKI TAKEUCHI (2022)
Deputy Secretary-General,
OECD



SIMON THOMPSON (2023)
Chief Executive Officer,
Chartered Banker Institute



RUTH WALTERS (2023)
Senior Advisor,
Financial Stability Institute



JOY WANN (2022)
Advisor, Bank for International
Settlements Innovation Hub



CHRIS WHITEHEAD (2021)
CEO, Financial Services
Institute of Australasia



SIMON WILLS (2020)
Executive Director,
Operational Risk Exchange



CHRIS WOOLARD (2021)
Past-Interim CEO,
UK Financial Conduct Authority



RAIHAN ZAMIL (2023)
Senior Advisor,
Financial Stability Institute

GROUND BREAKERS

With pioneering industry innovators



SUSAN AXELROD (2022)
Chief Supervisory Officer,
Merrill Lynch



ALEXANDRA CHESTERFIELD (2022)
Head of Behavioural Risk, Group
Internal Audit, NatWest



ZACH COSEGLIA (2023)
Managing Principal,
Ropes & Gray Insights Lab



SARAH DAHLGREN (2022)
Past-Head of Supervision, New York
Federal Reserve Bank



NANCY HARRINGTON JONES (2022)
Chief Culture & Conduct Officer,
Société Générale (Americas)



JOHN FLINT (2021)
Past-Group CEO,
HSBC



CHARLES LI (2022)
Past-CEO, Hong Kong Exchanges
and Clearing Limited



LES MATHESON (2022)
Group COO,
National Australia Bank



JASON NORMAN LEE (2023)
Managing Director, Legal &
Regulatory, Temasek



WILLIAM ONUWA (2023)
Chief Audit Executive,
Royal Bank of Canada



MIREA RAAIJMAKERS (2021)
Global Head of Behavioral Risk
Management, ING



KANWALJIT SINGH (2022)
Senior Program Officer, Bill & Melinda
Gates Foundation



KATIE TAYLOR (2022)
Chair of the Board,
Royal Bank of Canada



RIMMA TEPER (2023)
Head of Behavioural Science
& Risk Culture, Internal Audit,
Royal Bank of Canada



SHEE TSE KOON (2021)
Country Head,
DBS Singapore



WIES WAGENAAR (2022)
Global Head, Centre of Expertise
for Behaviour, Ethics & Compliance
Learning, ABN AMRO



ANNE WALSH (2023)

Chief Investment Officer, Guggenheim Partners Investment Management



AXEL WEBER (2022)

past-Chairman, UBS; Past-President, German Bundesbank



LORETTA YUEN (2021)

General Counsel, OCBC

THE ACADEMY

With world-renowned scholars



ALBERT-LÁSZLÓ BARABÁSI (2023)

Professor of Network Science, Northeastern University



DAMON CENTOLA (2021)

Professor of Communication, Sociology & Engineering, University of Pennsylvania



DIANE COYLE (2022)

Bennett Professor of Public Policy, University of Cambridge



ROB CROSS (2022)

Professor of Global Leadership, Babson College



ROBIN DUNBAR (2022)

Professor of Experimental Psychology, Magdalen College, University of Oxford



ALEX EDMANS (2023)

Professor of Finance, London Business School



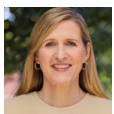
ALEX GILLESPIE (2023)

Professor of Psychological and Behavioural Science, LSE



JONAS HEESE (2023)

Associate Professor of Business Administration, Harvard University



KRISTEN JACONI (2023)

Associate Professor of the Practice in Accounting, University of Southern California



SIR JOHN KAY (2022)

Emeritus Research Fellow, St John's College, University of Oxford



DAVID KIRON (2022)

Editorial Director, *MIT Sloan Management Review*



KATHY MATSUI (2021)

Adjunct Professor of Management, Kyoto Graduate School of Management



MARK PAGEL (2023)

Head of the Reading Evolutionary Biology Group, University of Reading



ANN PENDLETON-JULLIAN (2021)

Fellow, Standard Center for Advanced Study in the Behavioral Sciences



ROSHNI RAVEENDHRAN (2023)

Assistant Professor of Business Administration, University of Virginia



TOM READER (2021)

Associate Professor of Organisational Psychology, LSE



EDGAR SCHEIN (2022)

Professor Emeritus, Massachusetts Institute of Technology



CHRISTINA SKINNER (2021)

Assistant Professor of Legal Studies & Business Ethics, Wharton



KARIN THORBURN (2022)

Finance Research Chair, Norwegian School of Economics



BOB WARDROP (2022)

Director, Cambridge Centre for Alternative Finance

GOOD COUNSEL

With prestigious legal scholars and practitioners



JOHN CRAWFORD (2023)

Professor of Law, UC Law SF



SALLY DEWAR (2023)

Chief Executive Officer, Allen & Overy Consulting



ADAM FINE (2022)

Assistant Professor, Arizona State University



BRANDON GARRETT (2022)

Director, Wilson Center for Science and Justice, Duke Law



HOLLY GREGORY (2023)

Co-Chair, Corporate Governance Practice, Sidley Austin, New York



HIROKI HABUKA (2022)

Specially Appointed Professor, University of Kyoto



TODD HAUGH (2022)

Professor of Business Law and Ethics, Kelley School of Business, Indiana University



LINDA JENG (2022)

Visiting Scholar on Financial Technology, Georgetown University Law Center



BRAD KARP (2022)
Chairman,
Paul Weiss, New York



MICHELLE KIRSCHNER (2023)
Co-Chair, Financial Regulatory Group,
Gibson, Dunn & Crutcher, London



GREG MITCHELL (2022)
Professor of Law,
University of Virginia School of Law



MATTHEW NUNAN (2023)
Partner,
Gibson, Dunn & Crutcher, London



ARI REDBORD (2022)
Head of Legal & Government
Affairs, TRM Labs



DAVID ROUCH (2022)
Partner,
Freshfields, London



TOM TYLER (2022)
Professor of Law and Professor of
Psychology, Yale Law School



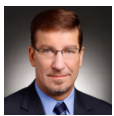
BENJAMIN VAN ROOIJ (2022)
Professor of Law and Society,
University of Amsterdam



CIARAN WALKER (2022)
Consultant,
Eversheds Sutherland, Dublin

PEER PERSPECTIVES

Leadership lessons from other sectors



MICHAEL ARENA (2022)
Past-VP Talent & Development,
Amazon Web Services



MICHAEL BROWN (2023)
Past-Director,
Defense Innovation Unit



TOMAS CHAMORRO-PREMUZIC (2023)
Chief Innovation Officer,
Manpower Group



ANTOINE FERRÈRE (2022)
Global Head of Behavioral & Data
Science, Novartis



ROSE GAILEY (2023)
Partner,
Heidrick & Struggles



CHARLES F. MCMILLAN (2022)
10th Director, Los Alamos
National Laboratory



TIMOTHY O'NEILL (2022)
Senior Counselor in the Executive
Office, Goldman Sachs



ADMIRAL CHARLES RICHARD (2023)
Past-Commander, US Strategic
Command (STRATCOM)



ADMIRAL MIKE ROGERS (2023)
Past-Director,
US National Security Agency



OWEN WEST (2022)
Past-Assistant Secretary of Defense
for Special Operations (US)

OUR VIEW

Perspectives from our world-class advisors



JOHN SEELY BROWN (2021)
Past-Head,
Xerox PARC



DAMON CENTOLA (2022)
Professor of Communication,
Sociology & Engineering, University
of Pennsylvania



SIEW KAI CHOY (2020)
Past-Managing Director,
GIC



JAY CLAYTON (2023)
Past-Chairman, US Securities
and Exchange Commission



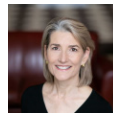
GARY COHN (2020, 2021, 2022, 2023)
Vice Chairman, IBM; former Director,
US National Economic Council; past-
Pres. & COO, Goldman Sachs



KAREN COOK (2021, 2022)
Professor of Sociology,
Stanford University



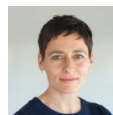
TOM CURRY (2020, 2021)
Past-Comptroller, US Office of the
Comptroller of the Currency



AMY EDMONDSON (2021, 2022)
Professor of Leadership &
Management, Harvard Business School



JAMES H. FREIS, JR. (2021)
Former Director,
FinCEN



BETSY LEVY PALUCK (2022)
Deputy Director, Kahneman-Treisman
Center for Behavioral Science & Public
Policy, Princeton



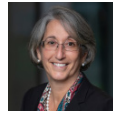
RICK KETCHUM (2021)
Former Chairman & CEO,
FINRA



THOMAS MALONE (2020, 2021, 2022)
Founding Director, MIT Center for
Collective Intelligence



KEITH NOREIKA (2022)
past-Acting Comptroller, US Office of
the Comptroller of the Currency



BARBARA NOVICK (2022)
Co-founder and past-Vice Chair,
BlackRock



SCOTT PAGE (2023)
Professor of Complexity, Social
Science, & Management,
University of Michigan



TOM READER (2022, 2023)
Associate Professor of
Organisational Psychology, LSE

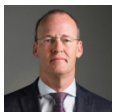


RICHARD SPENCER (2022)
Past-Secretary of the US Navy;
Past-Vice Chair and CFO,
Intercontinental Exchange



MARTIN WHEATLEY (2020)
Past-Chief Executive Officer,
UK Financial Conduct Authority

CLOSING COMMENTS



KLAAS KNOT (2022)
Chair,
Financial Stability Board



CAROLYN ROGERS (2021)
Secretary General, Basel Committee
on Banking Supervision



SIR PAUL TUCKER (2023)
Research Fellow, Harvard University;
past-Deputy Governor, Bank of England