

Chapter 3

The state of play in infrastructure governance

This Chapter assesses current practices in OECD members and partners countries and links them to the different dimensions of infrastructure governance. The analysis shows that for some dimensions good practices are common among all countries, such as the use of value for money mechanisms and consultation procedure. However, many other practices recommended by the framework are less present and demand attention. Deficits can be identified, for example, with respect to long term planning, prioritisation and co-ordination practices, as well as transparent and systematic decision making. In general no single best practice country group can be identified which reflects the importance of improving infrastructure governance across countries.

Background

This Chapter presents current practices in the different dimensions of infrastructure governance among OECD members and key partners. Based on the framework of infrastructure governance previously discussed, this section draws on the results of a questionnaire¹ sent to all OECD countries and key partners to collect comparative knowledge about policies and practices of infrastructure governance and help to further develop good practice recommendations. These efforts followed the mandate from the High Level Symposium on Infrastructure Governance in February 2016 hosted by the Network of Senior Public Private Partnerships (PPP) and Infrastructure Officials at the OECD, in which the gaps in infrastructure governance and the need for data and good practices were discussed.

The analysis shows that while some “good practices” suggested by the framework can be found in a majority of the countries, others are less present and demand attention. Generally, no “best practice” country can be identified which highlights the need of better infrastructure governance across all examined countries.

The survey was conducted in the beginning of 2016 and consists of 27 responses; 25 from OECD countries, including Australia, Austria, Belgium, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, New Zealand, Norway, Slovenia, Spain, Sweden, Switzerland, Turkey, and United Kingdom, and 2 non-OECD countries, namely South Africa and the Philippines. In order to avoid biased results, the survey was designed to allow countries not to answer questions and to add comments or additional answers (other). The term “respondents” refers hence not always to the entire set of 27 countries but often to a subset, that have answered the question². The questionnaires were sent to the responsible line ministry (Ministry of Finance, National Treasury, Ministry of Transport or public works, among others). It needs to be noted that in Belgium and Australia regions and local authorities are mainly responsible for infrastructure investment, and the answers given refer to the Federal government only.

The institutional framework

A strong institutional framework is necessary for the delivery of the needed strategic infrastructure on time and within the budget in the long run. Central units or institution such as the Central Budget Authority, Supreme Audit Institution, PPP units and regulatory authorities should play their various roles throughout the project cycle.

Roles and responsibilities are not well defined and overlaps are common. An average of 3.1 institutions is in charge of policy guidance, ranging from one to up to eight institutions. Especially the Line Ministries (in 18 countries³), the Central Budget Authority (15), and the Central Infrastructure Units (13) are mainly responsible for policy guidance. Technical support is carried out by slightly less institutions, with an average of 2.5 institutions per country. It is mostly assigned to the Line Ministries (15) and the Central Infrastructure Unit (12), the two agencies that are also mainly responsible for capacity building (11 and 8, respectively). Capacity building lacks a clear assignment in many countries, with either no institution assigned or between 5 and 7 institutions being responsible. Better defined roles include audit (especially assigned to the Supreme Audit Institution) and competition control (assigned to the Competition Authority).

Line ministries are the most common institutions in charge of infrastructure governance. In 24 countries line ministries are in charge of infrastructure governance or the public procurement system. Other active institutions are Central Budget Authority (21) and Central Infrastructure Units (16). In fewer cases a Supreme Audit Institutions (15), PPP Units (12) and Competition Authorities (12) participate. Less common are Sector Regulators (10), National Public Procurement Agencies (9) and only 4 participants (Korea, South Africa, Italy and Chile) have an Independent Infrastructure Commission. Other institutions participating in infrastructure governance include regional governments, Ministries for regional development and Departments for Road Administration among others.

The line ministry is the central actor at all stages of the infrastructure governance cycle. The five stages of the infrastructure governance cycle include i) evaluation of infrastructure needs, ii) planning and structuring, iii) tendering and contracting, iv) construction, and v) operation, delivery and maintenance. Each of these relates to separate governance challenges that need to be addressed. For all stages of the infrastructure live cycle, the line ministry is the main responsible institution. Key functions attributed to the line ministry include project initiation, assessing feasibility and value for money, auditing, project approval, tender, bid evaluation, negotiation, bid approval, contract management, and payment oversight.

Overlaps of responsibilities can be identified especially for the first infrastructure cycle stages. Most overlaps can be found for evaluation and prioritisation with on average three institutions in charge, as well as preparation and structuring. Additionally to the Line Ministries, the Central Infrastructure Units are mainly responsible for evaluation and prioritisation, as well as the Central Budget Authority or Ministry of Finance, Ministry of Planning and PPP Units. Almost all functions covered by the line ministry can also be found among the PPP units as well as the Central Infrastructure Unit and the sector regulators. Construction, operation, delivery and maintenance are under the responsibilities of one or two institutions. If not under control of the Line Ministry or the Central Infrastructure Unit, these stages are controlled by other institutions, such as sector units. The Central Budget Authority has the clear functions of budgeting and project approval.

Long term strategic vision for infrastructure

Countries should establish a national long-term strategic vision that addresses infrastructure service needs, how they should be met and who is responsible for making this happen. The strategy should be politically sanctioned, co-ordinated across levels of government, take stakeholder views into account and be based on clear quantitative and qualitative assumptions.

Long term infrastructure plan

A long term national strategic vision is a politically sanctioned document that affects concrete action in terms of infrastructure services to society over the long term. This long term vision needs to address the complex and versatile issues of infrastructure, which cuts across multiple stakeholder, sectors and interest and has a long term impact on economic and social development. It should also be aligned with spatial and land-use planning policies. If applicable, strategic planning for infrastructure projects should occur through the mechanisms that exist in the spatial planning system. Special procedures designed to circumvent the spatial and land use planning system should be avoided.

Only half of the examined countries have a long term vision in form of a long term plan. About half (13) of all interviewed countries have a long term infrastructure vision in form of a strategic infrastructure plan. The remaining countries have only long term sectorial plans (11), or other forms of strategic planning, such as medium term (6-7 years) plans (Ireland) or regional plans (Philippines) (Table 3.1).

In case of an overall long term strategic infrastructure plan, the strategy is mostly anchored in central agencies with input by sub-national governments. Nine of the 13 countries with an overall long term strategy include the central government level as well as sub-national government projects above a relevant size. In Austria, Hungary, South Africa and Spain the overall long term strategy refers to the central government level only. Only in Mexico does the plan refer to the central government from a sectorial perspective, including diverse sectors⁴.

Table 3.1. Does your country have an overall long term strategic infrastructure plan?

Country	Does your country have an overall long term strategic infrastructure plan?	The plan integrates both central government and sub-national government	Does your country have long-term sectorial infrastructure plans?
Australia	Yes	Yes	-
Austria	Yes	No	-
Belgium	No	-	Yes
Chile	No	-	Yes
Czech Republic	No	-	Yes
Denmark	No	-	No
Estonia	No	-	Yes
Finland	No	-	No
France	No	-	Yes
Germany	No	-	Yes
Hungary	Yes	No	Yes
Ireland	Medium term (6-7 year)	-	-
Italy	Yes	Yes	-
Japan	Yes	Yes	-
Luxembourg	No	-	No
Mexico	Yes	-	-
New Zealand	Yes	Yes	-
Norway	No	-	Yes
Republic of Korea	Yes	Yes	-
Slovenia	No	-	Yes
Spain	Yes	-	-
Sweden	Yes	Yes	-
Switzerland	No	-	Yes
Turkey	Yes	Yes	-
United Kingdom	Yes	Yes	-
Non-OECD			
South Africa	Yes	No	-
Philippines	Regional Plan	Yes	Yes

Note: Total respondents: 27. Other forms of strategic planning include medium term (6-7 years) (Ireland), regional plans (Philippines). (1) All responses by Australian and Belgium refer to the federal government and does not include regional and local authorities, which are mainly responsible for infrastructure investment in the two countries.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Eleven of the respondents without an overall long term strategic plan have long-term sectorial infrastructure plans (Table 3.1). Most of the sectorial plans refer to transport. Other sectors include energy, health, education, and communication. Very few sectorial plans relate to integrated approaches, such as regional development as found in the Czech Republic.

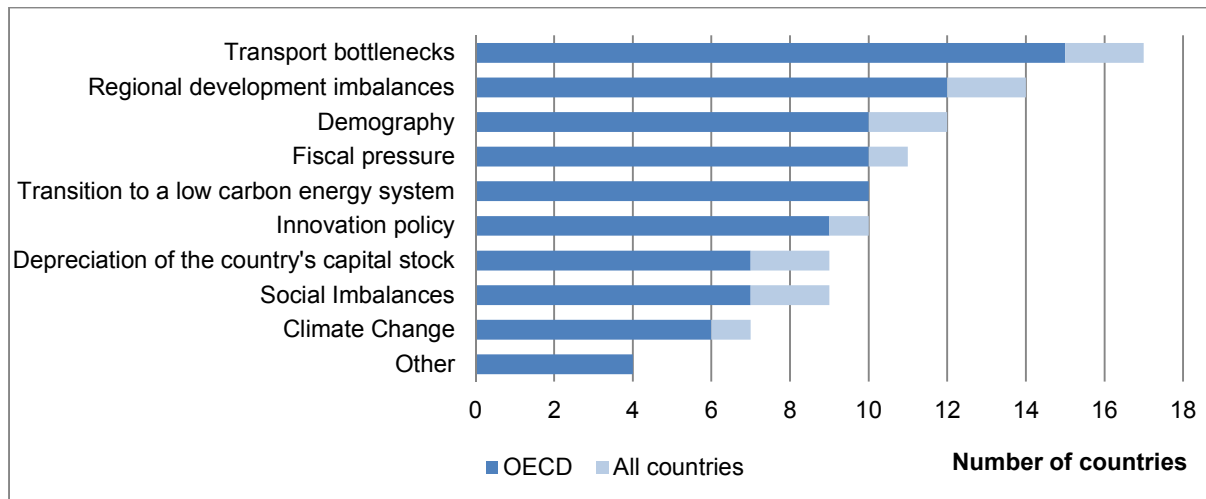
Updates of these long term plans are determined by fixed time intervals. The long term impact and gestation of infrastructure requires strategic planning that is predictable and based on analysis of long term needs. However, infrastructure can be extremely sensitive to political and economic fluctuations which can impede the design and implementation of clear and coherent strategic plan. Although the update of a strategic plan is based on individual fixed time intervals (e.g. every 5 years) in 6 out of 13⁵ countries, the other half base the update on either election cycles (4) or *ad hoc* political needs (2).

Key drivers of the strategic planning

Infrastructure serves multiple objectives, leading to different drivers of the strategic plan. Policy goals may include economic growth, increased productivity, affordability, inclusive development, and environmental objectives, depending on the structural, political and social conditions of the countries.

Motivations for long term strategies are heterogeneous across countries and heavily depend on the development aims and economic conditions. For the respondents with some kind of a long term strategic plan⁶, several key pillars can be identified (Figure 3.1). The most common drivers are transport bottlenecks (17), regional development imbalances (14), demographical needs (12), or fiscal pressure (11), whereas social imbalances and climate change are less central.

Figure 3.1. What are the key pillars or drivers of the current strategic plan?



Note: Total respondents: 19. Other key drivers include specific transport goals (40% of freight traffic on rail by 2025 (Austria), a wider set of goals (Norway), determining levels of service, better asset management, optimised decision-making frameworks (New Zealand) and minimizing spatial consumption, optimizing traffic organisation in urban and semi-urban zones (Switzerland). Multiple responses allowed.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Prioritisation

More than half of the respondents have a clear prioritised short list of projects. With opposing policy goals and infrastructure needs as well as time and budget constraints, a prioritisation of infrastructure projects needs to take place. In 17 of the respondents the government commits to a short list of priorities within the medium run

(Table 3.2). In case of no overall short list Norway, Germany and Czech Republic have a list of priorities at sector level in place, mainly referring to transportation⁷ (waterways, railroad, and roads).

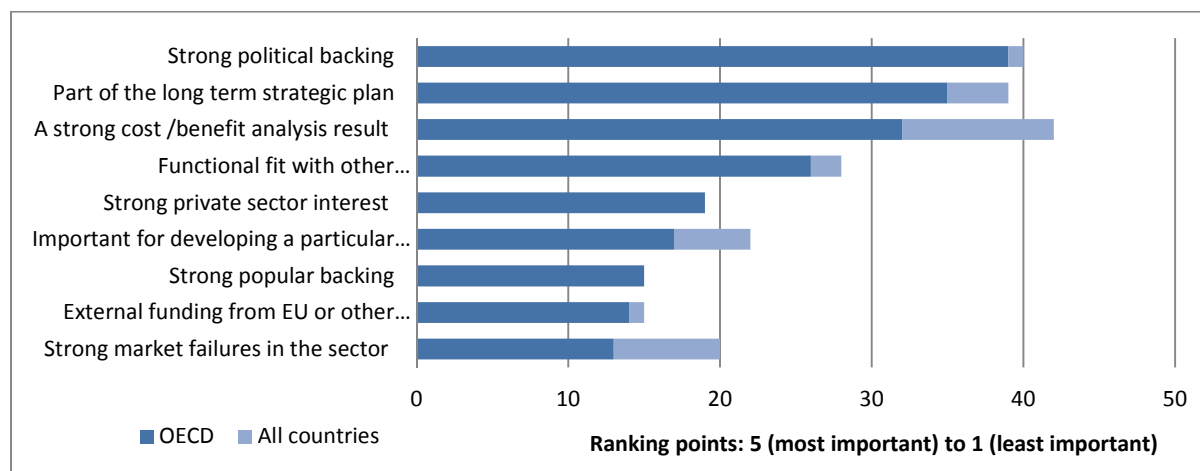
Table 3.2. Does your government have an overall short list of priority projects that it has politically committed to make happen within the medium term (e.g. an electoral cycle)?

Yes	No
Australia	Belgium
Austria	Czech Republic
Chile	Finland
Denmark	France
Estonia	Germany
Hungary	Japan
Italy ¹	Mexico
Ireland	Norway
Luxembourg	Spain
New Zealand	Sweden
Korea	
Slovenia	
Switzerland	
Turkey	
United Kingdom	
Non-OECD	
Philippines	
South Africa	

Note: Total respondents: 27; (1) According to the Infrastructure Attachment to the DEF (Document of Economy and Finance) approved in 2015, Italy has a short list of 25 priority projects, which is currently under discussion and will be replaced by a new multi-year planning document.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Results from a cost-benefit analysis are the strongest argument for projects making it into the short list. Instead of an explicit value threshold, the most important element for projects that get on the short list are strong results of the cost-benefit analysis, followed by strong political backing, and the project's part of the long term strategic plan (Figure 3.2). Other important criteria include the project's functional fit with other infrastructure assets and its importance for the development of a particular sector. Less important are the private sector's interests, market failures, and strong popular backing. External funding from the EU or other donors is the least important. These results confirm the finding of the OECD (2014) study on challenges and applications of cost-benefit analysis, stating that cost benefit analysis is an important but not exclusive tool in preliminary feasibility study of capital investments.

Figure 3.2. What criteria determine whether a project gets on the short list of priority projects?

Note: Total respondents: 16 (Countries with an overall shortlist of priority projects); the criteria for the determination of the short list projects could be rated by one to five points. The ranking is based on the final sum of all rating point assigned to the criteria.

Source: OECD (2016), OECD Survey of Infrastructure Governance

The project's rank *within* the shortlist is often based on political considerations (Table 3.3). Once the project is on the short list, the political agenda is considered the most important criteria for the project's rank by 8 countries, followed by relative value for money (3) and cost-benefit (3). Estonia and the UK use a combination of criteria and Australia does not rank its priority projects. They are divided into high priority and low priority, based on to what extent the projects address national needs.

Table 3.3. Within the short list, what determines a project's rank?

Cost-benefit analysis	Political interest/agenda	Relative value for money	Combination	Other
Korea	Chile	Austria	United Kingdom	Australia ¹
New Zealand	Denmark	Slovenia	Estonia	
Non-OECD	Hungary			
South Africa	Italy			
	Ireland	Non-OECD		
	Luxembourg	Philippines		
	Turkey			
	Switzerland			

Note: Total respondents: 17 (Countries with an overall shortlist of priority projects); (1) Note: Australia does not rank its priority projects, but are divided into high priority and low priority, based on to what extent the projects address national needs.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Integration of infrastructure planning with general spatial planning

Spatial planning processes intend to co-ordinate the spatially relevant dimensions of many public policies. They aim at obtaining efficient patterns of development and to prevent and mediate conflicts over land uses. By its nature, infrastructure development is a key element of the spatial planning process. Infrastructure is specific to particular locations and has therefore important consequences on aspects such as the distribution of economic activity across space, the spatial distribution of population and land use patterns. The feasibility of many infrastructure projects depends on existing land use patterns, while at the same time infrastructure exerts considerable influence on the future land use patterns.

Due to the importance of infrastructure for spatial outcomes strategic infrastructure planning should be integrated in the general spatial planning process. If strategic infrastructure planning processes exist that are independent from general spatial planning processes they need to be closely co-ordinated with each other. Importantly, such co-ordination should not only ensure that no immediate conflicts between the different plans exist (for example, because they assign conflicting land uses to particular areas). It should also ensure that the strategic elements of the plans, such as overarching policy objectives and fundamental strategies to achieve them, are aligned with each other.

In practical terms, the reasons for the need for co-ordination are twofold. First, there is an obvious need to co-ordinate infrastructure planning with other planning to maximise the return on infrastructure. Transport-oriented development is an example. To use transport infrastructure efficiently, land should be developed at particularly high densities around transport hubs, which requires the co-ordination of transport and land use planning.

Second, integration of infrastructure planning in the spatial and land use planning framework can help to reduce the costs of constructing infrastructure. Once land is developed, it is expensive and politically difficult to build infrastructure on it. Frequently, it requires expropriations and costly compensations. Thus, it is preferable to project infrastructure needs into the future and develop land in a way that is compatible with them (or protect land from development entirely to reserve it for future infrastructure). To do this effectively, close co-ordination of strategic infrastructure planning with land-use planning is required.

The central role of institutions

The importance of infrastructure policy is reflected by there being institutions devoted to it. In 19 countries, official institutions are officially charged with developing, assessing and monitoring infrastructure policy and performance (Table 3.4). Most of the named institutions operate on national level. Only 9⁸ out of 45⁹ listed institutions are situated on subnational level.

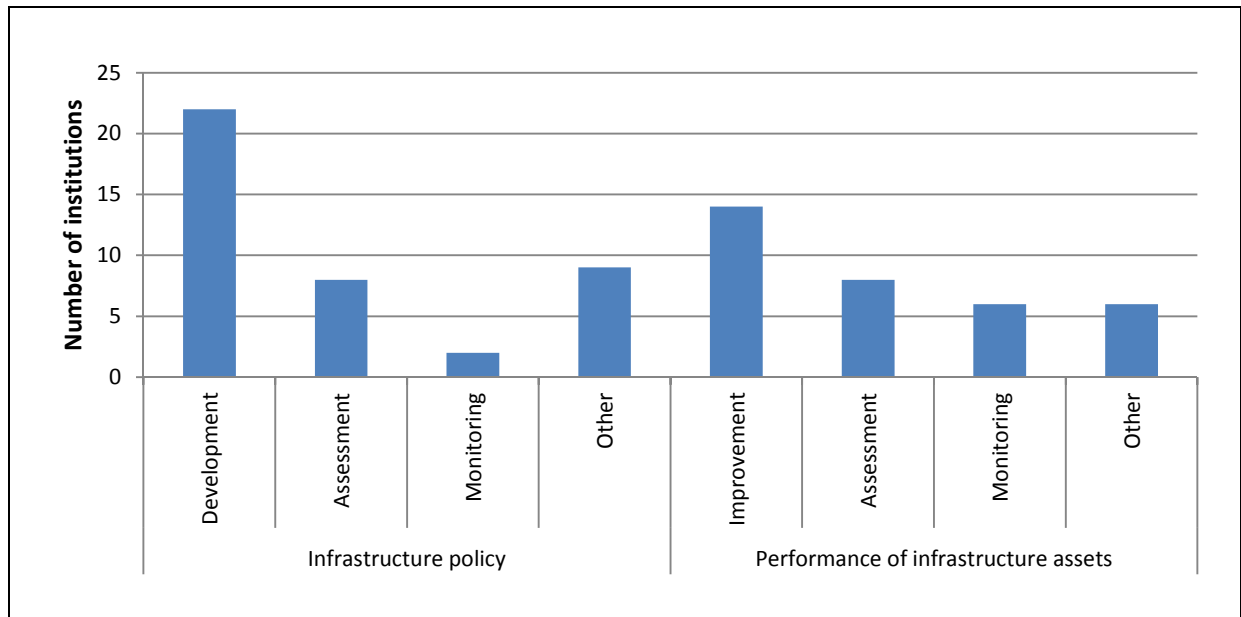
Table 3.4. Are there official institutions charged explicitly with developing, assessing and monitoring infrastructure policy and performance?

Yes	No
Australia	Austria
Chile	Belgium
Denmark	Czech Republic
Estonia	Finland
France	Hungary
Germany	Luxembourg
Ireland	Slovenia
Italy	Switzerland
Japan	
Mexico	
New Zealand	
Norway	
Korea	
Spain	
Sweden	
Turkey	
United Kingdom	
Non-OECD	
Philippines	
South Africa	

Note: Total respondents: 27

Source: OECD (2016), OECD Survey of Infrastructure Governance

Most institutions are responsible for the development of infrastructure policy and the improvement of infrastructure performance. For infrastructure policy the development of the policy is the most prevalent remit (22 institutions in 12 countries) (Figure 3.3). Another important task is the assessment of infrastructure policies (8). For the performance of infrastructure assets, 14 institutions have their remit in improvement of performance of the infrastructure asset. Fewer institutions have their remit in the assessment of performance (8) or monitoring (6). Furthermore, institutions are charged with tasks such as research and advice, cost approval and budgeting, encouraging best practices, implementation and maintenance. If there is no central official institution charged explicitly with developing, assessing and monitoring infrastructure policy and performance, these tasks are part of the sectorial ministries and authorities, such as the new Norwegian Railway Directorate, effective from 1 January 2017. This reflects previously identified tendency for overlaps in early stages, in contrast to a lack of dedicated institutions towards the end of the project cycle.

Figure 3.3. What is the remit of central infrastructure institutions (number of institutions)?

Note: Total respondents: 18 countries with official institutions charged explicitly with developing, assessing or monitoring infrastructure policy and performance, listing up to 4 institutions per country.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Threats to integrity

Opportunities to derive illicit rents should be mitigated at each stage of the development of public infrastructure projects. As many actors in the public and private sectors can be vulnerable to integrity risk in infrastructure projects, a whole of government approach is essential to effectively address these risks.

The OECD Integrity Framework for Public Investment (2016) and the OECD Framework on Infrastructure Governance highlight the high vulnerability of infrastructure projects to corruption and rent seeking. The scale and complex nature of infrastructure projects, the various opportunities for public officials to exercise discretion, the numerous stakeholders involved and multiple stages of development bear integrity risks at all stages of the infrastructure investment and governance cycle. Added-value for the local or national economy, fiscal prudence, cost-effectiveness and resilience of infrastructure may be severely undermined when infrastructure projects are meant to unduly benefit inefficient economic actors and organised crime, or to disproportionately benefit political parties' or candidates' donors or core electoral base at the expense of society as a whole.

Half of examined countries applied specific measures against corruption in infrastructure. For 15 of the respondents (Table 3.5), a specific anti-corruption law is in place. Twelve of those countries find that these measures have achieved their intended impact. Measures implemented by the countries surveyed to prevent corruption in infrastructure projects include making private firms subject to spot checks by external auditors, codes of conduct for private contractors, and online warning systems to share discovered corruption schemes or warning signs among relevant agencies on a real time basis.

Table 3.5. Is there a specific law in place that seeks to minimise the risk of corruption in infrastructure governance (additional to a generic anti-corruption law)?

Is there a specific law in place?	Has the law generally the intended impact
Belgium	Belgium
Czech Republic	Czech Republic
Denmark	Denmark
France	France
Germany	Germany
Ireland	Ireland
Luxembourg	Luxembourg
Mexico	Norway
Norway	Philippines
Korea	Korea
Slovenia	Spain
Spain	Turkey
Turkey	
Non-OECD	
Philippines	
South Africa	

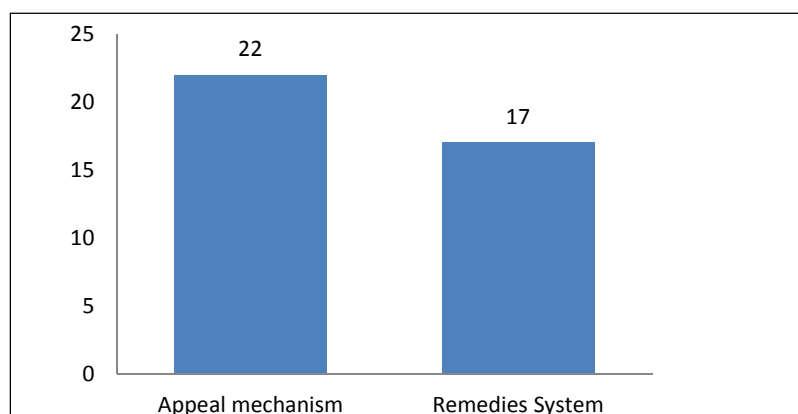
Note: Total respondents: 27

Source: OECD (2016), OECD Survey of Infrastructure Governance

A majority (21) of all respondents have an explicit policy in place that regulates conflicts of interest in the tender panel. The numerous and diversified actors involved in the infrastructure governance process produce conflicts of interests in the tender panel. Furthermore, opaqueness, corruption and favouritism are often associated with the tendering phase, despite the fact that these may be present in other phases of the infrastructure development cycle. Policy guidelines, laws and regulations are necessary to avoid conflict of interest at all phases of infrastructure projects, which may impede optimal outcomes. In 15 countries, conflicts of interests are subject to an explicit policy that takes the form of a law or regulation, whereas others give policy guidelines.

Of the total respondents, 17 countries have implemented a remedies system and 22 countries provide for appeal mechanisms in the tendering process. Remedies systems, which are procedures, such as cancellation of the delivery process or compensation, by which an excluded bidder can contest the decision to award the contract to another supplier, are in place in 17 countries. Appeal mechanisms, which provide an opportunity to challenge initial decisions, are present in 22 countries. Decisions can usually be challenged on the basis of alleged violation of the law or general procurement principles, such as fairness, transparency, equal treatment, among others. These measures are important to ensure integrity and fairness in tendering (Figure 3.4).

Figure 3.4. Please, indicate whether the measures listed below are in place in your country



Note: Total respondents: Appeal mechanism: 24; Remedies System: 20 (countries without mechanisms are not displayed)

Source: OECD (2016), OECD Survey of Infrastructure Governance

Infrastructure procurement and the choice of the delivery modality

The choice of the delivery modality should balance political, sectoral, economic, and strategic aspects.

Instead of applying one method to all projects by default, countries should determine the delivery mode or portfolio of projects by the relevant national, sectoral, and project characteristics. The Framework for the Governance of Infrastructure offers a set of criteria for assessing an appropriate delivery modality, including project size and profile, revenues and usage, the level of uncertainty and risk allocation (Annex B, Box B1).

The most relevant criteria determining the delivery modality are financial criteria. The most important criteria for the determination of the delivery modality include for example the availability of public sector financial resources, availability of public sector capacity of handling the project, the wish to tap private finance sources to augment the public budget, the degree to which cost recovery possible from users, as well as the outcome of a quantitative analysis. Additional to financial criteria individual country needs make specific procurement or delivery modes more likely (Table 3.6).

Table 3.6. Most important criteria that make the listed methods more likely?

Delivery mode:	PPP/concessions	Regulated private assets	State owned enterprises (SOE)
Public works			
Is there public sector capacity of handling these kinds of projects	Is there private sector capacity of handling these kinds of projects	The wish to use private finance sources to augment the public budget	Political sensitivity to private sector participation
Tradition in the sector for a certain delivery modality	The need for sharing risks with private actors	Is there private sector capacity of handling these kinds of projects	The degree to which cost recovery is possible from the user
Availability of public sector financial resources	The outcome of a quantitative comparison (relative value for money test) between traditional public works or other forms of private sector participation	The need for sharing risks with private actors	Is there public sector capacity of handling these kinds of projects

Table 3.6. Most important criteria that make the listed methods more likely? (cont.)

Delivery mode:			State owned enterprises (SOE)
Public works	PPP/concessions	Regulated private assets	
Extent of government control	The wish to use private finance sources to augment the public budget	The need for building up a market for alternative ways of procuring public infrastructure (e.g. PPPs)	Strength of business case
Political sensitivity to private sector participation	The need for building up a market for alternative ways of procuring public infrastructure (e.g. PPPs)	The degree to which cost recovery is possible from the user	Tradition in the sector for a certain delivery modality

Note: Total respondents: 27

Source: OECD (2016), OECD Survey of Infrastructure Governance

A number of criteria point to a private finance delivery, such as PPPs or concessions. The most influential criteria is the outcome of a quantitative comparison (relative value for money test) between traditional public works and other forms of private sector participation, the need for increased innovation, the need for sharing risks with the private sector, the need for building up a market for alternative ways of procuring public infrastructure (e.g. PPPs), and the capacity of the private sector to handle these kinds of projects. The wish to use private finance sources to augment the public budget and the degree to which cost recovery is possible from the user as well as the wish to tap private finance sources to augment the public budget are also of high importance.

Criteria that favour the use of public works focus on capacity and habit. The likeliness of public works depends especially on the capacity of the public sector capacity of handling these kinds of projects, the tradition in the sector for a certain delivery modality, the availability of public sector financial resources and the extent of government control.

Political sensitivity to private sector participation and the degree, to which cost recovery is possible from the user, are the criteria that influence most the decision for SOEs. Few of the listed criteria are considered as enhancing the likelihood of regulated private assets.

Although prioritisation and long term planning should help to separate the decision of new infrastructure assets from the delivery methods, less than the half of the respondents do so (Table 3.7). The decision to invest in new infrastructure assets is separate in 10 countries, whereas it is combined in 13 countries. These results are similar to OECD findings (Hawkesworth and Burger, 2011), that in 11¹⁰ countries the government first decide on the procurement of an asset before it chooses the mode of delivery.

Table 3.7. Is the decision to invest in a new infrastructure asset separate from how to procure and finance the project?

Yes	No
Australia	Austria
Denmark	Belgium
Germany	Chile
Ireland	Czech Republic
Italy	Estonia
Luxembourg	Finland
Norway	France
Turkey	Hungary
United Kingdom	Mexico
	Korea
	Slovenia
	Spain
	Sweden
	Switzerland
	Japan ^{na}
Non-OECD	Non-OECD
Philippines	South Africa ^{na}

Note: Total respondents: 25, In New Zealand business cases consider the strategic, economic, commercial, financial and management components, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

Good regulatory design and delivery

Good regulatory design and delivery promotes sustainable and affordable infrastructure over the entire life of the asset.

The regulatory framework has profound impact on infrastructure investment, across all levels of the infrastructure life-cycle. Nevertheless, even if well designed, good outcomes require an adequate implementation of these rules and standards that are aligned with the economic, social and environmental goals set by the policy makers.

The overall regulatory framework provides formal processes for good infrastructure governance in most countries, which are perceived as effective. A majority of the countries (14) found that the infrastructure regulation in their countries is fulfilling its role (Table 3.8). Among challenges to effective regulation are the lack of standardised evaluation criteria, the changing use of infrastructure, technical innovation, lacking capacities and skills, as well as cost and time pressure. Other widespread regulations of the infrastructure governance process are policies ensuring competitive tendering, processes regulating the tender panel, policies for allocating sufficient resources and monitoring capacity ensuring value for money in contracting, formal policies ensuring performance assessment of each project by the relevant line ministry or agency, and explicit policies that seek to minimize the risk of corruption in infrastructure governance.

Table 3.8. In general, is the infrastructure regulation fulfilling its intended role?

Yes	To some extent
Australia	France
Belgium	Ireland
Czech Republic	South Africa
Denmark	Turkey
Finland	
Germany	
Hungary	
Italy	
Japan	
Korea	
New Zealand	
Norway	
Philippines	
Switzerland	
United Kingdom	

Note: Total respondents: 27

Source: OECD (2016), OECD Survey of Infrastructure Governance

Functions, powers and capacities of regulators are often unclear and co-ordination is lacking. As discussed in the beginning of this chapter, a strong institutional framework with a clear distribution of responsibilities is necessary for the efficient delivery of strategic infrastructure. In most cases the line ministries are the most common institutions in charge of infrastructure governance throughout all stages of the infrastructure governance cycle. However, several countries¹¹ stated that co-ordination was weak and special dedicated bodies were missing, as well as sufficient check points for oversight institutions along the project cycle.

The lack of systematic data collection impedes the use of evidence-based tools for regulatory decisions. Nineteen of the respondents have no central, systematic and formal collection of information on financial and non-financial performance of the infrastructure projects (see *Section on Generation, Analysis and Disclosure of Data* for more information). This however is elementary to base future regulatory decision, as for example the decision of the modality of infrastructure delivery.

A more comprehensive analysis of the role of infrastructure regulators that investigates the current challenges of infrastructure regulation and the resulting implications for infrastructure governance is underway by the OECD's Network of Economic Regulators.

Consultation

The process for managing infrastructure should rest on broad-based consultations and open dialogue drawing on public access to information and a focus on users' needs. Public consultation processes are essential for legitimacy, transparency and the identification of infrastructure needs and can thus enhance the performance of infrastructure projects.

Mandatory consultation processes are used at all stages of the infrastructure governance process across the countries. In 20 countries there are mandatory consultancy processes (Table 3.9), which mainly take place during the infrastructure project preparation phase (Figure 3.5). In more than half of the countries, consultation is also mandatory for the evaluation of infrastructural needs and for the decision process of prioritising infrastructure projects. During the construction phase, mandatory consultation is less common. The feedback of these consultation processes are for example used for environmental impact studies (decision and prioritisation of infrastructure), to incorporate results from public hearings into the infrastructure preparation period, as well as analysis and evaluation throughout the project.

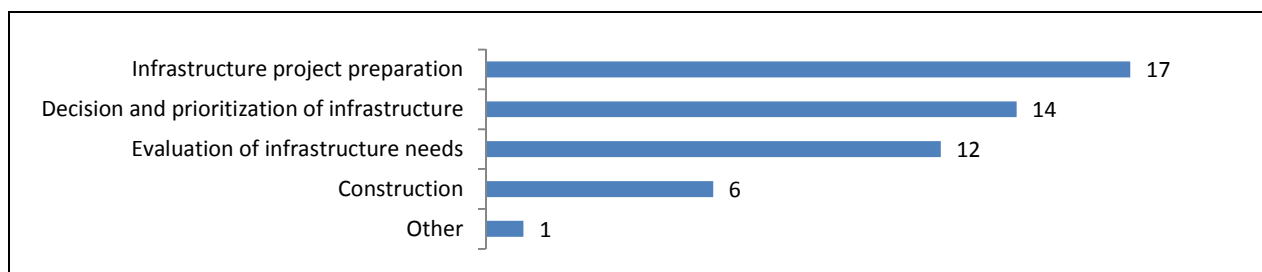
Table 3.9. Are there mandatory consultation processes that regulate engagement between the public, other stakeholders and the authorities during the development of a particular infrastructure project?

Yes	No
Australia	Belgium
Austria	Finland
Chile	Luxembourg
Czech Republic	Mexico
Denmark	Turkey
Estonia	Japan ^{na}
France	
Germany	
Hungary	
Ireland	
Italy	
New Zealand	
Norway	
Korea	
Slovenia	
Spain	
Sweden	
Switzerland	
United Kingdom	
Non-OECD	Non-OECD
Philippines	South Africa

Note: Total respondents: 26, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

Figure 3.5. At which stages of development do consultation processes take place?



Note: Total respondents: 21 (Countries with mandatory consultation processes), (Others: not specified)

Source: OECD (2016), OECD Survey of Infrastructure Governance

A procedure to specifically identify users' needs is only mandatory in 13 countries (Table 3.10). Consultation is a strong opportunity for various stakeholders to communicate their needs and concerns. Although consultancy processes are in place in most of the examined countries, less than half have mandatory procedures for identifying and incorporating user needs. Reported procedures include consultations of the local community and the civil society (public hearings), or environmental protection issues. Italy only recently introduced a mandatory system by the adoption of the new Code of Contracts (April 2016) and the introduction of Public Debate as mandatory consultation process prior to the project development of strategic infrastructures.

Table 3.10. Is there a mandatory procedure for identifying and incorporating user needs specifically?

Yes	No
Australia ¹	Austria
Chile	Belgium
Denmark	Czech Republic
Germany	Estonia
Italy	Finland
Hungary	France
New Zealand	Luxembourg
Norway	Mexico
Korea	Spain
Slovenia	Turkey
Sweden	Switzerland
United Kingdom	Ireland ^{na}
	Japan ^{na}
Non-OECD	Non-OECD
South Africa	Philippines

Note: Total respondents: 25, ^{na} not answered; (1) There is no mandatory process, but consultation is widely considered. Most planning and consultation responsibilities are carried out by state and territory authorities.

Source: OECD (2016), *OECD Survey of Infrastructure Governance*

It is widespread to have a public consultation regarding the long-term strategic plan. Out of the 13 countries with long term strategies, 11 countries have consultation processes (Table 3.11). The public consultation process described is a hearing among stakeholders such as user groups, the civil society or lower levels of government.

Table 3.11. Is there a public consultation process regarding the long-term strategic plan?

Yes	No
Australia	Austria
Hungary	Italy
Japan	
Mexico	
New Zealand	
Korea	
Spain	
Sweden	
Turkey	
United Kingdom	
Non-OECD	
South Africa	

Note: Total respondents: 13 (Countries with a long-term strategic plan)

Source: OECD (2016), OECD Survey of Infrastructure Governance

Co-ordination across levels of governments

Since a large part of infrastructure investment is conducted at the subnational level, there should be robust co-ordination mechanisms for infrastructure policy within and across levels of government.

If there is a long term strategic plan, it is co-ordinated across levels of governments. In Australia, Italy, Japan, New Zealand¹², Korea, Sweden, Turkey, and the United Kingdom the strategic plans include both central government as well as sub-national government projects above a relevant size. This represents with 8 out of 13 the majority of countries that have long term strategic plans.

In total, 15 of the respondents have intergovernmental co-ordination mechanisms for infrastructure in place. These include 8 standing committees and 4 secretariats. In 8 out of these cases, these co-ordination committees are mandatory for all relevant bodies. The listed intergovernmental co-ordination include regional development councils, bilateral working groups, the International Transport Forum (OECD), EU-Council, EU-TEN and the G7 meeting of transport ministers.

Few central units aim to strengthen the capacities of sub-national governments. Only in 10 out of 27 countries national PPP units or Infrastructure Units in the Central Government have the mandate to strengthen the capacities of sub-national governments for PPPs and general infrastructure projects, but 3 do so without the mandate (Table 3.12).

Table 3.12. Do national PPP units or Infrastructure Units in the Central Government strengthen the capacities of sub-national governments (municipalities, regions, states) to design and run PPP or infrastructure projects in general?

Yes	No
Australia	Austria
Czech Republic*	Belgium
France	Chile
Germany	Denmark
Ireland*	Estonia
Italy	Finland
Korea	Hungary
Spain	Japan
Turkey*	Luxembourg
United Kingdom	New Zealand
	Norway
	Slovenia
Non-OECD	Sweden
Philippines	Switzerland
South Africa	Mexico ^{na}

Note: Total respondents: 26; * without a mandate, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

Affordability and value for money

Governments must ensure that infrastructure projects are affordable and the overall investment envelope is sustainable. Infrastructure life-cycle costs should represent value for money. This requires the use of dedicated processes, a capable organisation and the availability of relevant skills.

The most common criterion to assess a project's relative affordability is a quantitative comparison. A majority of the countries have a process to carry out a quantitative comparison between different delivery methods, either in all cases (5), all cases above a certain threshold (7) or on an ad hoc basis (11) or only for PPP projects (Mexico) (Table 3.13).

Table 3.13. Is there a process to carry out a quantitative comparison between different delivery modes?

Yes in all cases	No	Only PPP Projects	On an ad hoc basis	In all cases above a certain threshold
Germany	Austria	Mexico	Czech Republic	Australia
Norway	Chile		Belgium	France
Spain	Japan ^{na}		Denmark	Ireland
Italy			Estonia	Korea
			Finland	Slovenia
			Hungary	
			Luxembourg	Turkey
			New Zealand	
			Sweden	
Non-OECD			Switzerland	Non-OECD
Philippines			United Kingdom	South Africa

Note: Total respondents: 26, ^{na} not answered; (1) since the approval of the Guidelines for ex ante public investments assessment in November 2016.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Box 3.1. Value For Money (VfM)

“**Value for money**” can be defined as what a government judges to be an optimal combination of quantity, quality, features and price (i.e. cost), expected over the whole of the project’s lifetime”. It can be measured in absolute cost benefit terms or in relative terms in comparison to other delivery modalities. Value for money is essential for ensuring affordability and sustainability and helps policy makers to prioritise projects so that the maximum value is generated for society as a whole. In contrast to a quantitative analysis, it combines quantitative and qualitative tools to estimate the overall societal return on an investment. Therefore value for money should be ensured by a formal process or legal regulations.

Source: OECD, 2015

There is a formal process for ensuring absolute value for money takes place in the majority of the case (Table 3.14). However, only 5 respondents apply a value for money (Box 3.1) test for all projects¹³, while 9 countries use them for projects above a certain value, others on ad hoc basis (5) or only for PPPs (Mexico).

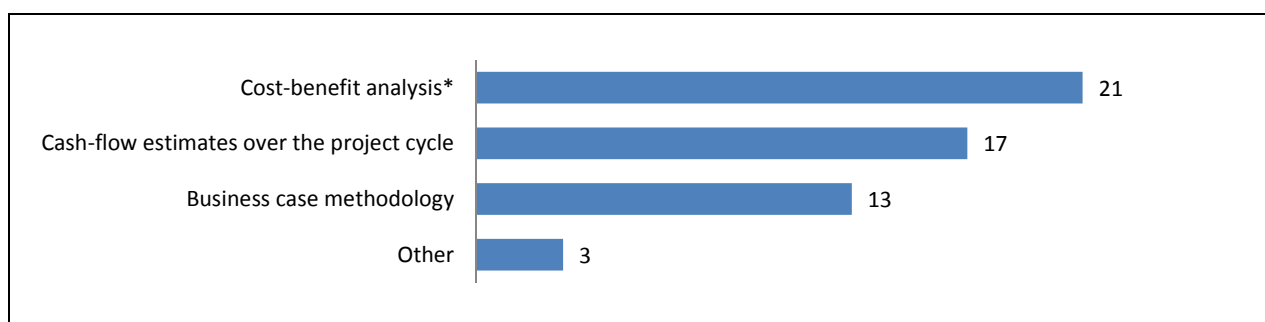
Table 3.14. Is there a formal process/legal requirement for ensuring absolute value for money from infrastructure projects?

Yes in all cases	In all cases above a certain value threshold	No	Only PPP Projects	On an <i>ad hoc</i> basis
Australia ¹	Hungary	Austria	Mexico	Belgium
Germany	Ireland	Chile		Czech Republic
France ¹	Japan	Estonia		Denmark
Italy	New Zealand	Luxembourg		Finland
United Kingdom	Norway	Slovenia		Switzerland
	Korea	Spain		
	Turkey	Sweden		
	Non-OECD			
	Philippines			
	South Africa			

Note: Total respondents: 27; (1) Either by Infrastructure Australia or the budget department; 2). excluding projects financed by local authorities

Source: OECD (2016), OECD Survey of Infrastructure Governance

Cost-benefit analysis is the most popular approach to determine absolute value for money (Figure 3.6). Used by 21 of all respondents, cost-benefit analysis including Total Cost of Ownership (TOC) during the life-cycle is the most popular approach, followed by cash-flow estimates over the project cycle (17). About 13 respondents use business case methodology. The popularity of cost-benefit studies is also found in a 2014 OECD (2014) survey of cost-benefit analysis for capital investments (Box 3.2).

Figure 3.6. What approaches are used for determining value for money?

Note: Total respondents: 26, * including TCO during the life-cycle

Source: OECD (2016), OECD Survey of Infrastructure Governance

Methods mostly do not differ between sectors. Only for 7¹⁴ countries methods differ with regards to different aspects. For example, in the Philippines social projects consider shadow pricing; in New Zealand discount rates may vary between sectors; whereas in South Africa cost benefit analysis is used in economic infrastructure, and cost effectiveness analysis for social projects.

Box 3.2. OECD (2014) survey results on challenges and applications of cost-benefit analysis for the preliminary feasibility study of capital investments

The purpose of this short survey, conducted in November 2014 including 20 OECD countries, was to identify and analyse practices in cost-benefit analysis (CBA), and to assess challenges and potential solutions to its application in OECD member countries. The main findings of survey include:

(i) **A clear finding is that CBA is an important tool for decision-making in all the surveyed member states.** Nevertheless, CBA is not considered to be able to stand alone but should complement other types of assessment, such as environmental impact assessment. The most important role is to provide justification for project selection and financing. For about half of the respondents it is furthermore considered as an accounting, transparency and monitoring tool. In most countries CBA is prepared in the pre-feasibility stage when several project alternatives should be assessed (11) or in the feasibility phase, when the prefer project alternative is already chosen (7). Few countries conducted CBA regularly after the completion of the project.

(ii) **Generally, there are legal requirements for CBA either on national, regional, or local level.** Out of 20 respondents 17 have mandatory legislation to perform CBA in place, either nationwide for all capital investment projects above a certain financial threshold (8), for specific categories of projects (1), or on state, regional or local basis (8). For few countries (8) there are specific legal requirements in terms of what the CBA should contain.

(iii) **The most systematic use of CBA is found for transport, but in several countries additional sectors are covered.** CBA is initially developed for transport infrastructures but is extended to become a general and flexible framework that is applied to other sectors. More than half of the examined countries apply CBA to the sectors of water, energy, environment, health, education, information and communication technology (ICT) and scientific research. Less usage of CBA is documented in culture and technological development and innovation.

(iv) **In several countries there is no central co-ordinating body for CBA.** Multiple government bodies, such as line ministries, agencies, and decentralised sub-national levels of governments apply their own CBA practices, leading to lacking consistency and co-ordination. Only few countries consider CBA as a strategic planning tool for prioritising investment at the central level. Some attempts of governments to meet this need of co-ordination are reflected in guidelines and supporting documents, which however, according to the survey is mostly done sector by sector rather than by a central body. For several countries however (12), there are values of key parameters and unit values set by central government bodies or by sub-national levels to use for costs and benefits.

Box 3.2. OECD (2014) survey results on challenges and applications of cost-benefit analysis for the preliminary feasibility study of capital investments (*cont.*)

(iv) *In several countries there is no central co-ordinating body for CBA.* Multiple government bodies, such as line ministries, agencies, and decentralised sub-national levels of governments apply their own CBA practices, leading to lacking consistency and co-ordination. Only few countries consider CBA as a strategic planning tool for prioritising investment at the central level. Some attempts of governments to meet this need of co-ordination are reflected in guidelines and supporting documents, which however, according to the survey is mostly done sector by sector rather than by a central body. For several countries however (12), there are values of key parameters and unit values set by central government bodies or by sub-national levels to use for costs and benefits.

(v) *Disclosure of CBA to the public is limited.* Only a third of the examined countries (7) make the CAB of major capital investments publically available and used CBA analysis to inform public consultation and debate.

Source: OECD (2014), The challenges and applications of cost-benefit analysis (CBA) for the preliminary feasibility study of capital investments, Government at a Glance 2015 Database, <http://qdd.oecd.org/subject.aspx?Subject=17375f7e-fc6c-4a5f-81bf-5b7e6a1da53c>

Affordability is an important factor when it comes to the decision whether and how an infrastructure project will be delivered. An infrastructure project can be said to be affordable if the expenditure and contingent liabilities it entails for the government can be accommodated within current levels of government expenditure and revenue, including user charges, and if it can also be assumed that such levels can be sustained.

Almost all respondents have some kind of assessment of affordability for the public budget in place (Table 3.15): In 13 cases all projects have to be assessed, 8 countries only assess projects above a threshold, and 3 countries assess certain projects only. An assessment for users (Table 3.16) is in place for all projects in 7 of the cases, for all projects above a threshold for 4, for certain projects in 7 cases. Responsible institutions for the assessment are in many cases the Ministry of Finance or the corresponding line ministry.

Table 3.15. Are projects subject to an assessment of their affordability for the public budget?

All projects	All projects above a threshold	Certain projects	None
Belgium	Austria	Chile	Australia
Czech Republic	Denmark	France	Hungary ^{na}
Estonia	Norway	Mexico	Japan ^{na}
Finland	Korea		
Germany	Slovenia		
Ireland	Sweden		
Italy	Turkey		
Luxembourg			
New Zealand			
Spain			
Switzerland			
United Kingdom			
Non-OECD	Non-OECD		
South Africa	Philippines		

Note: Total respondents: 25, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

Table 3.16. Are projects subject to an assessment of their affordability for the users?

All projects	All projects above a threshold	Certain projects	None	Not relevant/ Others
Belgium	Denmark	Chile	Finland	Australia ¹
Ireland	Norway	Czech Republic	France	Austria
Italy	Korea	Estonia	Sweden	Germany
Luxembourg		Mexico	Turkey	
Spain		New Zealand	Japan ^{na}	
United Kingdom		Slovenia	Hungary ^{na}	
		Switzerland		
Non-OECD	Non-OECD			
South Africa	Philippines			

Note: Total respondents: 26, ^{na} not answered; (1) Regulators review the pricing from suppliers in the water, electricity and gas, but not in transport (except for PPPs).

Source: OECD (2016), OECD Survey of Infrastructure Governance

Box 3.3. Land value capture tools: efficient and equitable funding for urban infrastructure

The idea behind land value capture is that landowners should contribute to the funding of public actions that increase the value of their land. In line with this thinking, one of the recommendations of the Vancouver Plan of Action from Habitat I entails the “beneficiary pays” principle, according to which the beneficiaries of public investments that valorise their land should partly cover such costs or return their benefit to the public (UN, 1976).

Public infrastructure projects such as public spaces, facilities, and mass transportation networks typically increase the land values of surrounding areas (Higgins and Kanaroglou, 2016). Beyond that, land valorisation also occurs upon land conversion from rural to urban, or as a result of changes in zoning classifications for use and densification parameters. In all these cases, private landowners benefit from an “unearned increment” - that is, an increase in the value of their land which is not caused by their actions. By taxing the unearned increment, public authorities can partially fund or even fully recover the costs of infrastructure projects, which are often complex and expensive.

Several different land value capture instruments can be used to capture the unearned increment. For example: A pure land value tax, betterment contributions, developer exactions, impact fees, sale or transfer of development rights, public land leasehold, land readjustment or joint development schemes (see OECD, 2017, for details on their characteristics and the use across different OECD countries).

These tools have been adopted in countries as varied as the United States, Canada, Brazil, Colombia, Argentina, Ethiopia, Poland, the Netherlands, Korea, Japan, and many others. Some countries have experimented more, and with a more diverse array of tools, like the United States and Brazil, while others have concentrated efforts into one mechanism alone. For instance, Colombia has a longstanding tradition of betterment contributions (Smolka, 2013), while Korea has typically led urban development through land readjustment, and Japan uses joint development schemes and land sales to fund railway projects. The Netherlands, Hong Kong and Israel all have public land leasehold systems, but use them differently and for different goals (Bourassa and Hong, 2003). Only three OECD countries adopt a pure land tax, though - Estonia, Denmark and Australia (Blöchliger, 2015).

Land value capture instruments are useful tools to fund infrastructure projects, is it not advisable to use revenues from them to broadly fund public actions on a permanent basis. Only pure land tax and joint development schemes have the potential to create recurrent revenues. What is more, because many of those tools rely on land markets, revenue collection depends on market conditions that dictate land and real estate prices. In short, these tools are commonly subjected to market volatility, and as such may become somewhat unstable revenue sources.

Box 3.3. Land value capture tools: Efficient and equitable funding for urban infrastructure (*cont.*)

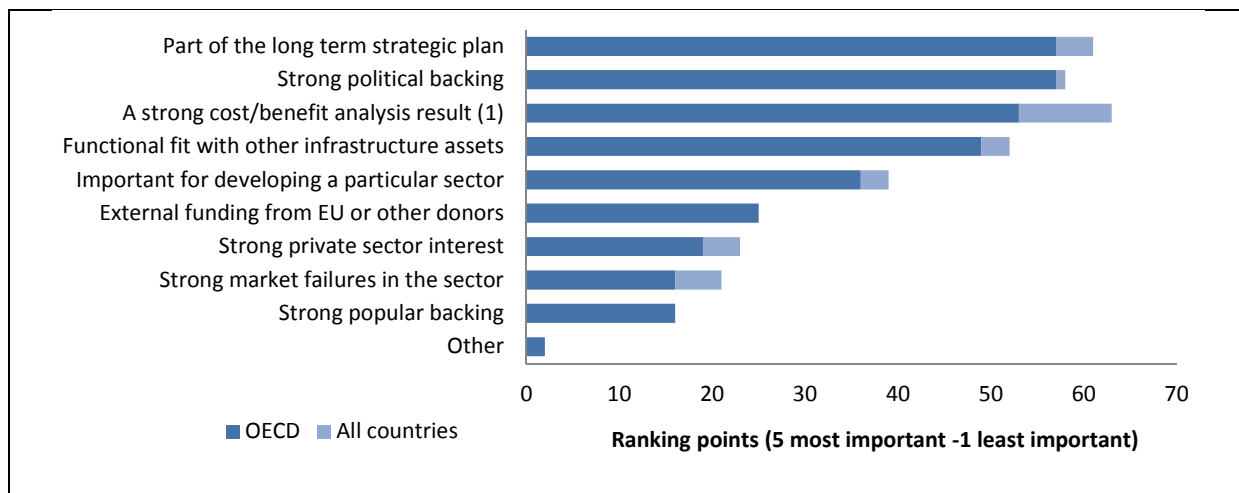
Successful implementation of land value capture tools requires technical capacity to regularly and accurately assess land values and increments, as well as alignment with spatial planning goals, and legal provisions. Yet, local initiatives have made successful implementation of land value capture mechanisms possible even where the institutional framework was challenging (Smolka, 2013). A good example is Trenque Lauquen in Argentina. The city was legally prohibited to raise local property taxes and so it adopted a betterment contribution to charge landowners for infrastructure works and planning decisions that cause land valorisation, with significant financial success (Duarte and Baer, 2013).

Sources: Blöchliger, H. (2015), *Reforming the Tax on Immovable Property: Taking Care of the Unloved*, OECD Economics Department Working Papers, No. 1205, OECD Publishing, Paris <http://dx.doi.org/10.1787/5js30tw0n7kg-en>; Bourassa, S. C., & Hong, Y. H. (2003), *Leasing public land: Policy Debates and International Experiences*, Lincoln Institute of Land Policy; Duarte, J. I. and Baer, L. (2013), *Recuperación de plusvalías a través de la contribución por mejoras en Trenque Lauquen, Provincia de Buenos Aires – Argentina*, Working Paper, Lincoln Institute of Land Policy; Higgins, C. D. and Pavlos S. Kanaroglou (2016), *Forty years of modelling rapid transit's land value uplift in North America: moving beyond the tip of the iceberg*, *Transport Reviews*, 36:5, 610-634, DOI: 10.1080/01441647.2016.1174748; OECD (2017), *Land-use planning systems in the OECD: Country Fact Sheets* (forthcoming); Smolka, M. (2013), *Implementing Value Capture in Latin America: Policies and Tools for Urban Development*, Policy Focus Report Series, Lincoln Institute of Land Policy; UN (United Nations), (1976), *The Vancouver Action Plan- Recommendation D.3.*, United Nations Conference on Human Settlement, Vancouver, Canada.

Determinants for project funding

A strong cost-benefit analysis result is the most important determinant to receive funding (Figure 3.7). Similar to previous results, costs benefit analysis is an important tool for decisions on funding, followed by whether the project is part of the long term strategic plan. The overall third highest ranked criterion is strong political backing, followed by whether the project has a functional fit with other infrastructure assets. The importance for developing a particular sector, strong private sector interest, external funding from EU or other donors, strong market failures in the sector, and strong popular backing are ranked lower. These results correspond to the results of criteria for prioritisation.

Figure 3.7. What usually determines whether a project received funding/is approved for delivery?



Note: Total respondents: 27. * i.e. strong absolute value for money/socioeconomic benefit; countries could rank criteria in declining importance (5 to 1 ranking points).

Source: OECD (2016), OECD Survey of Infrastructure Governance

Less than half of respondents have a procedure dedicated for identifying and allocating risks between public vs. private parties. It can be helpful in terms of VFM and affordability to assess the public-private participation mix. This, however, requires a sober assessment of the projects characteristic, including risks and uncertainties, and their pricing and allocation. An explicit procedure is in place for 10 examined countries, whereas 3 respondents have no concrete procedure but guidance or soft laws (others), or the procedure is only applied for PPPs (France and South Africa) (Table 3.17).

Table 3.17. Is there a dedicated procedure for identifying and allocating risks between public and private parties that take the cost of such allocation into account?

Yes	Yes, if PPP	No	Other
Australia	France	Austria	Japan
Czech Republic		Belgium	Italy
Germany		Chile	United Kingdom
Ireland		Denmark	
Mexico		Estonia	
New Zealand		Finland	
Norway		Hungary	
Korea		Luxembourg	
Switzerland		Slovenia	
		Spain	
Non-OECD	Non-OECD	Sweden	
Philippines	South Africa	Turkey	

Note: Total respondents: 27

Source: OECD (2016), OECD Survey of Infrastructure Governance

The choice of particular delivery modalities may be motivated by the wish to finance the project in a non-transparent manner. Sometimes a delivery modality, especially the use of PPPs, is chosen to avoid fiscal rules on the government's debt and deficits, rather than because of cost efficiency. In about half of the responding countries, the full costs of the asset is budgeted upfront, regardless of how it is implemented (Table 3.18), deleting any particular budgetary advantage of non-user financed PPPs. Furthermore, while for public works the financing is included in the relevant budget (national, sub-national), for a significant share of SOEs and PPPs or concessions it is not or only for certain elements (Figure 3.8).

Table 3.18. In your country, is the full cost of the asset budgeted upfront regardless of how it is implemented?

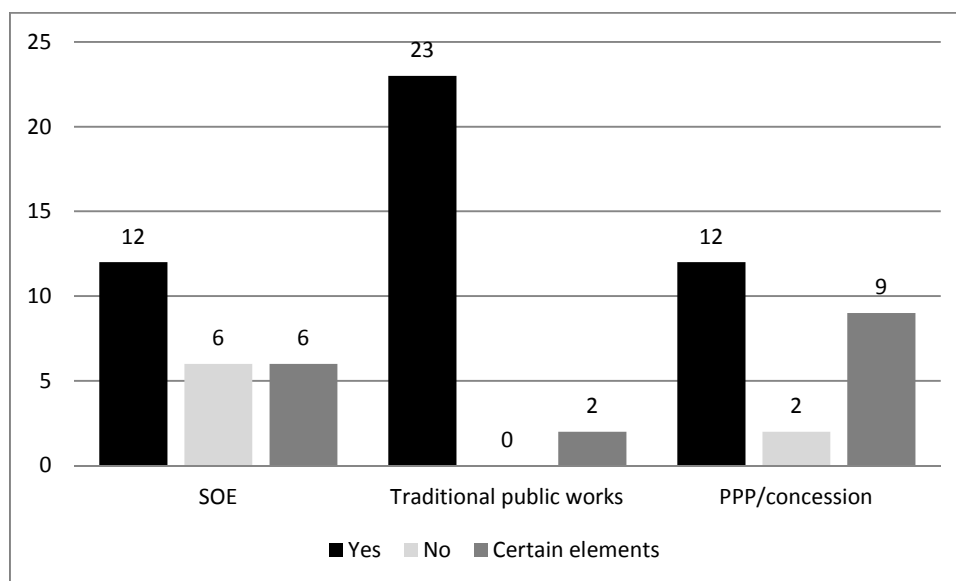
Yes	No
Australia	Austria
Chile	Belgium
Czech Republic	Denmark
Finland	Estonia
France	Ireland
Germany	Italy
Luxembourg	Korea
Mexico	Slovenia
New Zealand	Turkey
Norway	Switzerland

Table 3.18. In your country, is the full cost of the asset budgeted upfront regardless of how it is implemented? (cont.)

Yes	No
Sweden	Hungary ^{na}
Spain	Japan ^{na}
United Kingdom	
Non-OECD	Non-OECD
South Africa	Philippines

Note: Total respondents: 25, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

Figure 3.8. Is the financing of the delivery types below include in the budget of the relevant (national, sub-national) government level?

Note: Total respondents: 27

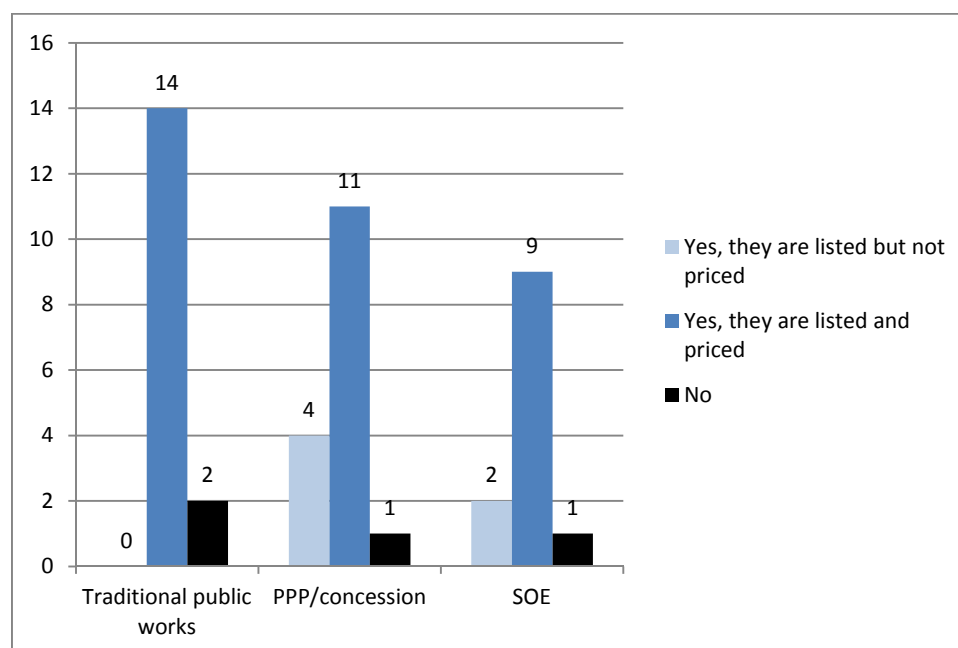
Source: OECD (2016), OECD Survey of Infrastructure Governance

Accounting rules can create incentives. This is especially important in terms of whether certain assets, such as PPPs should be on or off the government's budget sheet. The case that some countries may not report the assets and liabilities on the balance sheet could be explained by technical difficulties for inventorying contracts and evaluating the related debt, or implementing the control approach required by international standards, as in Chile.

In most of the cases, contingent liabilities and running costs are listed and priced, although it is slightly less common for PPP or concessions and SOEs than for public works (Figure 3.9). For PPP projects the number of countries accounting for contingent liabilities and running costs has increased to 10¹⁵ countries in comparison to the results in Hawkesworth and Burger (2013), that listed only four countries - and in only three countries for SOEs, agencies and private incorporated businesses - that list and price contingent liabilities. Ideally they should be listed and priced, but merely listing

them would help to highlight potential problems, as done in Australia, Finland, France and Philippines.

Figure 3.9. Does the budget documentation or other published material contain an assessment with respect to contingent liabilities derived from:



Note: Total respondents: 20

Source: OECD (2016), OECD Survey of Infrastructure Governance

Table 3.19. Does the budget documentation or other published material contain an assessment with respect to contingent liabilities derived from (2013):

	PPPs	SOEs, agencies and private incorporated businesses
Yes, they are listed but not priced	3 (Canada, Italy and South Africa)	3 (Canada, Italy and South Africa)
Yes, they are listed and priced	4 (Czech Republic, Estonia, Finland and the Slovak Republic)	3 (Canada, Italy and New Zealand)
No	11	11

Source: Table 14 in Burger, Philippe and Ian Hawkesworth (2013), “Capital budgeting and procurement practices”, *OECD Journal on Budgeting*, Vol. 13/1. <http://dx.doi.org/10.1787/budget-13-5k3w580lh1q7>

The study shows due to the widely applied European standards, the risk approach in accounting assets is more common. All EU-members represented in the survey use the Eurostat criteria for their accounting, which present a risk approach to accounting (Table 3.20). A similar approach is used in the Philippines and Turkey, where the accounting is based on whether the party carries the majority of the risk. Fewer countries, apply the control approach, as required in international accounting standards (IFRS or IPSAS), basing the accounting on whether the party has the control over the asset. The Norwegian government accounts are cash based and infrastructure assets are not activated in the accounts, whereas all investments, except from some investments

made by SOEs, are included in the government budget and the investment expenditures are also included in the government accounts. The use of both approaches in one country can be attributed to different government levels.

Table 3.20. Approaches used to decide whether or not an asset involved in a private finance type/PPP project is included in the government accounts?

Control approach	Risk approach
Austria*	Austria×
Chile*	Belgium×
Korea*	Czech Republic×
Slovenia*	Denmark×
Turkey*	Estonia×
Switzerland*	Finland×
Ireland	France×
Mexico	Germany×
	Ireland×
	Italy×
	Luxembourg×
	Slovenia×
	Spain×
	Sweden×
	United Kingdom×
	Turkey
Non-OECD	Non-OECD
Philippines*	South Africa
	Philippines

Note: Total respondents: 27, none: Australia, Others: Norway, *International accounting standards (IFRS or IPSAS), ×Eurostat criteria

Source: OECD (2016), OECD Survey of Infrastructure Governance

In 21 out of 26 countries the Central Budget Authority (CBA) has a formal gate-keeping role in approving infrastructure projects (Table 3.21). This means that in most countries if approval by the CBA is not obtained, the project cannot proceed. Survey results show that the criteria used by the CBA for the approval of infrastructure projects and assuring their affordability focus on the projects affordability for both the national budget and users, value for money, and to a lesser extent on the presence of mandated documentation for all projects (Figure 3.10).

Table 3.21. Does the Central Budget Authority have a formal, gate-keeping role in approving infrastructure projects?

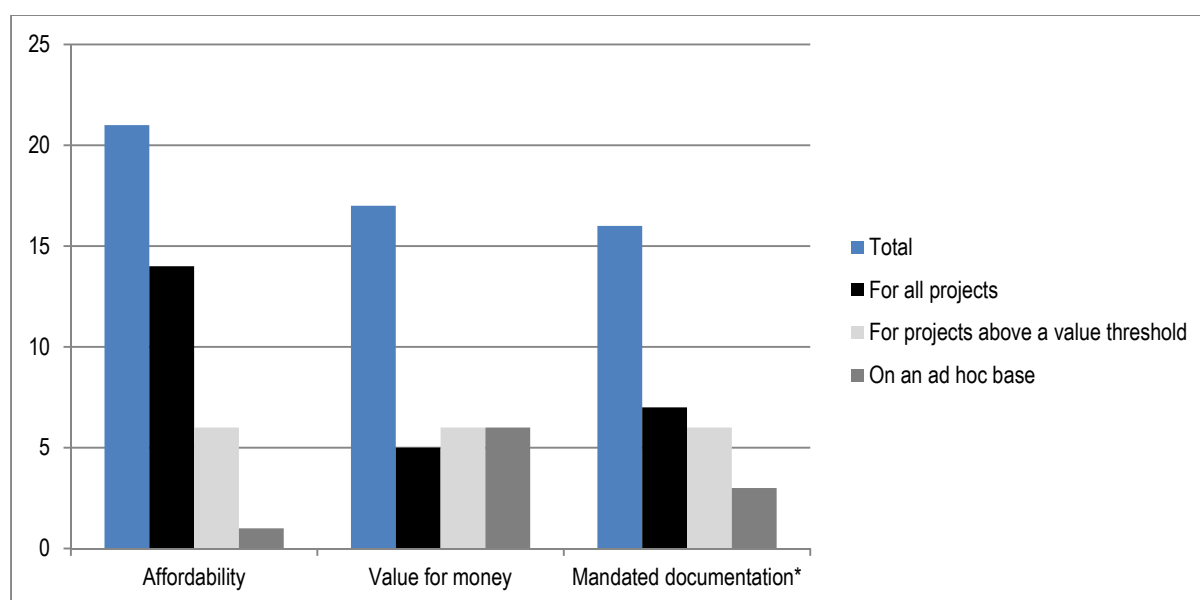
Yes	No
Austria	Australia
Belgium	Estonia
Chile	New Zealand
Czech Republic	Norway
Denmark	Switzerland
Finland	Hungary ^{na}
France	
Germany	
Ireland	

Table 3.21. Does the Central Budget Authority have a formal, gate-keeping role in approving infrastructure projects? (cont.)

Yes	No
Italy	
Japan	
Luxembourg	
Mexico	
Korea	
Slovenia	
Spain	
Sweden	
Turkey	
United Kingdom	
Non-OECD	
Philippines	
South Africa	

Note: Total respondents: 26, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

Figure 3.10. What are the criteria used by the Central Budget Authority for the approval of infrastructure projects?

Note: Total respondents: 21 (Countries where the Central Budget Authority has a formal, gate-keeping role in approving infrastructure projects), * including elements such as environmental impact, cost-benefit analysis, write-up of stakeholder consultation.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Tendering and contracting

Strong competition is necessary for ensuring value for money from tendering. This however, can be at times difficult to achieve. In response, 22 of the countries have a strategy in place that aims at ensuring a competitive tendering process (Table 3.22).

Practically all respondents have specific conditions under which the statutory thresholds for tendering apply. Almost in equal parts the conditions are according to EU regulation (10) or national regulation (12) (including national regulations based on EU-regulations). Only New Zealand has no clear set of conditions (Table 3.23).

Table 3.22. Is there a strategy or policy in place that works towards ensuring a competitive tendering process?

Yes	No
Australia	Estonia
Austria	Finland
Belgium	Turkey
Chile	Japan ^{na}
Czech Republic	Slovenia ^{na}
Denmark	
France	
Germany	
Hungary	
Ireland	
Italy	
Luxembourg	
Mexico	
New Zealand	
Norway	
Korea	
Spain	
Sweden	
Switzerland	
United Kingdom	
Non-OECD	
Philippines	
South Africa	

Note: Total respondents: 25, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

Table 3.23. Is there a clear set of conditions specified under which the statutory threshold for tender applies?

Yes, according to national regulation	Yes, according to EU regulation	No	Other
Chile	Austria	New Zealand	Australia ¹
Estonia	Belgium	Hungary ^{na}	Switzerland ²
France	Czech Republic	Japan ^{na}	
Italy	Denmark		
Luxembourg	Finland		
Mexico	Germany		

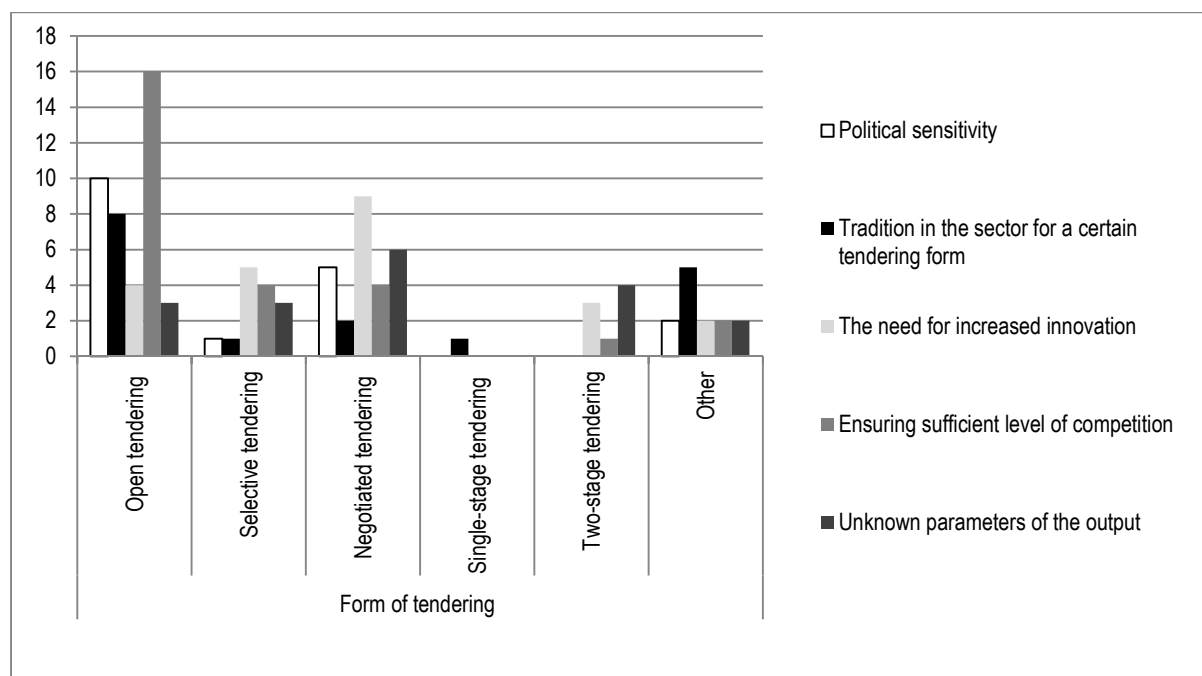
Table 3.23. Is there a clear set of conditions specified under which the statutory threshold for tender applies? (cont.)

Yes, according to national regulation	Yes, according to EU regulation	No	Other
Korea	Ireland		
Slovenia	Norway		
Turkey	Spain		
United Kingdom	Sweden		
Non-OECD			
Philippines			
South Africa			

Note: Total respondents: 25, ^{na} not answered, 1. The Australian Government is not involved in tenders, which is a state/territory government issue. 2. World Trade Organisation Agreement on Government Procurement (GPA)

Source: OECD (2016), OECD Survey of Infrastructure Governance

Open tendering is the most probable form of tendering, mostly depending on a sufficient level of competition and the need for increased innovation (*Figure 11*). Open tendering is the most open procurement process, in which any company which considers itself being able to respond can participate. The likeliness of using an open tender process depends on the wish to ensure a sufficient level of competition, but also on political, sectoral sensitivity and the tradition in the sector for a certain tendering form. The need for innovation, which is not as important for the choice for open tendering, makes less open forms such as selective tendering and negotiated tendering relatively more probable. Unknown parameters of the output increase the likeliness of choosing a two-stage tendering¹⁶ form. Other forms include project or sector specific processes.

Figure 3.11. Please specify which of the listed criteria make the below forms of tendering more probable

Note: Total respondents: 27

Source: OECD (2016), OECD Survey of Infrastructure Governance

More than half of the countries feel that there are sufficient resources to ensure value for money from the contract (Table 3.24). In the preparation and phases, there need to be sufficient public sector resources to ensure accountability and value for money. This is met by 16 of the countries.

Table 3.24. In general, is there a dedicated function/policy allocating sufficient resources and monitoring capacity ensuring value for money in contracting?

Yes	No	Other
Australia ⁴	Austria	Belgium ¹
Czech Republic	Estonia	Chile ²
Denmark	Germany	
Finland	Italy	
France	New Zealand	
Ireland	Slovenia	
Luxembourg	Switzerland	
Mexico	Hungary ^{na}	
Norway	Japan ^{na}	
Korea		
Spain		
Sweden		
Turkey		
United Kingdom		
Non-OECD		
Philippines		
South Africa		

Note: Total respondents: 25, ^{na} not answered; (1) Administrative and budgetary control; (2) On a need-to-need-basis; (3) For PPPs only; (4) Missing resources for planning at sub-national level.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Generation, analysis and disclosure of data

Good infrastructure policy should be based on data. Governments should put in place systems that ensure a systematic collection of relevant data and institutional responsibility for analysis, dissemination, and learning from this data. Relevant data should be disclosed to the public in an accessible format and in a timely fashion.

The lack of data on the other hand makes it difficult evaluate and monitor the projects' performance and to base future decision and delivery modalities and contracts on comparable data and information. Additionally, to enhance transparency and confidence among the stakeholder, the government should disclose key data to the public.

Systematic data collection on the infrastructure asset's performance is infrequent. Eight of the respondents have a central, systematic and formal collection of information on financial and non-financial performance of the infrastructure projects (Table 3.25). This low number makes it harder to compare various forms of infrastructure delivery models. If however, such a collection is in place, most information is collected by the Central Infrastructure Unit, followed by the dedicated PPP units or line ministries (Figure 3.12). According to the respondents the data collected includes data on: The physical progress, financial progress, tenders and contracts, variations with respect to planned progress, economic performance, and accuracy of the original cost-benefit analysis, among others.

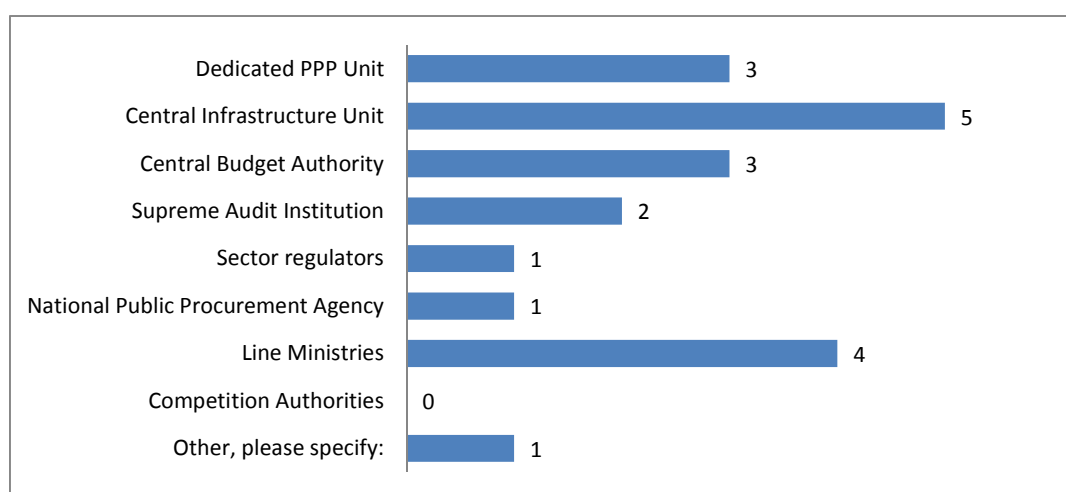
Table 3.25. Is there a central, systematic and formal collection of information on financial and non-financial performance of infrastructure that makes it possible to compare various forms of infrastructure delivery models?

Yes	No
Australia	Austria
Finland	Belgium
Japan	Chile
Mexico	Czech Republic
New Zealand	Denmark
Korea	Estonia
Spain	France
	Germany
	Ireland
	Italy
	Luxembourg
	Norway ¹
	Slovenia
	Sweden
	Turkey
	Switzerland
	United Kingdom
	Hungary ^{na}
Non-OECD	Non-OECD
Philippines	South Africa

Note: Total respondents: 27, ^{na} not answered, (1) In Norway, the *concept research programme* will collect financial information and some other key information for all projects in a projects database (trailbase) above NOK 750 mill. (about EUR 80 mill). The database is not public, but is available for government institutions, researchers on requests. The research programme publishes comparative reports based on these data from time to time and these reports are publically available.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Figure 3.12. Who collects information on financial and non-financial performance of infrastructure?



Note: Total respondents: 8 (Countries with a central, systematic and formal collection of information).

Source: OECD (2016), OECD Survey of Infrastructure Governance

Disclosure of infrastructure data is limited. Systematic disclosure of *ex ante* data of infrastructure projects during the preparation phase is established in 12¹⁷ countries. Disclosure of performance data is equally rare. In 9 of the countries with a formal policy ensuring that the relevant authority conducts assessments of each project authorities, the authority published performance data partially, in 2 countries authorities made performance information fully available to the public (Table 3.26). Although there is no formal policy ensuring performance assessment in Norway, evaluations reports of some infrastructure projects in operation are publically available on a common evaluation portal.

Table 3.26. Is the performance information available for the public?

Fully ¹	Partially	Not available
United Kingdom	France	Czech Republic
	Germany	Turkey
	Italy	Finland
	Japan	
	Mexico	
	Philippines	
	Korea	
	Spain	
Non-OECD	Non-OECD	
Philippines	South Africa	

Note: Total respondents: 13 (Countries with a formal policy ensuring that the relevant line ministry or agency conducts performance assessment of each project and France), naming 17 authorities collecting data. 1. At least one authority discloses the information fully.

Source: OECD (2016), OECD Survey of Infrastructure Governance

Data on public investment flows and stocks are available in more than half of the countries. Eighteen countries have data on infrastructure investment flows, seventeen on stock (Table 3.27). For the respondents with flow data available, sectorial breakdown are also available, especially for water (17) and air transportation (Table 3.28). In the case of stock data, sectorial breakdown is especially available for railway, road and air transportation (Table 3.29).

Table 3.27. Does your country have the following information for infrastructure investment?

Infrastructure investment flow data	Infrastructure investment stock data
Australia ¹	Australia ¹
Austria	Austria
Chile	Denmark
Czech Republic	Estonia
Denmark	Finland
Finland	France
France	Germany
Germany	Italy
Italy	Korea
Korea	Mexico
Mexico	New Zealand
New Zealand	Norway
Norway	Spain

Table 3.27. Does your country have the following information for infrastructure investment? (cont.)

Infrastructure investment flow data	Infrastructure investment stock data
Slovenia	Sweden
Spain	Switzerland
Sweden	Turkey
Switzerland	United Kingdom
Turkey	
United Kingdom	

Note: Total respondents: 27; (1) Partially, the Australian federal government does not have collated data on infrastructure investment flow or stock data as this is managed by state and local governments. The Federal Government records and reports on its own investments in state/local government infrastructure. Publicly owned assets proposed for sale or lease are listed on the National Infrastructure Construction Schedule website (<https://www.nics.gov.au/AssetSales/AssetSale>).

Source: OECD (2016), OECD Survey of Infrastructure Governance

Table 3.28. Countries with flow data in a sectorial breakdown

Electricity	Gas	Water	Railway transportation	Road transportation	Water transportation	Air transportation	Tele-communications
Austria	Austria	Austria	Austria	Austria	Austria	Austria	Austria
Chile	Chile	Chile	Czech Republic	Czech Republic	Chile	Chile	Chile
Finland	Finland	Czech Republic	Denmark	Denmark	Czech Republic	Czech Republic	Finland
France	France	Finland	Finland	Finland	Finland	Finland	France
Italy	Italy	France	France	France	France	France	Germany
Korea	Korea	Germany	Korea	Korea	Germany	Germany	Italy
Mexico	Mexico	Italy	Mexico	Mexico	Korea	Korea	Korea
New Zealand	New Zealand	Korea	New Zealand	New Zealand	Mexico	Mexico	Mexico
Norway	Norway	Mexico	Norway	Norway	New Zealand	New Zealand	New Zealand
Sweden	Sweden	New Zealand	Slovenia	Slovenia	Norway	Norway	Norway
Switzerland	Switzerland	Norway	Spain	Spain	Spain	Slovenia	Slovenia
Turkey	Turkey	Slovenia	Sweden	Sweden	Sweden	Spain	Sweden
United Kingdom	United Kingdom	Spain	Switzerland	Switzerland	Switzerland	Sweden	Switzerland
		Sweden	Turkey	Turkey	Turkey	Switzerland	Turkey
		Switzerland	United Kingdom	United Kingdom		Turkey	United Kingdom
		Turkey				United Kingdom	
		United Kingdom					

Note: Total respondents: 18

Source: OECD (2016), OECD Survey of Infrastructure Governance

Table 3.29. Countries with stock data in a sectorial breakdown

Electricity	Gas	Water	Railway transportation	Road transportation	Water transportation	Air transportation	Tele-communications
Austria	Austria	Austria	Austria	Austria	Austria	Austria	Austria
Estonia	Estonia	Finland	Denmark	Denmark	Estonia	Estonia	Finland
Finland	Finland	France	Estonia	Estonia	Finland	Finland	France
France	France	Germany	Finland	Finland	France	France	Germany
Korea	Korea	Korea	France	France	Germany	Germany	Korea
Mexico	Mexico	Mexico	Italy	Italy	Korea	Italy	Mexico
New Zealand	New Zealand	New Zealand	Korea	Korea	Mexico	Korea	New Zealand
Norway	Norway	Norway	Mexico	Mexico	New Zealand	Mexico	Norway
Switzerland	Switzerland	Spain	New Zealand	New Zealand	Norway	New Zealand	Switzerland
Turkey	Turkey	Switzerland	Norway	Norway	Spain	Norway	Turkey
United Kingdom	United Kingdom	Turkey	Spain	Spain	Turkey	Spain	United Kingdom
		United Kingdom	Sweden	Sweden		Switzerland	
			Switzerland	Switzerland		Turkey	
			Turkey	Turkey		United Kingdom	
			United Kingdom	United Kingdom			

Note: Total respondents: 16

Source: OECD (2016), OECD Survey of Infrastructure Governance

Performance throughout the life-cycle

Ensure a focus on the performance of the asset throughout its lifespan by putting in place monitoring systems and institutions.

The monitoring during the operational phase includes regular observation and recording of the performance data of the asset on all aspects relevant to the procurement of the infrastructure service to the public and users. Monitoring serves to ensure value for money and to manage risks throughout the operational phase. The responsibility for this should lie with the central agencies, such as the Central Budget Authority, Supreme Audit Institution and regulatory authorities.

Performance assessment is mandated in about half of the countries. Of all examined countries, 14 have a policy ensuring an assessment of the performance of each project (Table 3.30). In 8 of those cases, the policy is centrally mandated, whereas for 6 it is the line department's responsibility to decide upon such a policy.

Table 3.30. Is there a formal policy ensuring that the relevant line ministry or agency conducts performance assessment of each project?

Yes	No
Czech Republic	Australia
Finland	Austria
Germany	Belgium
Ireland	Chile
Italy	Denmark
Japan	Estonia
Mexico	France
New Zealand	Luxembourg
Korea	Norway
Spain	Slovenia

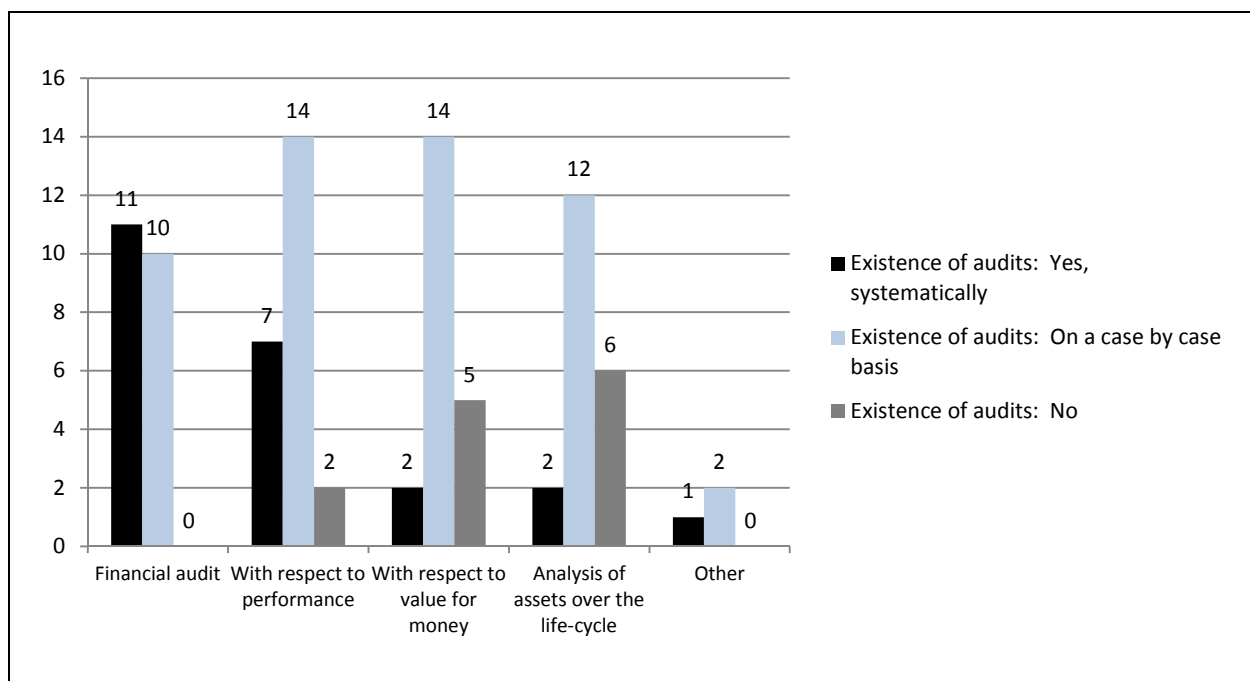
Table 3.30. Is there a formal policy ensuring that the relevant line ministry or agency conducts performance assessment of each project? (cont.)

Yes	No
Turkey	Sweden
United Kingdom	Switzerland
	Hungary ^{na}
Non-OECD	Non-OECD
Philippines	South Africa

Note: Total respondents: 26, ^{na} not answered

Source: OECD (2016), OECD Survey of Infrastructure Governance

The most common form of audits by the Supreme Audit Institution regarding infrastructure assets is on case by case basis. The Supreme Audit Institution should audit and assess individual projects as well as the infrastructure programme in general with regards to its finance, performance, value for money finance and compliance over the life-cycle. This *ex post* evaluation demands enough human and financial resources and dedicated tools. Systematic audits are also common for financial audits but less used with respect to value for money. Other types of audits include resilience to climate change and disasters, and clearances attesting the implementation readiness of the agency (Figure 3.13).

Figure 3.13. What type of audits does the Supreme Audit Institution perform regarding infrastructure assets?

Note: Total respondents: 27

Source: OECD (2016), OECD Survey of Infrastructure Governance

With both private and public parties involved in the project, external shocks are the main reason for renegotiation in during the projects life-cycle. The long-term nature and high uncertainty of infrastructure projects makes renegotiations of contracts with the private sector very likely. Contractual arrangement should therefore clearly specify the mechanisms and conditions of re-negotiations in long term agreements. Special care should be given to the conservation of value for money during renegotiation. Only if conditions change due to discretionary public policy actions should the government consider compensating the private sector. The data shows that the most common reason for re-negotiating is a change in conditions to discretionary public policy actions (10) or external shocks (9). Other reasons include changes in original conditions (Chile), and renegotiation under the operational efficiency savings programme (United Kingdom). Norway has a system for taking in amendments in the contracts if necessary.

Concluding summary of the survey results

The analysis shows that for some dimensions good practices are common among the set of countries examined. However, other practices suggested by the framework are less present and demand attention. In general no best practice country group can be identified which reflects the importance of improving infrastructure governance across countries.

A deficit can be identified with the establishment of **long term strategies**. Only 13 of the 27 examined countries have a long term vision in form of a long term plan across sectors. Most of the remaining countries have only sectoral plans, missing chances for synergies, complementarities and co-ordination. On medium term, 17 of the respondents have a clear prioritised short list of projects. Motivations for long term strategies and prioritisation are heterogeneous across countries. In several countries these long term plans are updated by fixed time intervals, but in an equal amount of cases, this decision is based on political considerations.

The most relevant criteria **determining the delivery modality** are financial criteria, such as public sector financial resources, availability of public sector capacity, the wish to tap private finance sources to augment the public budget, cost recovery possible from users, as well as the outcome of a quantitative analysis. Strong results from a cost-benefit analysis are also the strongest argument for projects to be shortlisted. However, projects move from the short list to implementation based on political considerations. The decision for public procurement is often based on habit.

Many essential **regulatory** processes for good infrastructure governance are formalised in most countries and are perceived as effective. Nevertheless, the roles and capacities of regulators are often unclear and co-ordination is lacking. In 24 countries the line ministries are the institutions in charge of infrastructure governance. Dedicated units on the other hand are less common, such as Supreme Audit Institutions or PPP Units.

Mandatory **consultation processes** are widely used across the countries. Especially regarding the long-term strategic plan it is widespread to have a public consultation. However, consultation takes mainly places during the infrastructure project preparation and to a lesser extent during construction or for the evaluation of infrastructure needs. Procedure to specifically identify users' needs is only mandatory in 11 countries.

Co-ordinated across levels of governments is common in countries with long term strategic plans. However, in general few central units aim to strengthen the capacities of sub-national governments. Intergovernmental co-ordination mechanisms for infrastructure are in place for a little more than half of the countries in the survey.

Affordability is an important factor when it comes to the decision whether and how an infrastructure project will be delivered. An assessment of the affordability for the public budget is in place in the majority of the countries. Strong, absolute as well as relative value for money results are the most important criteria for the project's approval and funding. Cost-benefit analysis is the most popular approach to determine absolute value for money.

Only in half of the countries, the full costs of the asset are **budgeted upfront**, regardless of how it is implemented. This however, is important to avoid that the choice of particular delivery modalities may be motivated by the wish to finance the project in a non-transparent manner. Transparency about the cost of the asset is furthermore assured by accounting for future costs and liabilities a priori. Twenty countries have formal requirements in place to account for running costs and contingent liabilities associated with an infrastructure asset. However, only less than half of respondents have a procedure dedicated for identifying and allocating risks between public and private parties.

Systematic **data collection** on the infrastructure asset's performance is infrequent. Disclosure of infrastructure data is limited. The lack of data impedes to evaluate and monitor the projects' performance and to base future decision and delivery modalities and contracts on comparable data and information.

Governance throughout the life cycle needs to be improved. Most institutions are responsible for the development of infrastructure policy and the improvement of infrastructure performance. Responsibilities for the assessment and monitoring of the projects are less defined. Performance assessment for example is only mandated in half of the countries and audits by the Supreme Audit Institution regarding infrastructure assets are mainly conducted on case by case basis.

A majority of all respondents have an explicit policy in place that regulates conflicts of interest in the tender panel, as well as formal appeal mechanisms in the tendering process. Specific measures against **corruption and integrity threats** in infrastructure on the other hand are only applied in half of the countries.

Notes

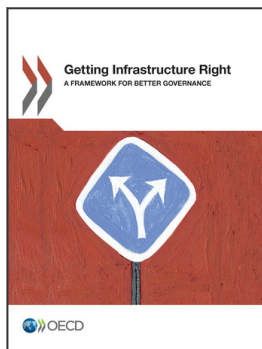
1. 2016 Survey of Infrastructure Governance
2. Missing answers may be due to inapplicability or missing data.
3. If not otherwise indicated, the number in brackets refers to the number of countries.
4. Telecom, air transport, energy, hydraulic, health, tourism, urban development and housing infrastructure
5. No answer by Japan
6. Either long term, medium term, regional or sectorial.
7. A similar long term plan exists for Defence. The plan is revised every 4th year, but has a longer perspective, looking approximately 20 year ahead.
8. Representing 8 countries.
9. A maximum of 4 institutions per country could be listed.
10. Australia, Austria, Denmark, France, Germany, Greece*, Ireland, Korea, Netherlands*, South Africa, United Kingdom. Canada, Italy, Mexico follow this

practice in most of the cases (> 50% of the time but less than 100%). Countries marked with an asterisk did not participate in the presented 2016 study.

11. Mexico, Slovenia, Turkey, Philippines, South Africa, Sweden, Chile
12. In New Zealand the plan refers to infrastructure related to central government, local government and the private sector.
13. These results are slightly different to the results found in Burger and Hawkesworth (2011): in the paper Australia, Austria, Canada, Denmark, Germany, and the United Kingdom stated to conduct a process to ascertain value for money ex ante for all PPPs and TIPs.
14. Australia, Philippines, New Zealand, South Africa, Japan, Hungary, Belgium
15. Czech Republic, Germany, Ireland, Korea, Luxembourg, Slovenia, South Africa, Spain, Turkey, United Kingdom
16. Only companies qualified in the 1st round can compete in the 2nd round.
17. Czech Republic, Denmark, Italy, Mexico, New Zealand, Norway, Philippines, Republic of Korea, Slovenia, Spain, Turkey, United Kingdom

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