Session 1

Ensuring affordability, economic viability, and fiscal sustainability

Regardless of the delivery mode, governments aim to ensure that infrastructure projects are economically, fiscally and financially viable and that the overall national and sectoral strategic investment programme is sustainable. This requires the use of dedicated processes, a capable organisation and relevant skills. Good governance is essential to ensure these requirements are not only carried out at the project selection stage but are sustained throughout the project lifecycle. A country’s overall infrastructure expenditure and the fiscal risks it carries in terms of guarantees should be based on medium and long-term fiscal projections and regularly updated. Furthermore, there should be a strong link between the long-term strategic infrastructure plan and the fiscal framework of the country.

A project and portfolio can be said to be affordable if the expenditure and contingent liabilities it entails for the government can be accommodated within current and forecast levels of government expenditure and revenue, including user charges. Sustainable projects must also be financially viable for operators over the full lifespan of an asset. Maintenance, malfunction, and poor service delivery drive up the total cost of investment. Tools like life-cycle assessments take into account the totality of costs over the lifetime of an asset and, if the project is meant to be user funded, it includes investigation of the ability and willingness of users to pay. However, despite evidence of investments achieving the applicable hurdle rate of return, operations and maintenance costs are often neglected in favour of high-visibility new infrastructure and are often the first budget item to be pared back in times of fiscal pressure.

With respect to relative value for money, certain procurement modalities may improve the value for money compared to that realised through other forms of infrastructure procurement depending on public and private sector capabilities, the degree of certainty of future revenues, and the desired allocation of risks and controls. Value for money should be carefully assessed using a combination of quantitative (such as cost/benefit analysis) and qualitative tools that seek to establish the overall societal return on investment. This process is inherently based on assumptions that are open to discussion, but as long as these are transparently treated, the process is valuable. Such a process should enable decision-makers to prioritise projects so that the maximum value is generated for society as a whole. The use of relative value for money assessments is a common practice in most OECD countries (Figure 1). However, results for the assessments are not routinely made publicly available (OECD, 2018).
Figure 1. Formal process for relative value for money in infrastructure projects

Public-Private Partnerships  
Traditional Infrastructure Procurement

Note: In Switzerland, there is a formal obligation to consider PPPs if suitable (=more efficient/effective).
Source: OECD Survey of Capital Budgeting and Infrastructure Governance (2018)

Questions for discussion

- How can governments ensure infrastructure procurement processes are well integrated into the ordinary budget process?
- Do countries have long-term infrastructure strategies? Are they linked to long-term fiscal projections?
- What are the challenges to ensure fiscal sustainability in the medium and long-terms? Which type of processes and tools can countries use to achieve this objective?
- What are the challenges to increase private participation in infrastructure? What are the potential benefits and risks of this increase for fiscal sustainability?
- Which type of institutional arrangements and capacities are required to ensure project affordability and economic viability?
Session 2

Sustainable investment through effective regulation

Just as good governance frameworks are critical to ensure high quality infrastructure, so is regulatory policy a crucial component of an enabling environment for infrastructure investment. A sound regulatory regime with appropriate institutional and governance arrangements provides investors with sufficient assurance and consumers with adequate protection. In particular, regulatory authorities should be able to offer a credible commitment to both public and private investors that the regulated industry will be unaffected by political uncertainty and protected from undue influence.

Institutional investors such as pension funds, seeking defensive elements in their portfolios, predictable cash flows, capital appreciation and diversification increasingly turn to infrastructure as an asset class and consider the quality of regulatory frameworks in their investment decisions. By way of example, rating agencies include the quality of regulatory frameworks as a variable when making assessments and providing credit profiles of regulated utilities. In some countries, regulatory quality and stability can account for over one-third of the rating methodology: a well-designed and stable regulatory framework directly translates into higher credit worthiness, and potentially a lower cost of finance and higher investment return (OECD, 2018b).

However, traditional economic regulation as done in most utilities sectors focuses on price caps and a hard budget constraint to incentivise efficient expenditure by the infrastructure managers and service providers. The main benefit of this approach is an increase in operating efficiency thanks to competition-like pressure exerted by the regulator, resulting in limited price rises for users at a time of growing investment and rising service levels. Most economic regulators are not directly involved in the discrete decision-making that occurs in each stage of the infrastructure lifecycle — this is left to the infrastructure operator to manage. In this context, regulators find it challenging to “encourage efficient investment” (OECD, 2017b).

As circumstances change and markets evolve, the effectiveness of regulatory regimes can decrease and the role of economic regulators may need to change. Four key trends affecting infrastructure in OECD countries are ageing assets, leading to higher risks such as service failure, changing customer preferences, including expectations around digitalisation and environmental sustainability, increased competition and the use of ICT technologies by infrastructure managers and regulators.
Figure 2. Common challenges faced by economic regulators

Note: This figure includes information from 55 sectors and subsectors respectively
Source: The Role of Regulators in the Governance of Infrastructure Survey 2016

Questions for discussion

- What makes the regulatory frameworks for economic regulation particularly effective from the point of view of both investors and infrastructure managers?
- Are current infrastructure governance arrangements conducive to promoting efficient yet sustainable investment?
- As infrastructure assets age across OECD countries, should the role and purpose of economic regulation change to adopt a longer-term view?
- What are the threats and opportunities of changing customer preferences, especially in light of digitalisation trends?
Session 3

Managing corruption risks in infrastructure: how can data-driven approaches help?

Infrastructure projects, due to their complex nature, provide many opportunities for corruption and fraud risks across the project cycle. These risks can be of a criminal nature, or they can represent unethical behaviour. Managing such risks is critical for ensuring the quality of and access to infrastructure. Higher levels of corruption are observed with lower levels of productivity in OECD countries (OECD, 2014). Countries with high levels of corruption also tend to have relatively low levels of quality and access to infrastructure (IMF, 2016). At the project level, corruption risks can lead to inflated construction prices, delays and lower quality outputs.

There is no one way to deal with these challenges and improve the resilience of infrastructure projects to corruption and fraud. Yet, risk management and the use of data analytics to assess risks have become central components to a preventive approach for safeguarding the integrity of infrastructure projects. Risk management and risk assessments are not just tools for auditors or investigators. Instead, they are core tools to support decisions about resource allocation, controls and other mitigation measures, which ultimately contributes to a project’s delivery with fewer delays, cost overruns and waste. The OECD’s Recommendation on Public Integrity and the Framework for the Governance of Infrastructure, among other international standards and guidelines, echoes this risk-based approach.

The advent of open data, big data and the digitalisation of government and society has opened up opportunities to advance how risks in infrastructure projects are managed. In particular, data analytics and new techniques for assessing risks are shining a fresh light on patterns and instances of corruption and fraud. The Association of Certified Fraud Examiners (ACFE) makes the case for the value of analytics to safeguard integrity and combat corruption. The ACFE examined median fraud losses—the amount of revenues the organization loses in a given year as a result of fraud—and the time to detection for fraud, considering 18 anti-fraud controls in place when the fraud occurred. The ACFE found that having data analytics in place (i.e. proactive data monitoring/analysis) resulted in the biggest reduction of fraud losses relative to 18 other control activities, including codes of conduct, reward for whistle-blowers and external audit of financial statements, among others (Table 1) (ACFE, 2016).
Table 1: Reduction in fraud losses as a result of select control activities

<table>
<thead>
<tr>
<th>Control</th>
<th>Percent of Cases</th>
<th>Fraud Losses with Control in Place</th>
<th>Fraud Losses with Control Not in Place</th>
<th>Percent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactive Data Monitoring/Analysis</td>
<td>36.7%</td>
<td>USD 92,000</td>
<td>USD 200,000</td>
<td>54.0%</td>
</tr>
<tr>
<td>Management Review</td>
<td>64.7%</td>
<td>USD 100,000</td>
<td>USD 200,000</td>
<td>50.0%</td>
</tr>
<tr>
<td>Hotline</td>
<td>60.1%</td>
<td>USD 100,000</td>
<td>USD 200,000</td>
<td>50.0%</td>
</tr>
<tr>
<td>Management Certification of Financial Statements</td>
<td>71.9%</td>
<td>USD 104,000</td>
<td>USD 205,000</td>
<td>49.3%</td>
</tr>
<tr>
<td>Surprise Audits</td>
<td>37.8%</td>
<td>USD 100,000</td>
<td>USD 195,000</td>
<td>48.7%</td>
</tr>
</tbody>
</table>


Infrastructure projects offer a platform for a range of stakeholders to showcase data-driven approaches to improve risk management and oversight of infrastructure projects. Project managers can make use of analytics to assess not only integrity risks, but also to assess other strategic and operational risks in line with the *OECD Recommendation on Public Procurement*, as well as improve broader data governance, as highlighted in the *OECD Recommendation on Digital Government Strategies*. Civil society organisations, academia and investigative bodies also are important stakeholders in demonstrating, innovating and addressing the challenges of using data for managing integrity risks in infrastructure projects. They are key users of administrative data, open data and big data that provide a whole-of-society and whole-of-government perspective to safeguarding integrity and promoting the resilience of infrastructure projects.

Questions for discussion

- How can risk management principles and practices support managers of infrastructure projects to identify, analyse and respond effectively to corruption and fraud risks across the project cycle?
- How can data-driven approaches improve the risk management and oversight of infrastructure projects?
- What are the challenges of using digital technologies to encourage innovation, transparency, and efficiency in infrastructure investment and delivery?
- How can civil society organisations, academia and investigative bodies demonstrate and address the challenges of using data to manage integrity risks in infrastructure projects?
Session 4

Strengthening critical infrastructure resilience

Building infrastructure resilience – the ability to plan and prepare for, withstand and absorb, recover from and adapt to adverse events – helps strengthen the ability to weather shocks, minimises the disruption of essential services and contributes to the sustainability of infrastructure investments. In view of the uncertainties on future climatic and other risks, care needs to be taken when planning infrastructure to implement solutions that are resilient to changing circumstances. The lack of quality standards in infrastructure design and delivery can reduce resilience to environmental and social risks, affecting infrastructure investment outcomes.

While infrastructure owners and operators have a keen interest in protecting their assets, maintaining the continuity of their services and their reputation by investing in resilience, views can differ on the level of resilience required, the means to achieve it, and the requirements that should apply. These differences have financial implications, and raise questions about who will bear the upfront costs of investing in resilience, even if these costs are compensated for in terms of the greater reliability of service and resilience to shocks.

Figure 3. Public policy tools to strengthen critical infrastructure resilience OECD countries

Source: responses received from 25 countries to the OECD Survey in Critical Infrastructure (2018)
Setting-up public-private cooperation between governments and infrastructure stakeholders to encourage dialogue on these issues is a useful approach to jointly build and implement infrastructure resilience policies. Such cooperation is all the more important in light of the increasing functional dependencies and interdependencies between infrastructure assets and sectors. The disruption of electricity, telecommunication or transport services could result in downstream disruptions to other services and critical sectors, with consequences on public safety, social well-being and the economy.

In this context, shifting from asset protection to system resilience requires holistic policy approaches to prioritise investments where they are most cost-effective in strengthening overall resilience levels. Ideally, such prioritisation process should identify the most critical infrastructure, assess their level of resilience of multiple hazards and threats and target resilience measures across the infrastructure life cycle. This raises key governance challenges, ranging from availability of data and tools for system resilience analysis, to willingness to share information on risks and vulnerabilities between stakeholders, and to deciding on cost-sharing arrangements for resilience investments.

To overcome these challenges, governments can choose from a variety of policy tools and mechanisms to strengthen critical infrastructure resilience. The OECD survey on critical infrastructure policies identified twenty-two policy tools ranging from prescriptive regulatory tools, compensation mechanisms, to voluntary frameworks based on partnerships. These offer a range of choices as it is important for governments to find the right combination between mandatory and voluntary frameworks to enhance stakeholder engagement in the process and ensure investments in resilience are effectively made.

This session will explore the policy options for governments to strengthen the resilience of critical infrastructure in a dynamic risk landscape marked by uncertainties, complexities and interdependencies. The aim is to discuss how to best tailor public policy instruments to provide effective incentives for operators to invest in resilience, while managing the financial repercussions.

**Questions for discussion**

- What is the proper role for governments in boosting the resilience of critical infrastructure?
- How can governments effectively engage infrastructure operators – public and private – in strengthening resilience efforts?
- What are the most appropriate mechanisms to share information about risks, vulnerabilities, and resilience measures between government and operators?
- How to share the costs and benefits of investing in resilience between governments, operators and end-users?
- Which accountability frameworks should be put in place to ensure that resilience measures are implemented?
References


OECD (2016) The Role of Regulators in the Governance of Infrastructure Survey


