

INTERNATIONAL MONETARY FUND

STRATEGY, POLICY, AND REVIEW DEPARTMENT

ONLINE APPENDIX FOR GUIDANCE NOTE

How to Implement Strategic Foresight (and Why)

Prepared by Alberto Behar and Sandile Hlatshwayo

Contents

Online Annex 1: How Other Organizations Have Used Foresight	3
Online Annex 2: Fingerprints Scenario Planning Left on the IMF's Work.....	5
Online Annex 3: Agenda for a Trends Research Workshop.....	6
Online Annex 4: 2-Day Deductive Method Scenario Building Agenda	7
Online Annex 5: 2-Day Inductive Method Scenario Building Agenda.....	9
Online Annex 6: Scenario Building Application Workshops.....	11
Online Annex 7: Facilitation of Scenario Planning.....	13
Online Annex 8: Example Policy Game Instructions.....	15
Online Annex 9: Options for Foresight Engagement	18

Online Annex 1: How Other Organizations Have Used Foresight

This online annex describes how firms, governments, and other organizations apply strategic foresight.

The OECD and United Nations use foresight for their own work and help governments conduct foresight. *Global Scenarios 2035* ([OECD, 2021](#)) explores the future of global cooperation and the OECD itself. OECD foresight work has fed into OECD Ministerial Council Meetings (for example, on a possible “hyper-digital” future and making migration and integration policies “future-ready”), helped governments work towards the UN’s Sustainable Development Goals for 2030, and developed government capacity to anticipate and plan for the future. The United Nations Educational, Scientific, and Cultural Organization also works to develop “[Futures Literacy](#)” within countries through tailored workshops (for example on local labor markets). In recognition of the increased need for and value of foresight, the United Nations is setting up a High-Level Committee on Programmes focused on foresight.

Foresight is being deployed in multilateral development banks to inform country strategies. The Inter-American Development Bank has used scenario planning to produce country strategy documents and to hold sensitive dialogues with the country authorities. Scenario planning is helping the organization make new strategic and policy designs fit for the future. For example, although the pandemic has broken systems that need fixing, many systems needed to be replaced rather than restored. The World Bank’s country-specific scenario applications include explorations of the future of agriculture in India and Chile. The World Economic Forum has also produced country-specific scenarios. The [Asian Development Bank](#) uses futures thinking internally and with developing member countries to invest in future development that is equitable and sustainable.

Government have embedded foresight processes. The Singapore government has used foresight for 25 years and has a [group](#) responsible for aiding and coordinating foresight. Many civil servants in Singapore have been trained on strategic foresight and apply it broadly (for example, to develop policies to address long-term trends like income inequality or respond to surprises like the 2016 U.S. Presidential election). [Policy Horizons Canada](#) used foresight to inform grants to better understand future emerging challenges. Regular foresight studies are a legal requirement in Finland, where the Finnish Prime Minister’s office produces a [Government Future Report](#) at least once per parliamentary term to facilitate timely action in response to future developments. The U.S. National Intelligence Council publishes a foresight study to coincide with incoming presidential administrations. The Federal Reserve Bank of New York has an interdisciplinary team that uses foresight to challenge conventional wisdom. The European Commission has used foresight for many years, has created a Vice Presidency responsible for mainstreaming it in policymaking, and published its first [Strategic Foresight Report](#).

Scenario planning influences fiscal policy and execution. Malaysia supports budget allocation decisions by prioritizing which line items are robust across scenarios. Australia, Canada, New Zealand, and the United Kingdom are among the countries who cooperate to derive implications for tax and revenue. The UK Department for International Development has used scenario planning to stress test country assistance plans. The Queensland Government in Australia used scenarios to assess the digital preparedness of its operations. Iceland’s Public Finance Act calls for regular megatrends analysis to be submitted to parliament.

Scenario planning has made businesses confront uncertainties. Scenario planning introduced underappreciated risks from doing business as usual and suggested that Wärtsilla’s approach to its ship power business was potentially no longer relevant for a significant part of its market. New opportunities were illustrated by an innovative ship tailored to each scenario (Ramirez & Wilkinson 2016). AXA Insurance uses foresight to ward off its own “Kodak moment”—the popular culture phrase that has been repurposed in strategy circles to refer to Kodak’s failure to exploit digital photography despite pioneering the technology.

Shell uses scenarios to evaluate its portfolio, respond to surprises, and engage externally. Shell’s 50-year history of scenario planning is well documented.¹ Besides “making sure Shell isn’t a dodo” ([Ball 2018](#)) that fails to respond to a changing environment and informing its long-term energy portfolio (for example, its stake in Canada’s oil sands), Shell used scenario planning to weather the oil price volatility of the 1970s, anticipate opportunities behind the Iron Curtain, and respond to Brexit. Shell uses scenarios for external publicity (for example, corporate speeches) and influence (for example, joint exercises with state-owned oil companies). Although much of their work is used for internal strategy, they publish scenarios, including a recent set on [energy transformation](#), to engage with the wider community.

Investment proposals are evaluated against scenarios. Scenario planning was introduced to Rolls-Royce during a difficult period for the aircraft engine manufacturer. Executives embraced scenarios for strategic planning including investment decisions. Proposals that did not show how investments could exploit or mitigate the outcomes of each scenario were rejected ([Ramirez and others, 2017](#)).

Scientific and professional bodies use scenario planning to implement reforms. After investigating alternative patent regimes using scenarios, the European Patent Office established a European Patent Network, reduced the number of trivial patents clogging the

¹ For example, [Cornelius and others \(2005\)](#); [Bentham \(2014\)](#); [Wilkinson and Kupers \(2013\)](#).

system, and introduced paperless patenting. The Royal Society of Chemists published scenarios to encourage the profession to develop strategy and encourage out-the-box thinking; one scenario has a world without chemists. We are not aware of similar exercises done by economists.

Policy games have provided insights for the military and for policymaking. Initial uses were military war games ([Perla 1990](#); [Caffrey 2019](#)). Practitioners cite seminal outcomes of games in several settings. A famous military game demonstrated that what works in individual regions (“theatres”) may not work globally. The approach is now widely applied in policymaking ([Mayer 2009](#)) and the approach is often labeled as a “pol-mil” game.

Policy games are increasingly used in business. Business role-play based on actual rather than hypothetical situations informed Keurig’s decision to introduce K-cups and overturned an IT client’s pessimism about Oracle’s entry into their market.

Some scenarios and policy games are publicly available. The list below provides links to publicly available documents and websites that include scenarios. In many cases, scenarios are abridged and/or sanitized versions of those produced for the primary internal user. For many sensitive exercises, the scenarios and policy game narratives are rarely published. The list here is provided mainly as examples for one’s own exercise. Although potentially a time saver, using “off-the-shelf” exercises is not straightforward, as noted by [Lang and Ramirez \(2021\)](#).

Scenarios

[Exploring Implications for the Future of Global Collaboration and the OECD](#)

[Scenarios Homepage](#) (Shell)

[Global Trends 2040: A More Contested World](#) (National Intelligence Council)

[Intellectual Property Scenarios](#) (European Patent Office)

[Future of the Chemical Sciences](#) (Royal Society of Chemistry)

[The Road to 2020: Scenarios for a World in Crisis](#) (World Bank)

[AIDS in Africa](#) (UNAIDS)

[Technology and Innovation in Financial Services](#) (World Economic Forum)

[Shifting Tides: Global Economic Scenarios for 2015-2025](#) (McKinsey & Company)

[3 Futures](#) (Delta Lloyd insurance)

[Charting the Course to a More Resilient Europe](#) (European Commission)

[Work/Technology 2050: Scenarios and Actions](#) (Millennium Project)

Policy Games

[US Election Uncertainty](#) (Transition Integrity Project)

[Local Illegal Drug Policy](#) (RAND)

[Pandemic Response](#) (Center for Health Security)

[Chinese “One Belt, One Road”](#) (US Army)

Online Annex 2: Fingerprints Scenario Planning Left on the IMF's Work

Scenario planning has aided IMF surveillance, lending, capacity development, and internal processes. Some examples of these effects follow in this online annex.

Surveillance

- The Spring 2018 Early Warning Exercise, which is a closed-door event for our members' representatives on the International Monetary and Financial Committee (typically central bank governors or ministers of finance), focused on the erosion of trust, and how technology and other factors impact trust.
- Trust was a theme in the 2018 Spring meetings, which included a trust seminar and public [communications](#) (Lipton, 2018) from our management on trust and the future of multilateralism.
- Thanks to recognizing their importance for global financial stability, formerly 'emerging' trends like inequality are now part of our surveillance. Scenario planning has helped us gear up to advise how countries can assist those left behind by technological change and global economic integration.
- Themes have filtered through to our risk work. For example, one foresight workshop clarified how a slow-moving climate risks could be of global macroeconomic significance even within the short-term horizon covered by Risk Assessment Matrices in Article IV Country Reports. Scenario planning has informed Risk Assessment Matrices risks associated with trust and cyber security. Awareness of how a shock from outside economics can trigger a crisis aided our early identification of COVID-19 as a global economic risk.

Lending and Resources

- In response to the Ebola outbreak, we quickly created the Catastrophe Containment and Relief Trust to provide grants for debt relief for the poorest and most vulnerable countries hit by catastrophic natural or public health disasters. Scenario planning sensitized us to how the IMF can help stop a non-economic trigger from causing a global snowball effect on economic growth and stability.
- By challenging complacency, scenario planning has helped safeguard the adequacy of IMF resources.

Capacity Development

- Scenarios helped assess how technological changes affect members' needs and the modes for delivering assistance, including on fiscal issues.
- A Fall 2020 Analytical Corner featured a talk on the IMF's experience with strategic foresight.

Internal Operations and Modalities

- Participants in scenario workshops, including junior staff and Executive Board members, have expressed their newfound appreciation for long-term perspectives and openness to different futures. Some senior staff have reported that this has framed some of the projects they have subsequently overseen. One participant believes that replaying a scenario from a workshop he participated in gave him the conviction to pursue a reform to our lending toolkit.
- Scenario planning has informed the IMF's approach to governance and quota reform as well as engagement with other institutions like the G20.
- During a department reorganization, scenarios helped senior staff anticipate the need to incorporate long-term challenges in our work and to facilitate this by making some established processes more efficient.
- Scenarios remind us not to take for granted some characteristics (for example, multilateralism, fiat currency, the role of the nation state) that have so far been core to the IMF's mandate, mission, and operations.

Online Annex 3: Agenda for a Trends Research Workshop²

This online annex shares an example agenda for a core trends and uncertainties workshop, based on the Comprehensive Surveillance Review (CSR) scenario planning application.

9:00 am **Introduction**

9:10 am **Presentations Under CSR Trends and Tensions Headings.** 10-15 minutes including discussion per CSR heading (approx. half presentation and half questions / discussion). This session also links headings to underlying drivers, variables/indicators, and surveillance priorities.

11:30 am **Interviews and Reports Feedback.** Each interviewer gives feedback based on interview reflections (if not covered above) and an input based on their reading. Short presentation on long term macroeconomic forecasts.

12.20 pm **Lunch**

13:00 pm **Stock Take of Trends/Tensions, Drivers, Variables and Links to Draft Surveillance Priorities**

13:30 pm **Groups Work on Classification.** Split landscapes headings into 3 groups. Each group arranges trends/tensions subcomponents and or drivers along axes for (i) degree of uncertainty and (ii) relevance to CSR surveillance priorities. Each group chooses 3-4 most relevant (with varying degrees of uncertainty).

14:30 pm **New Groups Work on Interactions.** Mix participants, creating 3 new groups. Groups: (a) Make a prediction on the interactions using *1 of the less uncertain trends/tensions/drivers from each previous group.* (b) Create 2 stories showing possible differences depending on the outcome of *at least one of the more uncertain trends/tensions/drivers from a group* and 1-2 others.

Short break coffee (provided) and comfort break.

15:45 pm **Plenary and Feedback** (including project supervisors joining at this stage). 45-60 minutes including clarification questions and comments from supervisors. Recap of stocktaking exercise, including which CSR headings are more or less important and if any should be dropped/downplayed/replaced. Introduction of underlying drivers and variables. Group nominees present.

- Classification of most relevant and most uncertain trends/tensions/drivers.
- Illustration of interactions.

² Following the workshop, and in order to inform the interim note and then the full draft of the CSR, decide which landscape headings to emphasize, whether any deeper drivers can easily be accommodated within those headings or require separate articulation (e.g., a box), which subcomponents matter more, which developments should be cast as likely vs which should be illustrative uncertainties to highlight. Interactions between trends/tensions/drivers should be included in the scoping note but not the full CSR, which will have scenarios to be built in a dedicated workshop. The prioritized uncertainties will feed into the scenarios.

Online Annex 4: 2-Day Deductive Method Scenario Building Agenda

This online annex shares an example from the 2017 IMF scenarios application for an agenda for a 2-day deductive scenario planning workshop.

Day 1	Goal: Outline of 2-4 scenarios by the end of the day³
8:15 to 8:30 am	Breakfast
8:45 to 9:15 am	First Deputy Managing Director opening remarks
9:15 to 10:30 am	Plenary session I (I) Introduction to scenario development by Professor Rafael Ramirez (II) Walk-through of the two-day program by Professor Ramirez (III) Presentations by external specialists
10:30 to 10:45 am	Coffee break
10:45 to 11:45 am	Group work 1 4 Groups to identify a broad set of factors affecting the IMF's contextual environment. Three-minute presentations by each participant at the beginning.
11:45 am to 12:00 pm	Coffee break
12:00 to 12:45 pm	Group work 2 Same groups to pinpoint the two most important factors.
12:45 to 1:45 pm	Lunch
1:45 to 2:15 pm	Group work 3 Two sets of two groups compare the most important factors.
2:15 to 2:30 pm	Group work 4 Within groups discussion about what they have learned from the other group in the respective pair.
2:30 to 2:45 pm	Break
2:45 to 3:45 pm	Group work 5 Same group pairs decide on the 2 most important factors and develop the contours of one or two sufficiently different scenarios. Some designated participants to start thinking about how the IMF would interact with existing or emerging new players in the global economy (for day 2).
3:45 to 4:15 pm	Coffee break
4:15 to 6:00 pm	Plenary session II Professor Ramirez to facilitate a plenary to agree on the broad outlines of the scenarios.

Day 2	Goal: Final set of scenarios by the end of the day⁴
8:15 to 8:30 am	Breakfast and check-in

³ Selection of axes prompted far more debate than anticipated, so this target was only achieved the next morning.

⁴ A few weeks later, we invited workshop participants to a follow-up workshop in order to seek feedback on the draft scenarios.

8:45 to 9:15 am	Brief Plenary session III Prof. Ramirez to recap most important factors and how to deepen scenarios.
9:15 to 10:15 am	Group work 6 2 to 4 groups. Each group working on: (i) one of the scenarios chosen the previous day (ii) contextual and transactional environment in each scenario.
10:15 to 10:30 am	Coffee break
10:30 to 11:30 am	Group work 7 Groups meet in order to ensure comparability/consistency across scenarios.
11:30 to 11:45 am	Break
11:45 am to 12:30 pm	Group work 8 Groups refine and write scenario narrative, including "sub-stories" (for instance, related to geopolitics).
12:30 to 1:30 pm	Lunch
1:30 to 3:30 pm	Group work 5 Participants enrich storyline and prepare a brief presentation.
3:30 to 4:00 pm	Coffee break
4:00 to 5:15 pm	Plenary session IV Deputy Directors from all departments attend presentation of the scenarios.
5:15 to 6:00 pm	Plenary session V Closing remarks

Online Annex 5: 2-Day Inductive Method Scenario Building Agenda⁵

This online annex shares an example from the CSR scenario planning application for a 2-day agenda for an inductive scenario planning workshop.

Day 1

8:30 am **Welcome, introductions, and objectives** (Mainly to stress-test surveillance priorities; also to demonstrate uncertainties in the surveillance landscape and to facilitate engagement with stakeholders).

8:50 am **Imagining the future.** In 4 groups of about 4, followed by short plenary: Warm-up: looking back to 2008... What were you doing? How did you imagine it would change over the next decade? What assumptions proved correct/incorrect? Short presentation on how rapidly things can change in 10 years.

9:10 am **Contextual environment: Possible futures:** Group work (60 mins): sticky notes in contextual environment drawing on draft report and earlier trends workshop. *What are the most important factors driving the macro-financial surveillance landscape in 2030?* Groups discuss what the key trends and uncertainties driving one or more headings are and agree the two most important trends/uncertainties to share with the plenary. Plenary on contextual environment

10:30 am **Short Coffee break**

10:45 am **Short Presentation on inductive method** using factor/uncertainty cards.

10:55 am **Mini scenarios set I:**

10:55 am (45 minutes) 4 groups of about 4 people. Scenario set I: Individuals choose a card printed before the workshop informed by contextual environment discussion and explain why. Use them to make a draft scenario about the contextual environment that yields outcomes for at least a couple of macroeconomic variables and/or the headings. These can be complemented by existing/new contextual environment stickies. Sketched out using stylized systems map (with arrows) in stylized form on flip chart paper on table. Give scenario a placeholder name and a 1-2 sentence written summary. Groups nominate an observer to offer within-group feedback on group dynamics.

11:40 am: Plenary presentation of drafts from round I. Facilitator feedback and pointers.

12:10 pm Observers give within-group feedback on previous round group dynamics. Appoint process lead for next round. Choose cards for next round as before and take to table. Role dice and include the variable and landscape they show.

12:30 pm **Lunch**

1:15 pm **Mini scenarios sets II and III**

1:15 pm (60 mins) Mini scenarios set II: Use new cards and dice to build new scenarios. After 40-45 minutes, discuss scenario with a facilitator. Refine, give scenario a placeholder name and a 1-2 sentence written summary. Nominate person to present that scenario at a later stage.

2:15 pm Choose new card (or take assigned card) and move to a new group.

2:20 pm (55 mins) Mini scenarios set III: Use new cards and build new batch of scenarios and aim to fill explicit contrasts or gaps (eg a particular sticky or card chosen by facilitator and making it central). After 40-45 minutes, discuss scenario with a facilitator. Refine, give scenario a placeholder name and a 1-2 sentence written summary. Nominate person to present that scenario at a later stage.

3:15 pm **Tea**

3:30 pm **Plenary**

3:30 pm Presentations on scenarios II and III to other groups and special guest.

4:30 pm Facilitator-led discussion/vote on preferred scenarios. Special-guest (from a recent scenario workshop) comments. Plausibility, internal consistency, relevance for surveillance, challenge for SPs, novelty. Facilitators populate basic comparison table during vote.

5:15 pm **Close** followed by debrief and proposals within smaller group on which scenarios to keep/merge

⁵ For the International Monetary System scenarios, we compressed the agenda into two half days. This was necessary because of deadlines but also feasible because the topic was more focused and because the workstream was well established, which allowed participants to quickly get in the right mindset for productive scenario building. We compressed the agenda as follows: (i) instead of brainstorming new contextual factors, the issues identified in an early round were reproduced on a slide; (ii) there were only two rounds of mini scenario building (done in 5 groups); (iii) there was less time available to enrich the scenarios. The core group of scenario drafters had to fill in more gaps than might have been a case for a longer workshop.

Day 2

(8:00 am Smaller group including facilitators meets to decide which scenarios to keep/merge.)

8:30 am **Opening plenary: reflections and proposed scenario set.** Reflections / overnight insights. Small group introduces [2-4] scenarios chosen/merged. People self-select into which scenario they would like to develop further (which may disqualify a scenario). Facilitators give tips for further scenario refinement (e.g., robustness and good story).

9:00 am **Merging and Enriching scenarios I (probably the most important session).** Results captured by filling in draft "Global Surveillance Report" presentation template followed by table: the main trigger was, primary 1-3 trends/issues are, the secondary 2-3 are; it's challenging/interesting because...)

9:00 am (45 minutes) Groups of on average 4: Deepen scenarios (e.g., what drives key driver) and test causal logic. Optionally use economic models to check for robustness. Revise if necessary.

9:45 am (45 minutes) Remedial measures on robustness if needed. Otherwise enrich scenarios (while preserving core elements of why selected), give specific examples, add implications for more trends or variables, (using models, dice or otherwise); rename the scenario.

10:30 am **Morning Break**

10:45 am: **Merging and enriching scenarios II**

10:45 am Same groups. Further remedial measures on robustness if necessary. Make scenario more positive/negative as appropriate e.g., add winners and losers. Otherwise, add regional or country variation, specific examples, make story come alive, add timeline.

11:30 am Short presentation by facilitator on transactional environment

11:45 am Same groups: Transactional environment: If not discussed already: e.g., what is the behavior or preference of central banks, finance ministries, other authorities, and economic actors given the contextual environment in your scenario? What pressures are they facing? Are there new actors in this scenario?

12:30 pm **Lunch**

1:15 pm **Plenary preparation and presentation**

1:15 pm: Groups divide so 2-3 people revise presentation template and remainder find a picture.

1:45 pm: Plenary: each group presents scenarios and solicits feedback

2:30 pm: Groups (some members swap or reassigned) revise scenarios based on feedback and other criteria (cross-scenario comparisons, being too positive or negative, gaps). Update presentation template. Choose presenter.

3:15 pm **Tea**

3:30 pm: **Interdepartmental Surveillance Contacts feedback**

3:30 pm: Welcome

3:35 pm: Nominee for each group presents scenario to senior staff serving as Interdepartmental Surveillance Contacts, which hear all scenarios. ISC randomly divided in 2 groups based on tables.

4:10 pm: ISC discuss 2 scenarios in groups, starting with scenario from their table and, after 25 minutes, staff swap tables to discuss second scenario. ISC asks clarification questions. We ask ISC the following: "Is this scenario (i) plausible (if not, how would you change it to make it more plausible), (ii) internally consistent (if not, what would make it more consistent), (iii) novel/surprising, (iv) challenging for the surveillance priorities?"

5:10 pm: Plenary of comments (ISC nominee for each scenario responds with answers to questions above).

5:30 pm **Close**

Online Annex 6: Scenario Building Application Workshops

This online annex shares example agendas for various scenario planning application workshops.

ANNEX 6.1: HOW YOU COULD APPLY SCENARIOS IN UNDER 75 MINUTES WITH ALMOST 75 PEOPLE (COMMUNICATIONS DEPARTMENT OFF-SITE RETREAT BASED ON 2017 SCENARIO SET)

- Circulate scenarios document to participants in advance for them to read in advance.
- 10-minute presentation by scenarios team member or author to introduce scenario planning and play a 3-minute video of the scenarios.
- Divide participants into nine groups, each focusing on one question for one scenario (there are three questions⁶ and three scenarios). Groups will get 5 minutes to discuss among themselves what they did or didn't like about the scenarios and 25 minutes to discuss their assigned question.
- In a 25-minute plenary led by a member of the department, compare responses. Each group conveys in about 5 words their answer such that there is a 3X3 matrix of answers filled typed in by a nominated person. Session leader selectively invites elaboration and responses from groups. Time permitting, reflect on similarities and contrasts across scenarios.

ANNEX 6.2: STRESS TESTING THE FUND'S BUSINESS MODEL (AGENDA FROM HEADS OF DEPARTMENT WORKSHOP, INNOVATION LAB)

A few days before the workshop, department heads had to read the three scenarios and prepare answers to questions associated with one scenario.⁷

9:00 am–9:10 am Opening by the Managing Director

9:10 am–9:20 am Preview by facilitator, followed by 3-minute scenarios video

9:20 am–10:00 am **First round—Group work** (moderators stay with scenario they prepared in advance while others participate in a new scenario not prepared in advance)

- Moderator makes a presentation of the implications based on assigned questions
- Discussion allowing for amendments
- Groups agree on new moderators

Member of scenarios team accompanies each group to answer questions about the scenarios themselves and to take minutes as the groups amend the implications.

10:00 am–10:40 am **Second round—Group Work** (new moderators remain in their corner; other group members switch to the scenario that they haven't yet prepared or discussed). Follow the same process as in the first round. Facilitator guides participants to be as specific as possible.

10:40 am–10:50 am Coffee Break

10:50 am–11:20 am **Third round—Group Work** (new moderators remain in their corner; all other groups return to their original scenario (i.e., only the original moderator will not be in his/her scenario). Final round of amendments. Facilitator looks for common themes across scenarios and probes groups for nuance across scenarios.

11:20 am–11:35 am **Facilitator to lead discussion on the process and explain voting process**

Scenarios team collates answers and implications from across scenarios and groups in order to share with participants.

11:35 am–11:55 am Coffee Break where participants vote to prioritize implications anonymously using a secure online survey method.

11:55 am–12:30 pm **Managing Director facilitates discussion on top 6 implications:** What decisions can we identify today for Management take to shape the IMF's strategy for the next 25 years?

⁶ The three broad questions were (1) How will we communicate? (2) How will we remain credible? (3) What is our focus? Each had more pointed and controversial sub questions to provoke discussion.

⁷ Covered topics included crisis prevention and resolution, spillovers, the global financial safety net, the international liquidity and payments system, surveillance, research, fiscal strategy, external engagement, external relations, capacity development, budget, human resources, governance, as well as data and information management. Under these themes, specific and challenging questions were tailored to each scenario.

ANNEX 6.3 STRESS-TESTING DRAFT PROPOSALS USING SCENARIOS

8:15 am **Welcome breakfast, introductions, and objectives.**

8:40-10:00 am **Scenario A:** Split into four groups of about 3-4, one group for each of the four surveillance priorities. One person is process lead and a second is a minute taker for this scenario.

- 10 mins Scenario familiarity exercise: reread scenario and preparatory notes.
- 45 mins discuss (i) How can your priority be illustrated in *this* scenario? Be specific about policies. (ii) *What goes wrong for our members and/or the global economy if these priorities are not addressed?*
- 25 mins Plenary session: Presenters summarize answers from group work. Feedback. Record on laptop/screen.

10:10-11:30 am **Scenario B** (as before, followed by short break, new minute taker and process lead)

11:40 am-1:00 pm **Scenario C** (except some people not specifically assigned to a priority switch groups)

1:00 pm **Lunch**

2:00 pm **Plenary:** (1) Recap of morning, cross scenario comparison, especially what goes wrong (fill in table with priorities in rows and scenarios in columns). (2) Introduction to pre-mortem. Groups (5 each) split into 3 scenarios with representation across the priorities.

2:15-4:00 pm **Pre-mortem**

Group work: Imagine the Independent Evaluation Office is evaluating surveillance looking back over the decade *in this scenario in 2030* and concluding it went horribly wrong.

- 20 minutes of failure: Using the plenary recap or otherwise, answer: What could it say went so wrong *in this scenario*? Each member writes down as many items as s/he wants in 7 minutes. For 10 minutes, share your ideas with the group and write numbered list on board / screen (or place sticky on board).
- 20 minutes of criticism: Based on the items above (or otherwise), what would be its criticism of the CSR surveillance priorities? What *specifically* did the IMF (not the authorities) get wrong and why? Each participant writes down as many as s/he wants in 7 minutes. For 10 minutes, share ideas within the group and match to list from previous bullet on board / screen if applicable.
- 20 minutes of reflective solving: Are the surveillance priorities as a set missing something? If you had to add a 5th priority, what would it be? Would you alter any of the existing priorities or their subcomponents?
- 5 minutes of voting: Group votes for top 2-3 failure/criticism combinations and 1 (or maybe 2) 5th priority proposals. Idea originator for each shares with plenary.

Plenary 35 minutes. For each scenario: scenario recap by facilitator, group feedback by nominees (5 minutes each). Recorded on table on screen. Free-flowing general discussion.

4:00 pm **Tea including Interdepartmental Surveillance Contacts (ISC)**

4:10-5:10 pm **ISC Session, plenary introduction** (CSR teams collect thoughts for next round)

4:10 pm **ISC/CSR groups** (CSR groups stay as is and keep scenario; joined by ISC): 1 minute-taker, 1 process lead.

- 10 mins 1 CSR team member presents scenario synopsis to ISC members. Remaining 3-4 CSR team members give 1 illustration each of what goes wrong for our members because of wrong advice (ideally covering most/all surveillance priorities) from post-lunch plenary to this scenario (and drawing on table projected on the screen).
- 5 mins 2 CSR team members discuss/present a failure/criticism combination from previous pre-mortem.
- 5 mins individual members think and write down multiple answers to these two questions: Imagine the IEO is writing a report highly critical of the CSR in 2030. (1) What criticisms will it write? (2) What are the underlying reasons for these critiques?
- 15 mins Go around table until all ISC (and any new CSR) ideas noted (stickies on board).
- 15 mins As a result, how should surveillance priorities be adjusted?

At 5:00 pm: Within each group, each ISC member gets 2 votes to choose how surveillance priorities should be adjusted using stickers on flipchart. Originators of 2 winning statements present in plenary.

5:10 pm **Plenary**

- Each table reports back on 2 changes to SPs to the other groups (10 minutes).
- Closing comments / reactions on commonalities across scenarios (10 minutes).

5:30 pm **Close**

Online Annex 7: Facilitation of Scenario Planning

This online annex discusses the value-add and purpose of facilitators.

We used external facilitators while developing in-house capacity. For example, we employed the services of professional scenario-planning facilitators (for example, Normann Partners) to aid with the broader scenario-planning purpose as well as specific workshops for building scenarios or for using scenarios to derive implications. We have developed in-house facilitation capacity by enrolling in the Oxford Scenarios Program, regularly participating in foresight conferences,⁸ and asking other practitioners in government, international organizations, and the private sector about their experiences. We took advantage of facilitation training that, although not focused on foresight, was tailored to IMF culture and work processes. See [Schein \(1988\)](#) on process consultation in general and [Van der Heijden \(2005\)](#) on using scenarios to facilitate strategic conversations.

Early in the foresight process, facilitators devote considerable time to identifying the purpose and user. This includes presentations or discussion on what scenario planning or policy gaming can do and identifying which of those objectives are most important. Objectives should be interrogated and revisited regularly with the key counterpart responsible for the project. For example, “Is this genuinely an open-ended search for solutions or is the intention actually to seek feedback on a proposed new direction that may not have been officially articulated?” It can include calibrating expectations of resources and division of labor, including clarifying that the scenario process is not outsourced to the scenarios team but facilitated by them.

Facilitators help tailor the workshops. This takes into account practical constraints like human resources and deadlines—how many people should be in the workshops and how long should they be—but also whether the workshops are meeting the objective. For example, if there is a draft set of proposals, are the people who drafted them and who can give good feedback in the workshops. How can the scenarios be written in a way that challenges them? Which people with prior scenarios experience could complement participation by core users? How much risk can be taken in the workshops (for example of not meeting the stated objective in time) in order to allow for more unanticipated insights? Tangibly, the facilitators produce a scenario-planning timeline and individual workshop agendas. Critically, this has to be agreed to and communicated by the project supervisor. For trends workshops, this can include the type of deliverable in advance of the workshop and allocating time for discussing the research, brainstorming, and prioritizing. For scenario planning, facilitators fit the scenario building steps into the time available. For implications workshops, facilitators help make the discussion questions appropriate, which often implies striving for candor and specificity. For policy gaming, this can include identifying the shock(s), roles, players, and rules.

Facilitators are there to help users maximize the benefits of the foresight workshops. The role of a scenario-planning facilitator has been described as that of a “midwife” ([Wilkinson, 2017, page 5](#)), not the person giving birth. This can include logistics, general facilitation principles, and those specific to foresight.

- Smooth logistics allow the intended users to focus on insights from the foresight exercises. Rooms with better light and acoustics reduce the cognitive load on users. Although breaks are productive, providing refreshment reduces risks of people returning late. Facilitators identify stationery to be available on tables and pre-populate PowerPoint or flipchart templates so that precious time is focused on the task.
- Some general facilitation principles can apply to many types of workshop. Depending on the institution and the participants, facilitators can (1) suggest turning off or handing in mobile phones; (2) limit participants’ comment length to allow all to speak without interruption; (3) emphasize that no idea is a bad idea, though any idea can be challenged, especially in brainstorming sessions; and (4) designate the workshops as a safe space for difficult conversations.
- We have been given some helpful foresight facilitation advice. During trends workshops, facilitators can surface assumptions by asking follow-up questions, including “Why” (more than once!).⁹ Facilitators should encourage this from all participants but have a particular license to do so as devil’s advocates and as people who are not directly vested in the project and in many cases less familiar with the material. Similarly, facilitators should encourage questioning of why the past or present can be extrapolated into the future, which is a claim that is often implicitly made by the participant and should be challenged for questions that are key to the scenario planning objectives.
- Facilitators can also draw on their insights from broader foresight studies or workshops to bring in different perspectives. During scenario-building workshops, facilitators can remind participants that the process is by design uncomfortable, not allow participants to get too comfortable by challenging their arguments, help evaluate scenarios as a set and avoid scenarios being too similar, and most importantly, repeatedly push participants to stretch their perceived range of plausibility. Facilitators help the project leader(s)

⁸ These include general foresight conferences such as those organized by the [OECD](#) as well as focused conferences, such as the [wargaming conference](#) hosted by the U.S. Army War College in 2019).

⁹ A key challenge for us has been managing the tradeoff between comprehensiveness (“getting through” all the ideas and material) and depth (going back to some of the premises behind a claim that have perhaps not been challenged recently).

make judgement calls like scenario selection, sometimes providing advice assertively if the workshop has hit an impasse.¹⁰ For implications workshops, facilitators encourage participants to answer questions precisely and frankly. Similarly, policy-gaming facilitation encourages players to be precise in their pro and con arguments.

¹⁰ Another important challenge is whether to treat an apparent impasse as a productive pressure point that has uncovered an issue that merits further attention at the cost of delays (or compressing subsequent stages or the workshop) or alternatively as something on which to make a call and move forward.

Online Annex 8: Example Policy Game Instructions

This online annex shares an example set of instructions that were shared with participants for a Covid-19 vaccine distribution game and draws heavily on guidance from Mouat, et al.'s (2017) toolkit. There were several players that represented multiple implicit roles (e.g., emerging markets with vaccine production capacity could be China, India, and Brazil).

Each player should adopt the character(s) of the Actor(s) through role-play; this includes reflecting the economic leverage, culture/personality, and history of each Actor. Enthusiasm and a thorough reading of the briefing materials are sufficient preparation.

Several players have multiple implicit countries or firms that they represent. The player can take a single action on behalf of the collective group (e.g., some countries attempt to force commercial airlines to provide planes to help rapidly distribute the virus, invoking national security rationales). Alternatively, the player can pick a single implicit actor and take an actor-specific action. Making such choices will uncover the potential for collaborative action amongst the actor groups as well as the relative power of certain implicit actors in helping players meet their objectives.

At the start of the game, players will revisit a provided objective and write-down a second one. The objectives can be kept secret if the player prefers.

In a Matrix Game, actions are resolved by a structured sequence of logical "arguments".

Each player takes turns to make an argument, with successful arguments increasing the odds (determined by dice) of advancing the game and the player's position.

How does one make and win a successful argument?

The "Pros and Cons" System. In this system, each argument is broken down into the following steps:

- The active Players states:
 - One action (e.g., increase health spending; launch a public communications campaign; etc.).
 - The expected impact of the action.
 - Reasons (Pros) why it will be successful. Success is based on whether you will be able to carry out the action and whether it will have the intended impact.
- The other Players then state: A number of objective reasons why it might or might NOT be successful (if they can think of any) (Additional Pros + Cons). The main player can add additional objective Cons at this time as well.
- A required dice roll is determined using one of two methods: (e.g., if success is highly likely, a player might only need a total roll of 4 or better; if likely to be unsuccessful, a total roll of 10 or more might be needed).
 - Method 1 (used in this application): All players then offer a probability of whether, based on all the pros + cons, the argument is likely to be successful. Implicitly, each player should weight the Pros + cons (e.g., perhaps making compelling reasons worth two pros and two or three weaker reasons against only worth one con). The probability (e.g., 70 percent) is then mapped to the roll required (e.g., 6 or better).
 - Method 2 (used in other games): The adjudicator (possibly with the help of a subject matter expert) groups and evaluates pro/con arguments before reducing the required roll by 1 for each pro argument and increasing the required roll by 1 for each con argument. For example, 2 pros and 1 con would translate to a required roll of $7-2+1=6$.
- Dice are rolled to determine if the required number is obtained. This stage introduces luck such that likely successes can (rarely) fail and unlikely successes can sometimes materialize. The dice role can also inform the narrative. If for example the required target is barely met, success can be described as marginal. If there is a very high roll, then it can be described as resounding.
- A turn ends when all players have attempted an argument.

Examples of Actions

1. Government Actors
 - a. Make deals with vaccine producers
 - b. Diplomatic/Military (e.g., sign agreements with other nations on vaccine purchases/joint manufacturing)
 - c. Fiscal: increased/decreased spending, raise/lower taxes, social transfer programs
 - d. Monetary: raise/lower interest rates, open market operations, CFMs, interventions, QE, macroprudential policies
 - e. Structural: governance, labor laws, business environment, price controls, PFM, SOEs, social safety nets (e.g., subsidies)
 - f. Trade: tariffs, non-tariff barriers (including on vaccines or affiliated products), currency devaluation, CFMs
 - g. Financing requests

2. Multilaterals
 - a. Organizing vaccine production, transport, and distribution
 - b. Surveillance
 - c. Introducing new lending facilities (e.g., pandemic loan facility)
 - d. Catalyzing other development partners' support
 - e. Capacity development
 - f. Setting institutional views/global standards
 - g. Changing strategic focus
 - h. Convening countries, experts, etc. for discussions/negotiations

3. Private Companies
 - a. Allocating vaccines
 - b. Mergers and acquisitions (including hostile takeovers)
 - c. Research and Development Efforts (e.g., confirming efficacy)
 - d. Lobbying Missions to Domestic/Foreign Governments
 - e. Hiring and Recruitment Drives of new talent
 - f. Publicity Campaigns
 - g. Industrial Espionage/ Bribery
 - h. Venture Capital/IPOs or other funding rounds.
 - i. Government loans and partnerships

Note: Actions can and should take advantage of country-specific factors. This applies to factors specific to certain companies or multilateral organizations as well.

Can players enter deals?

After the first turn or the first day, deals can be negotiated with other players (e.g., via email or otherwise).

At the beginning of the second session:

1. The deal must be announced.
2. All involved parties must verbally state their agreement and the intended specific impact of the deal for their country.
3. In place of making an argument, each party to the deal rolls the 2 dice to determine whether or not the deal yielded the intended benefit for that player. A sum of 5 or higher is needed for success.

Why should I make a deal? Deals benefit from a disproportionate chance of being successful (each signatory must roll a 5 or higher to receive the intended impact of the deal, with an 83% chance of success).

What's the time horizon for a turn?

The length represented by a game turn may be variable during the game based on the events taking place, but typically occur over a period of about a year (i.e., giving time for trade tariffs to take effect).

Do we determine everything, or will there be exogenous shocks?

It's a world of heightened uncertainty, so there might be some unexpected surprises.

More on arguments

- You can argue about your own abilities or that of your counterparts, the existence of people, places, things or events, the weather, disease or public opinion. You can also argue about the expected effectiveness of a given action (e.g., whether conditions are ripe for a large or small fiscal multiplier). The actions and consequences of arguments are reflected in writing the results on the PowerPoint so the Players can keep track of what is going on.
- Some things can seem a little odd to new players – "how can she argue about my country's ability to implement policy?" – It is true, she can't block a new tax law, but she could argue that political will to raise taxes is low because of recent social unrest in the region. The only criterion for judgement is the likelihood of the event/action being successful.
- A common error in Matrix games is for a player to argue about another player being influenced by something or them agreeing to a course of action. The player is present and can simply be asked – which is why there is a little time between turns to allow the players to negotiate. It might be that a player wants to argue that all parties come to negotiations – in which case let them state their case, then ask the other players if they want to come along.
- Sometimes players get carried away with their arguments and try to do several different things. This isn't allowed in a Matrix game – you only get to do one action a turn because part of the insight comes from deciding what the highest priority is. The action itself could be large, but it must be a single action.
- If two arguments are in direct opposition ("This happens" - "No it doesn't") they represent a logical inconsistency since they cannot both be true. The earlier argument has already happened, so it is impossible for it not to have happened. An argument that contradicts a result from an earlier action or turn is highly unlikely to be successful (e.g., if by bad luck a devaluation attempt did not have the intended export response, the same player would be hard pressed to argue that it will work this time. Later on, the player

may argue that the event is reversed, or circumstances have changed, but this tends to make for a poor narrative in the game and should be discouraged.

How do you win the game?

- Emphasis is placed on the process of game-playing and what comes out of the action-reaction sequence.
- However, meeting one's objectives is also a barometer of success. Prior to the start of the game, players are given one and should write down another objective based on the briefing (these can be kept secret). We will check on whether players have met their objectives around halfway through the game and at the end.
- The number of times your proposed action or negotiation succeeds is another measure.

Online Annex 9: Options for Foresight Engagement

This online annex provides a comparison of different foresight methods, including their benefits and costs.

Activity with user	Examples	Positives	Negatives/Risks	Resource Costs
Full Scale, Wide Angle Scenario Planning – full engagement starting with identification of objectives (e.g., interviews), identification of keys trends and uncertainties, followed with scenario building workshop, and engagement on implications for IMF/members (including methods below).	2012-14 scenario planning round to stress-test the Fund's business model.	<ul style="list-style-type: none"> - Meets periodic need to inform strategic direction. - Offers respite from daily activities - Enhanced familiarity and ownership by user (especially top-level). - Experience of building scenarios is challenging and insightful, and ultimately more influential on subsequent stages 	<ul style="list-style-type: none"> - Without existing demand or operational directive, value can be harder to demonstrate in advance. 	<ul style="list-style-type: none"> - 3-4 days direct involvement by user possibly with top-level and senior staff though can be spread over a long period (e.g., months or years). - Considerable preparation from foresight team, especially for top-level events. - Facilitation of top-level events by junior foresight team or outside experts have drawbacks, while no senior in-house staff may have the background.
Targeted Scenario Planning – as above but targeted at a narrow question that may be identified by management or chosen by staff. Questions can be open-ended or closed, focus on the membership or internal strategy, etc. If not directly relevant to the project, background research on trends and uncertainties could be skipped to reduce the time needed.	Future of work in Africa.	<ul style="list-style-type: none"> - As above - More potential for a direct output, though usually direct output prompts the scenario planning. - More chance of a deep dive on an issue and actionable conclusions. - Synergies between staff work needed for direct output and for scenario planning. 	<ul style="list-style-type: none"> - Can be insufficiently aware of broader factors without recent wide-angle exercise or in-built research into trends and uncertainties. - Topic chosen, if operational, can be “loaded” and people can participate with positions rather than an open mind 	<ul style="list-style-type: none"> - 4-8 hours direct involvement by user - Low/no marginal cost on staff preparatory work on trends and uncertainties. - Identified project can save time on establishing objectives, but still considerable preparation from foresight team.
Engagement with Prepared Scenarios via premortems, gamification, or targeted questions.	Future of technical assistance on fiscal matters (based on 2017 wide-angle scenarios).	<ul style="list-style-type: none"> - Can leverage existing materials if the existing scenario set is still relevant. 	<ul style="list-style-type: none"> - Scenarios should be built to purpose based on best practice (e.g., surveillance landscape, reserves configuration, future of work in Africa) since there are fewer topics that can be addressed - Less ownership of and experiential learning from the scenarios - Less differentiation from other exercises or publicly available scenarios 	<ul style="list-style-type: none"> - 2-4 hours for user. - Can require only moderate preparation from foresight team.
Policy-gaming –strategic simulation exercises on topical issues that involves roleplay.	Capital Flow Measures.	<ul style="list-style-type: none"> - Experiential learning by taking on a role (including the IMF or within the IMF) - Helps develop contingency planning - Facilitates team building 	<ul style="list-style-type: none"> - Area-dept help with preparation potentially needed, especially in more technical or less familiar fields. - Can amplify biases/priors - Enjoyment of the game clouds substantive learning that occurs - Gamification of serious risks can appear dismissive of real-world stakes 	<ul style="list-style-type: none"> - ½ day for user plus trial runs. - Moderately high prep needs from RU team and other staff on subject matter to build playbook materials. - Careful adjudication for top-level events.

<p>“Unknown Unknowns” & Breaking Trends Workshop – Brainstorming exercise to unearth and shed light on key uncertainties and trends that might be bending or breaking over the next few decades. Can use futures wheel or causal layered analysis.</p>	<p>Start of 2012-14 scenario planning round.</p>	<ul style="list-style-type: none"> - Can be limited prep unless participants require preparatory materials - Less structured format may encourage candid sharing of ideas - Can be a non-committal introduction to foresight work. 	<ul style="list-style-type: none"> - Less likely to unearth “ah-ha” findings as creativity is endogenous to prior views of participants - Hard to structure in a way that produces meaningful output in a short amount of time - Less use of RU expertise or techniques 	<ul style="list-style-type: none"> - 2-4 hours with user. - Moderate preparation from foresight team if briefing materials can be contained.
<p>Pre-mortem – assume that failure of an objective, strategy, or project has already occurred and brainstorm on what may have caused that failure.</p>	<p>Stress-testing strategic priorities of the Comprehensive Surveillance Review (paired with scenario planning).</p>	<ul style="list-style-type: none"> - Useful for highly targeted questions (e.g., exploring the implications of the failure of a particular strategy). - Resource (people & time) efficient. - Intuitive. 	<ul style="list-style-type: none"> - If participants do not find the failure scenario to be plausible, it can prevent useful discussions. - Rather than uncovering solutions on how to prevent negative outcomes it may dissuade decision-makers from taking any action. 	<ul style="list-style-type: none"> - 2 hours with users. - Moderate preparation from facilitators.
<p>Tabletop exercise (TTX) / crisis simulation – similar to policy gaming but decision-makers play themselves and the simulation typically occurs over multiple days with several in-game scenario updates as the exercise progresses.</p>	<p>2006-07 financial crisis simulation.</p>	<ul style="list-style-type: none"> - Highly resource intensive both for facilitators and participants. 	<ul style="list-style-type: none"> - If participants do not find the failure scenario to be plausible, they may not take it seriously. 	<ul style="list-style-type: none"> - 12+ hours with users - Extensive preparation needs from facilitation team.
<p>Aspirational scenario / visioning exercises – normative scenario building for positive, preferred futures.</p>	<p>N/A</p>	<ul style="list-style-type: none"> - Can engender buy-in in the context of widespread inertia or risk aversion. 	<ul style="list-style-type: none"> - Can be seen as reflecting powerful actors' biased agendas. - May appear naively optimistic or too extensive of a wish list. 	<ul style="list-style-type: none"> - 1-2 days with users depending on the adopted approach. - Considerable preparation from foresight team, especially for top-level events.
<p>Horizon scanning for tail risks – using research, expert interviews, surveys, and future wheels to scan for unlikely but high impact.</p>	<p>Tail Risk Group.</p>	<ul style="list-style-type: none"> - Highlights potential emergent risks. 	<ul style="list-style-type: none"> - Can be viewed as a waste of constrained resources. 	<ul style="list-style-type: none"> - Resource needs vary largely.