Fiscal risk management
Institutional arrangements

Eivind Tandberg

CEF Ljubljana, March 2019

Vista in the news

News from www.vista-analyse.no

Er det behov for en nasjonal oversikt over tilgjengelige fosterhjem?
04.12.2017
På oppdrag for KS har Vista Analyse utredet om det er behov for en nasjonal oversikt over tilgjengelige, kommunalt rekrutterte fosterhjem. Vi har sett på hvordan en slik oversikt eventuelt kan...

Velkommen til Orvika!
24.11.2017
Vi er strålende fornøyd med at Orvika Rosnes har takket ja til å begynne i Vista Analyse. Orvika kommer fra forskningsavdelingen i Statistisk sentralbyrå og har tidligere jobbet i Econ Analysis...

Norges Bank følger Vistas råd
17.11.2017
I en rapport fra mars i år argumenterte Vista Analyse med at oljefondet burde selge sine oljeaksjer for å redusere den norske statens samlede risiko. Årsaken er blant annet at staten allerede er...

G FISKERIDEPA

Nytt prosjekt: Evaluering av føringstilskuddet
16.11.2017
Vista Analyse har fått i oppdrag av Nærings- og fiskeridepartementet å evaluere effektene av føringstilskuddet i fiskerinæringen, som gir økonomisk støtte til frakt av fisk fra ett område i...

Første helårsevaluering av aktivitetsskolen i Drammen
15.11.2017
Vista Analyse og ideas2evidence har på oppdrag fra Drammen kommune gjennomført den første helårsevalueringen av prøveprosjektet "Aktivitetsskolen i Drammen Kommune". Aktivitetsskolen skal...

DN Dagens Næringsliv

Fire fakta som forklarer SSB-bråket
10.11.2017
Haakon Vennemo, partner og styreleder i Vista Analyse, har skrevet et innlegg i Dagens Næringsliv om striden i SSB.Les artikkelen her....

Kostnad-nytteanalyse av klimatilpasningsprosjekter
08.11.2017
Vista Analyse har utarbeidet en veileder for hvordan en kan utføre kostnad-nytteanalyse av klimatilpasningsprosjekter. Veilederen gir også et eksempel på hvordan metoden kan anvendes på én type...

Nytt prosjekt: Kunnskapsgrunnlag for miljøkrav i drosjenæringen
06.11.2017
Foto: Petter Haugneland/elbil.noVista Analyse har fått i oppdrag fra Miljødirektoratet å gjennomføre en kartlegging som skal gi kunnskapsstatus og oversikt over problemstillinger knyttet til...

Vista i Georgia
01.11.2017
Vista Analyse skal bistå georgiske myndigheter med å utarbeide praktiske retningslinjer forverdsetting av virkninger på biodiversitet og forurensning av vann og grunn fra aktiviteter knyttet...

Barnevern – nytt oppdrag og nytt oppslag
31.10.2017
Foto: Terje Bringedal, VGVista Analyse har fått et nytt oppdrag om barnevern. Vi skal kartlegge rammevilkårene for kommunale fosterhjem for Fosterhjemsutvalget, slik at utvalget får et best...

Outline

- Defining fiscal risks
- The importance of fiscal risks
- A framework for managing fiscal risks
- Key messages

- Managing specific fiscal risks (If time allows)
  - State-owned enterprises
  - Subnational governments
  - Guarantees

What are fiscal risks?

- The possibility of fiscal outcomes deviating from expectations (as in the budget or other forecasts).
- Different from "policy risks" arising from changes in government policies.

Fiscal risk (liabilities) matrix

	Direct	Contingent
Explicit	Macroeconomic shocks Budget revenue estimates Expenditure estimates Interest rate changes Exchange rate changes Statutory transfers	Calls on guarantees PPP minimum revenue payments Legal claims Natural disasters Deposit guarantees
Implicit	Long term pension costs Long term health care costs	Local government bailouts State enterprise bailouts Financial sector intervention PPP contract cancellation

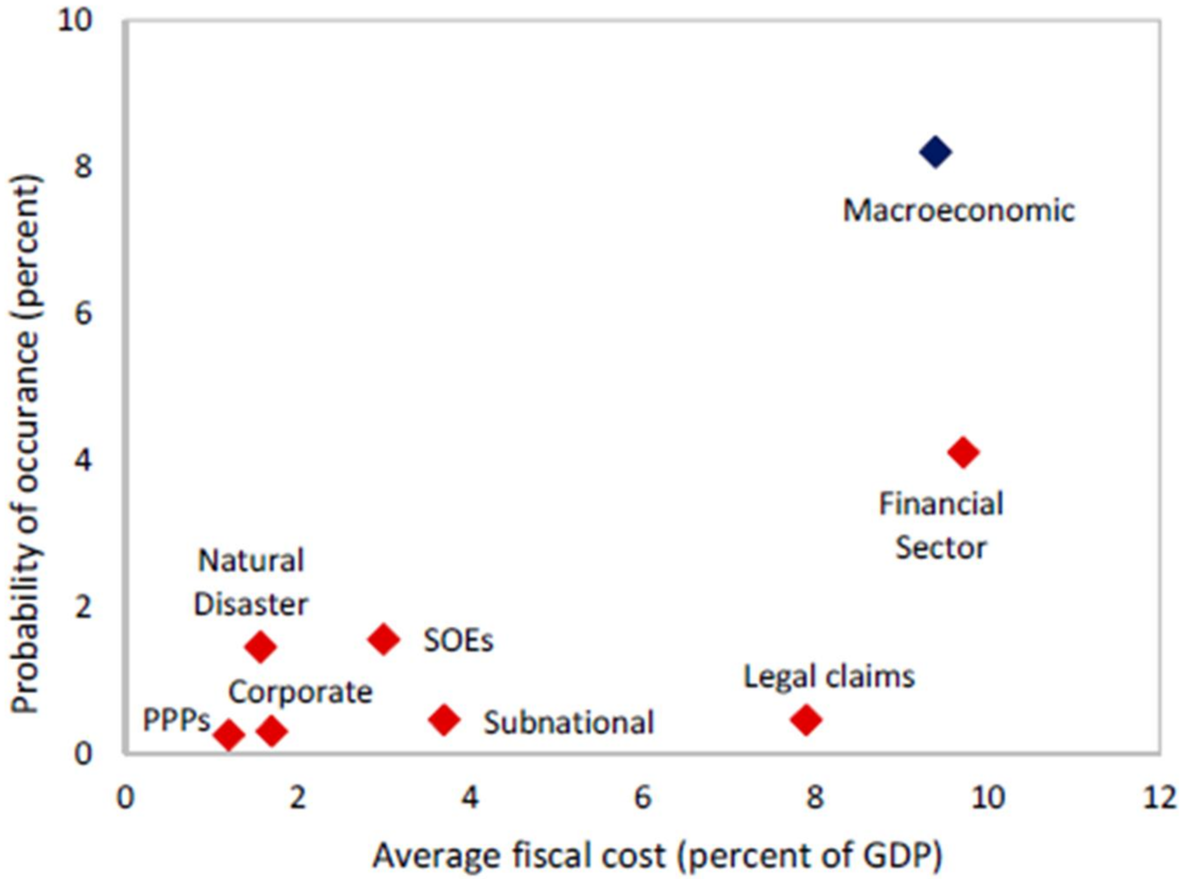
Why fiscal risks are important?

Sources of Unexpected Increase in General Government Debt
(percent of GDP, 2007-2010)

	FRA	DEU	NLD	ESP	PRT	GBR	USA	GRC	IRL	ISL	AVE*	Issues Revealed by the Crisis
Underlying fiscal position	**1.7**	**3.2**	**-2.4**	**1.8**	**11.3**	**3.7**	**8.1**	**16.3**	**1.3**	**10.9**	**6.0**	
Revisions to 2007 deficit & debt	1.7	1.8	-0.9	-0.1	0.1	1.5	7.1	2.5	1.6	4.0	4.7	Unreported Deficits
Changes to government boundary	-0.7	1.4	-0.2	0.6	9.4	1.9	0.9	11.2	-0.1	2.5	1.1	SoEs & PPPs
Cash-accrual adjustments	0.7	0.0	-1.3	1.3	1.7	0.3	0.0	2.6	-0.2	4.5	0.2	Arrears
Exogenous shocks	**8.4**	**12.8**	**14.2**	**15.4**	**8.1**	**17.0**	**6.3**	**40.0**	**60.2**	**39.5**	**9.8**	
Macroeconomic shocks	8.3	4.7	5.2	13.0	4.4	8.9	3.8	38.4	35.7	-3.3	6.0	Macroeconomic Risks
Financial sector interventions	0.0	8.1	9.0	2.5	3.6	8.1	2.5	1.6	24.5	42.8	3.8	Contingent Liabilities
Policy changes	**2.3**	**3.8**	**1.9**	**4.9**	**4.7**	**1.1**	**6.4**	**-8.0**	**-9.9**	**-4.3**	**4.7**	Stimulus / Consolidation
Other factors	**2.1**	**-0.3**	**6.5**	**1.9**	**3.7**	**6.2**	**8.3**	**-6.7**	**7.5**	**21.6**	**5.9**	
Total Unforecast Increase in Debt	**14.4**	**19.5**	**20.2**	**24.0**	**27.8**	**28.0**	**29.1**	**41.7**	**59.1**	**67.7**	**26.4**	

* GDP-weighted average

Why fiscal risks are important?



Why fiscal risks are important?

Fiscal Cost of Contingent Liability Realization (1990 – 2015)

Type of Contingent Liabilities	Number of Episodes	Number of Episodes with Identified Fiscal Costs	Avg. Fiscal Costs (% GDP)	Maximum Fiscal Costs (% of GDP)
Financial Sector	91	82	9.7	56.8
Legal	9	9	7.9	15.3
Subnational Government	13	9	3.7	12.0
SOEs	32	31	3.0	15.1
Natural Disaster(s)	65	29	1.6	6.0
Private Non-Financial Sector	7	6	1.7	4.5
PPPs	8	5	1.2	2.0
Other	5	3	1.4	2.5
Total	**230**	**174**	**6.1**	**56.8**

Why fiscal risks are important?

- Fiscal outturns often differ substantially from budget or other fiscal projections
- Unexpected spending pressures or revenue losses often require disruptive ad-hoc adjustments during the fiscal year
- Failure to identify, measure, disclose, and prepare for such risks can cause additional government obligations, larger public debts, and, occasionally, refinancing difficulties and crises

Framework for managing fiscal risks

Identifying and monitoring
- Establishing the context
- Identifying areas of risk
- Central coordination unit
- Information collection

Analyzing
- Economic sensitivity analysis
- Asset-liability assessment
- Valuing contingent liabilities

Mitigating
- Risk allocation strategy
- Institutional responsibility

Incorporating in budget
- Budget margins/reserves
- Stabilization funds
- Debt level
- Caps

Reporting
- Economic sensitivity analysis
- Public sector balance sheet
- Fiscal risk statement

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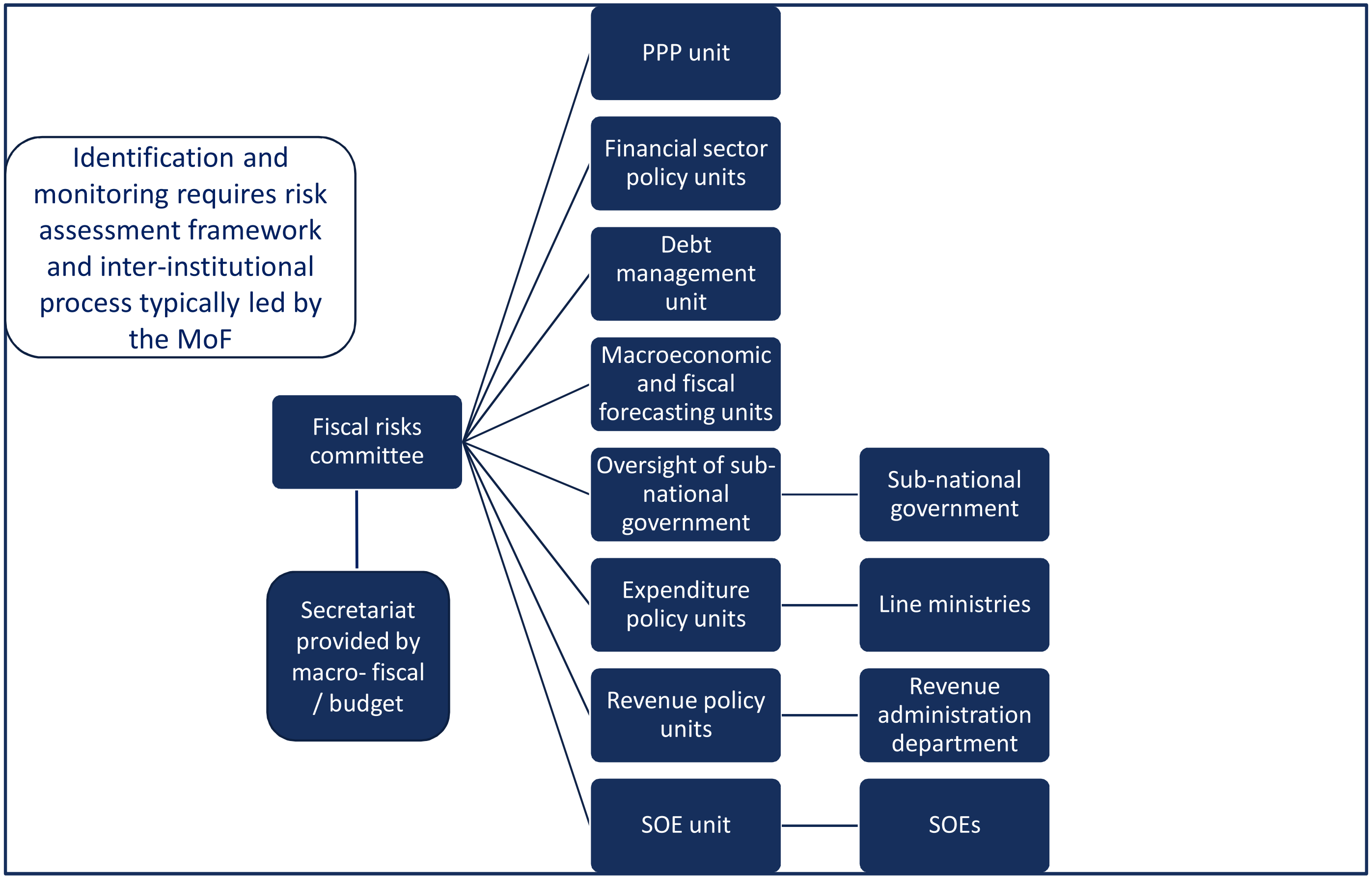
Identifying and analyzing fiscal risks



Identifying fiscal risks: economic and fiscal structures

Structures

Nature of the macro-economy
- Key sectors
- Linkages between sectors

Structure of the public finances
- Sources of revenue (tax / grants)
- Structure of expenditure
- Size and composition of debt

Structure of the public sector
- Extra-budgetary funds
- Sub-national government
- State-owned enterprises

International position
- Trade
- External debt obligations
- Regional arrangements

Other structural issues
- Environmental risks
- Political risks

Risk factors

Concentration
- dependence on dominant sector

Volatility
- exposure to global commodity prices

Uncertainty
- likelihood of natural disaster occurring

Feedback mechanisms
- transmission of shocks between sectors

Inflexibility
- inability to adjust to shocks, eg non-discretionary spending

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How to analyze fiscal risks?

- Where does the source reside?
  - Endogenous: those arising from a government activity (e.g. credit guarantees)
    - Probability/impact can be influenced by the government
  - Exogenous: those arising from actions/events outside of government control (e.g. natural disasters)
- What is the nature of incidence?
  - Continuous: regular events (e.g. commodity price volatility)
  - Discreet: occurring irregularly (e.g. banking crisis); can be further classified on the basis of likelihood:
    - Probable – likely to materialize in near term
    - Possible – likely at some point in time
    - Remote – difficult to predict

Approaches to analyzing general fiscal risks

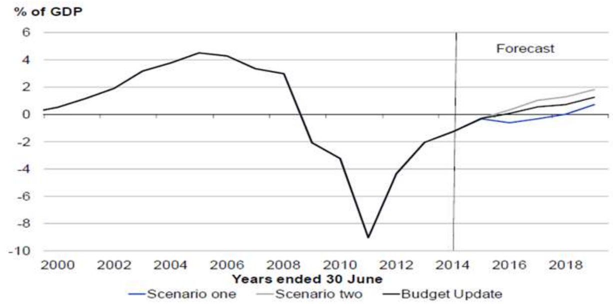
Sensitivity Analysis – Philippines

(billion Pesos per annum)

Particulars	Revenues	Disbursements	Budget Balance
1 percentage point increase in Real GDP growth	15.2		15.2
1 percentage point increase in Inflation rate	14.6		14.6
1 percentage point increase in Merchandise Imports	4.7		4.7
1 percentage point (100 bps) increase in T-bill rate, all maturities	8.2	3.2	5
1 Peso appreciation in foreign exchange rate	-8.6	-2.6	-6

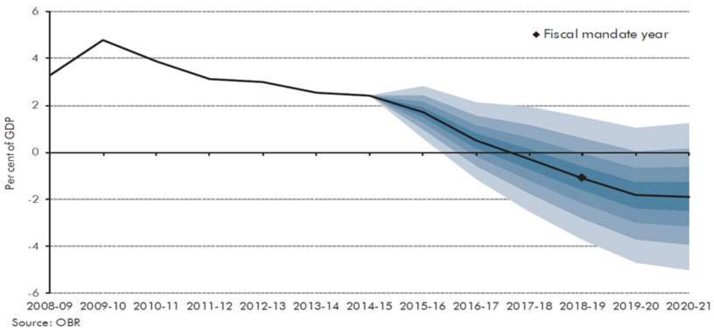
Alternative Scenarios – NZ

Operating Balance (before gains and losses)

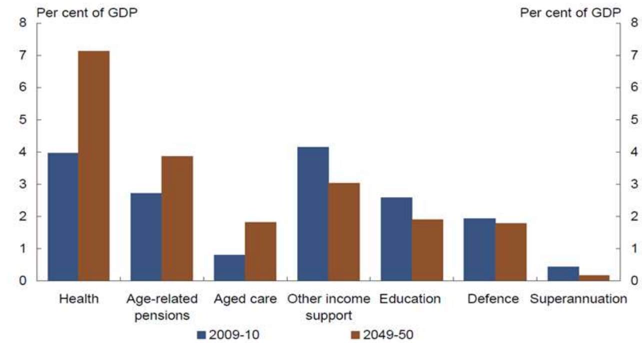


Probabilistic fan chart – UK

(Cyclically adjusted current budget deficit)



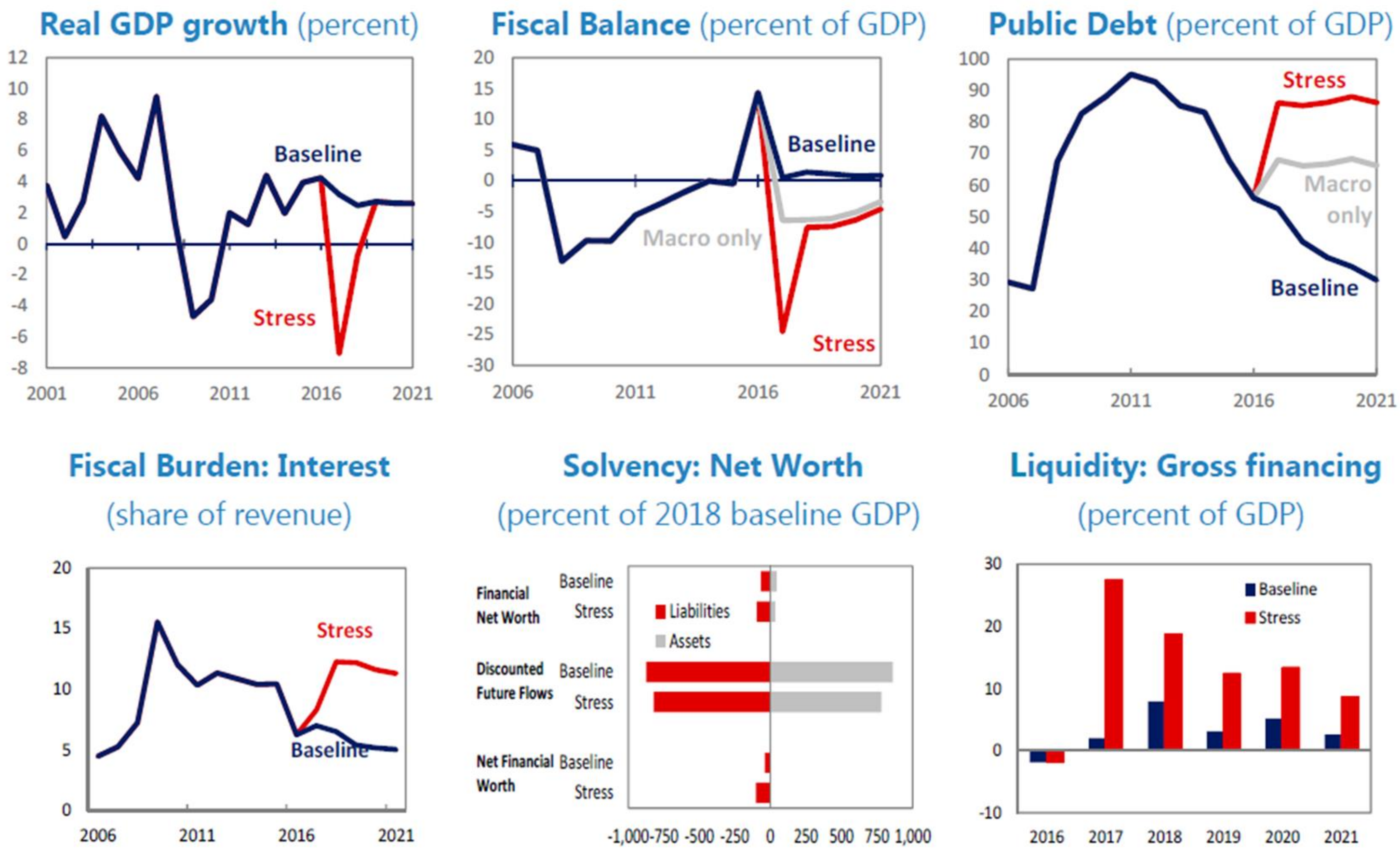
Long-term Analysis – Aust.



Integrating fiscal risk analysis: The Fiscal Stress Test (FST)

- Integrates macro analysis and contingent liabilities realization
  - Examines impact of a very large event, typically 2-3 standard deviations from the average historical volatility
    - Choice of stress scenario also considers comparator countries experience
  - Considers correlation between different macro variables and contingent liabilities
  - Impact analyzed using a detailed fiscal forecasting framework
    - Granularity of the fiscal forecasting framework used to capture fiscal non-linearities
- Examines impact of shocks on both fiscal flows and stock variables
  - Adopts a comprehensive balances sheet approach that allows examining impact on future assets and liabilities
- Three summary outputs provide a guide to solvency, liquidity risk and fiscal burden

FST: An Illustration

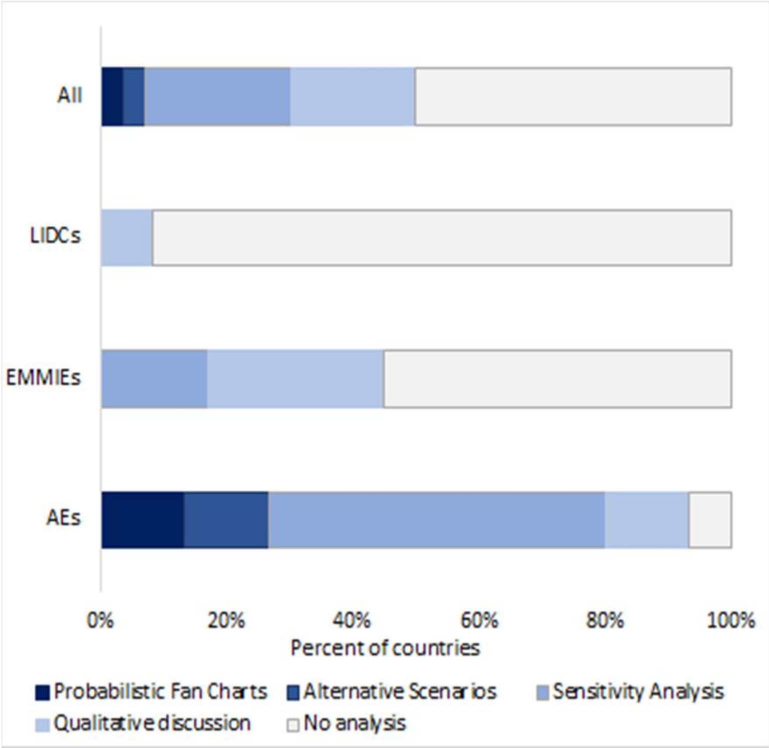


FST: An Illustration: A Comprehensive Balance Sheet

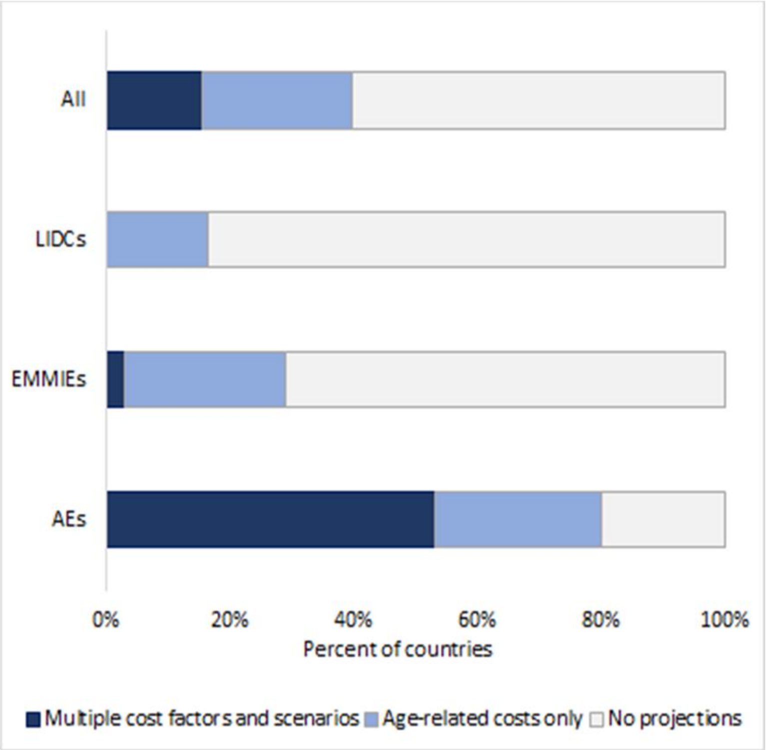
	Baseline	Shock
Financial assets	**903.5**	**811.1**
Currency and deposits	9.2	9.0
Loans	8.5	8.4
Shares and other equities	17.9	9.0
Other accounts receivable	7.0	7.0
NPV Revenues	860.2	777.0
Liabilities	**942.9**	**918.6**
Securities other than shares	21.8	42.8
Loans	20.4	27.3
Insurance technical reserves	18.0	18.1
Other accounts payable	7.4	7.4
NPV Expenditures	875.3	823.0
Net Financial Worth	**-39.4**	**-107.6**
Existing Net Financial Worth	-24.3	-61.6
Future discounted deficits	-15.1	-46.0

How do countries analyze fiscal risks?

Macro Analysis



Long-term Sustainability Projections



Framework for managing fiscal risks

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Mitigating fiscal risks

Government must first decide whether to bear the risk:
Pros: Public policy benefit (e.g. auto. stabilizers for stability; guaranteeing ban deposits to discourage runs)
Cons: Moral hazard, risk transfers are less transparent, solvency

Reduce probability of risk occurring	Reduce exposure to risk	Create fiscal space to absorb retained risk
Controls on activities of public entities ▪ Ceilings for guarantees (Netherlands, Czech Republic) ▪ Limits on liabilities or borrowings of local authorities **Incentivize behavior** ▪ Partial guarantees ▪ Charge risk related guarantee fees ▪ Reduce debt bias in the tax system **Regulate those benefiting from govt. risk-bearing** ▪ Financial sector regulation (e.g. capital requirements)	**Market instruments** ▪ Disaster Insurance (Caribbean Catastrophe Risk Insurance Facility) ▪ Catastrophe bonds (Mexico earthquake bonds) ▪ Hedging instruments (Mexico oil price options) **Policy instruments** ▪ Regulating building codes to insulate against disasters ▪ Upper limits on disaster or deposit insurance schemes	**Budget provisioning** ▪ Contingency reserves ▪ Expense expected cash flows for calls on CLs (Columbia, US) ▪ Prudent price assumptions (Chile) **Buffer funds** ▪ Natural Disaster Funds (NZ, Mexico, Turkey) ▪ Stabilization Funds (Chile) ▪ Deposit Insurance Funds (US) ▪ Guarantee Funds (Chili, Columbia, US, Sweden) **Fiscal headroom** ▪ Prudent debt limits (NZ)

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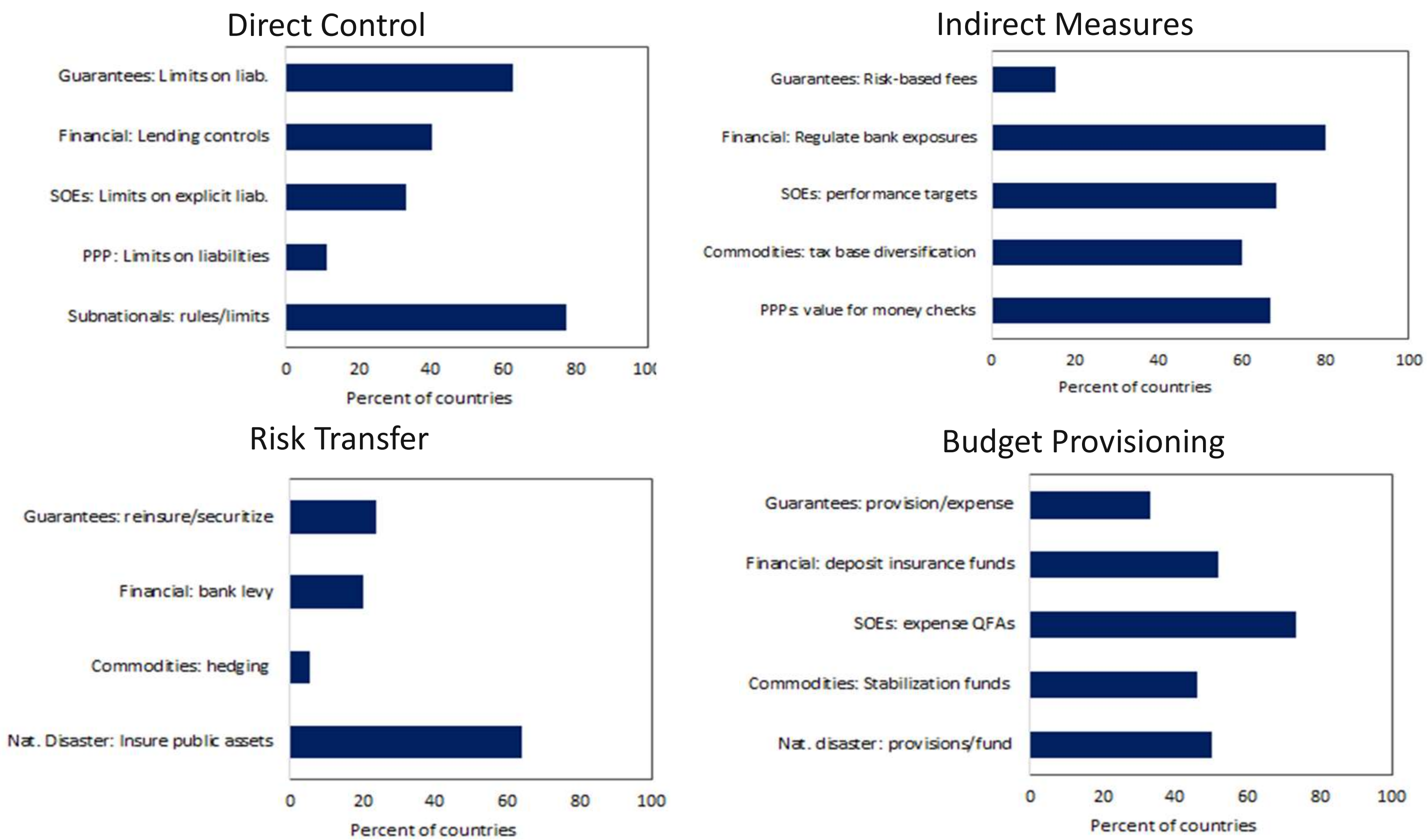
Incorporating risks in the budget

Buffers	• Low debt / Stabilization funds • Contingency reserves / Margins
Budget flexibility	• Virements • Supplementary budgets
Public sector fiscal planning	• Include SOE flows and stocks within fiscal projections, plans and objectives
Caps	• Create budget ceilings for contingent liabilities such as guarantees, PPPs etc

Incorporating in budget: Reserves

- The dilemma:
  - sufficient buffer to absorb justified uncertainty
  - maintain discipline restriction in the budget
- Factors affecting the appropriate size:
  - time frame
  - composition of expenditure
  - risk exposure
- 1-3 % of total expenditure is common practice
- Robust access criteria and approval process

How do countries mitigate and provide for risks?



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What do disclosure standards require?

Fiscal Transparency Code

FISCAL RISK DISCLOSURE AND ANALYSIS	PRACTICES		
	BASIC	GOOD	ADVANCED
Macroeconomic Risks: Government reports on how fiscal outcomes might differ from forecasts.	Budget includes discussion of macro fiscal risks.	Budget includes sensitivity analysis and alternative scenarios.	Budget includes sensitivity analysis, alternative scenarios, and probabilistic forecasts.
Assets and Liabilities: Risks relating to major assets and liabilities are disclosed and managed.	Fiscal reports cover cash, deposits and debt and risks are analyzed and disclosed	Fiscal reports cover all financial assets and liabilities and risks are analyzed and disclosed	Fiscal reports include a full balance sheet and risks are disclosed and managed.
Specific Fiscal Risks: The government provides a regular summary report on the main specific risks to its fiscal forecasts.	Fiscal risks are disclosed and discussed.	Fiscal risks are disclosed and quantified.	Fiscal risks are disclosed and quantified, and their likelihood is assessed
Long-Term Fiscal Sustainability Analysis: The government regularly publishes long-term fiscal projections.	Fiscal projections for at least 10 years are produced, incl. for health and social security funds	Fiscal Projections for at least 30 years are produced incl. macro sensitivity analysis	Fiscal Projections for at least 30 years are produced incl. macro, demographic and other sensitivity analysis

Wide diversity of reports on fiscal risks

While the more advanced approaches require high quality data and technical capacity, the coverage and depth of the statement can be expanded over time

- Australia: Statement of Risks in budget documentation
- Brazil: Budget annex on Riscos Fiscais
- Chile: Informe de pasivos contingentes
- Colombia: Medium Term Fiscal Plan
- France: detailed discussions on provisions and contingent liabilities within the Compte General de l'Etat
- Iceland: Risk Chapter in Debt Report
- Indonesia: Section in budget report
- New Zealand: Chapters in Budget and Half-Year Economic and Fiscal Updates
- Philippines: Fiscal Risks Statement
- United Kingdom: Fiscal Risk Report
- United States: Chapter on credit and insurance in Analytical Perspectives

What are the Benefits of a fiscal risk statement?

Improved risks management	Improved economic efficiency promotes earlier and smoother policy responses	Reduced borrowing costs and increased attractiveness
• Submit the analysis to additional scrutiny, helping to ensure that risks are properly assessed and recognized. • Strengthens accountability for risk management	• Improves the quality of decisions on whether the government should take on risks in the first place • Leads to more careful assessment of cost-effectiveness of contingent liabilities and inspection for implicit subsidies.	• Fiscal transparency is associated with better sovereign bond ratings and greater access to international capital markets • Fiscal transparency has been found to foster foreign direct investment

Moldova Fiscal Risk Statement 2017

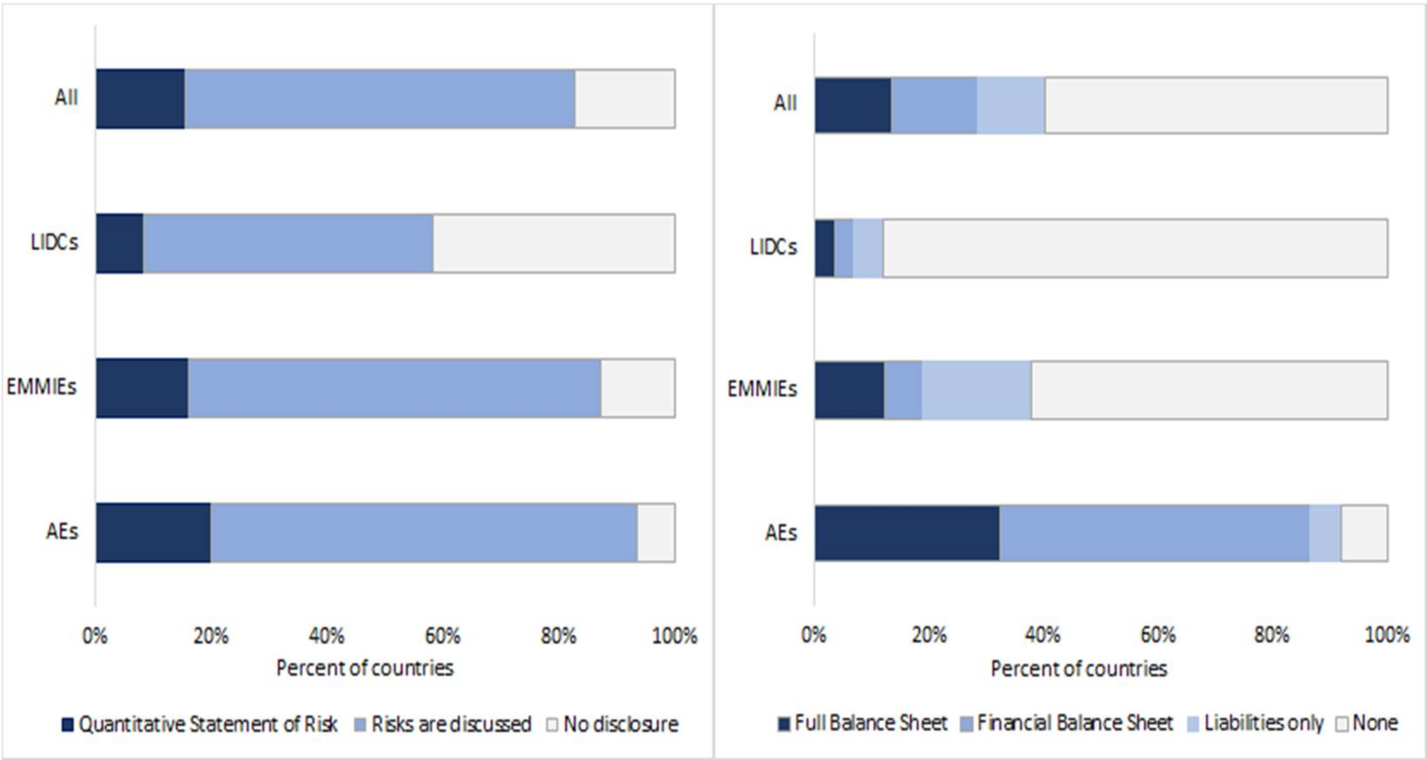
Risk	Nature of the risk	Pot. impact	Probability
Macroeconomic shocks	Unpredicted macroeconomic developments change economic prospects and financial position	High	High
Estimated revenue	Poor revenue collection leads to deterioration of the budget balance	Medium	High
Unexpected spending	Legal obligations or political pressures lead to expenditure adjustment	Medium	High
Exposure to public debt	Unexpected market developments increase the debt and the debt service costs	Medium	High
State-owned enterprises	Government is required to bail out insolvent SOEs and JSCs with state capital	High	
Financial sector insolvency	Government is required to bail out insolvent, systemically important banks	High	
Local governments	Local governments transfers must be increased to ensure service delivery	Low	
Public-private partnership	Payments related to PPPs are higher than expected and provisioned for	Low	
State guarantees	Government is obliged to make payments under state guarantees	Low	

[1] High indicates possible impact more than 3 percent of GDP, medium 1 – 3 percent, low below 1 percent.
[2] High indicates probability more than 30 percent, medium 10 – 30 percent, low below 10 percent.

How do countries disclose fiscal risks?

Fiscal Risk Statement

Government Balance Sheet



Key Messages

- Informed policy making requires awareness of fiscal risks in both quantitative and qualitative terms
  - Governments need to develop a more complete understanding of risks and better integrate risk analysis into fiscal policymaking
- Fiscal risks are varied, large, correlated and with non-linear impact
- General macroeconomic risks and risks from financial sector are typically the largest and more challenging to analyze

Key Messages

- A systematic risk management approach can be built around five steps – (i) identification (ii) analysis and quantification; (iii) mitigation; (iv) provisioning; and (v) disclosure
- Identification, disclosure, and management of fiscal risks are mutually supporting activities
  - Some empirical evidence to suggest a link between disclosure and sovereign credit rating
- Risk management needs a clear legal and administrative framework

State-owned enterprises

Managing specific fiscal risks

Why state-owned enterprises?

- SOEs can be a major source of fiscal risk because:
  - their financial performance impacts both revenue and expenditure sides of the budget
  - the government may have guaranteed SOE debt
  - expectations of a bailout (implicit guarantee)
  - their recapitalization needs, often due to inadequate compensation for quasi-fiscal activities

Managing fiscal risks from SOEs

- Understand magnitude of fiscal exposure to the SOE sector
  - Central oversight units to assess fiscal risks
- Reduce size of fiscal exposure
  - Limit size of SOE sector (e.g. through privatizing commercial entities)
  - Progressively reduce QFAs
  - Limit guarantees or levy guarantee fees
- Strengthen SOE governance
  - Operational autonomy, independent boards, internal audit procedures
  - Regular fiscal reporting (in line with int. accounting standards) and subject to external audit
  - QFAs should be clear and accounted for in budget
  - Disclose all guarantees
- Clarify government stance on non-guaranteed liabilities of SOEs

Subnational governments

Managing specific fiscal risks

Why consider sub-national governments?

- Sub-nationals can be a source of fiscal risk because:
  - External revenue sources can lead to an overspending and deficit bias
  - They (and their lenders) may assume central government will provide a bailout
- In addition there may be institutional risks:
  - They typically operate with more autonomy than ministries
  - They may have lower PFM capacity
  - Information on their fiscal position may be poor

Managing fiscal risks from subnational governments

- Identification and monitoring:
  - Sub-national government oversight unit in MoF
  - Obligation on sub-nationals to provide information on financial position
  - Requirements to publically report financial position at least annually
- Mitigation:
  - Controls on borrowing activities backed by enforcement mechanisms
    - Rules based controls: ceilings on debt and/or debt service
    - Administrative controls: prior approval
  - Market discipline (e.g. credible no-bailout policy)
- Trade off: controls and monitoring can increase expectations of bail-outs

IV. Subnational Governments
C. Managing risks

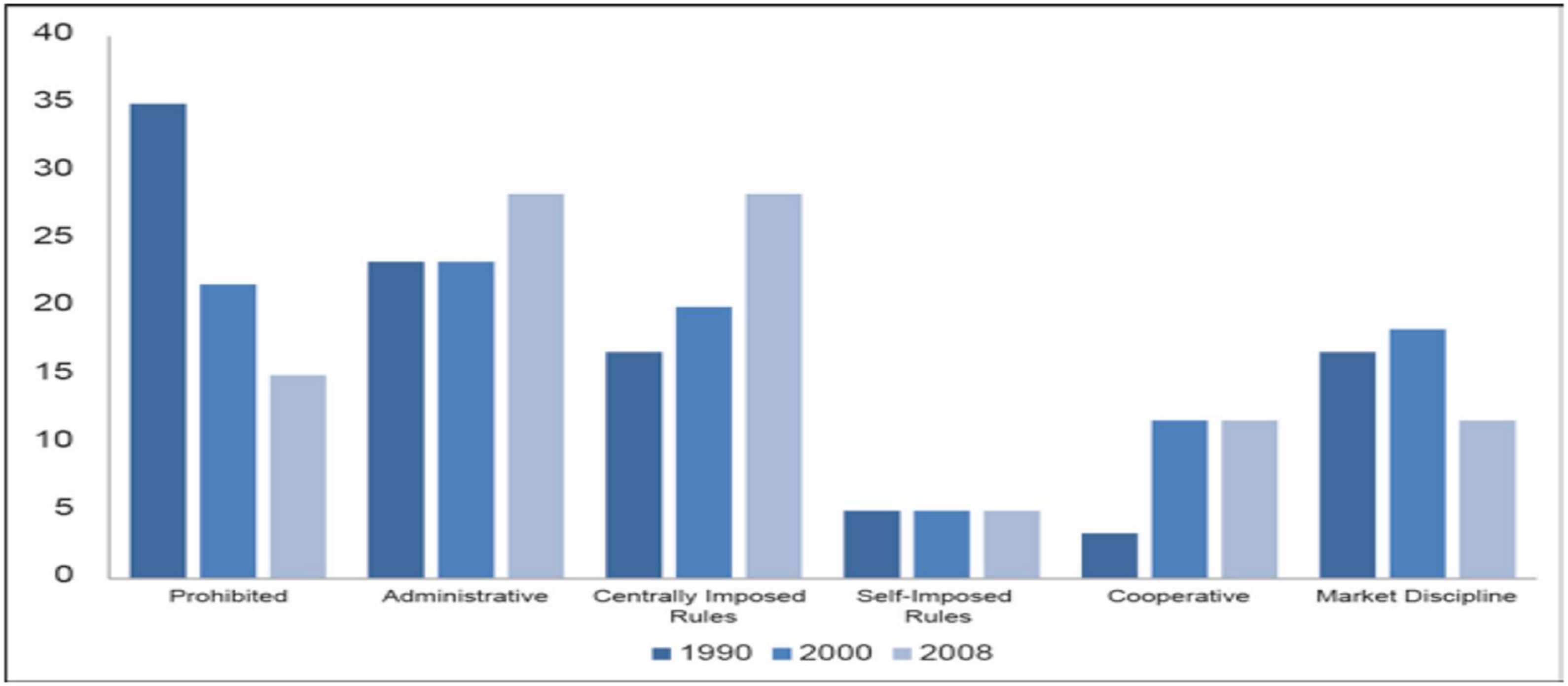
Different approaches to controlling sub-national borrowing

Decreasing degree of control →

	Direct Controls	Rules Based regulations	Cooperation	Market Discipline
Approach	**Prior approval for borrowing and/or limits**	**Fiscal rules and/or limits set through national legislation**	**Limits set through negotiated agreement**	**No direct control on borrowing**
Advantages	High degree of central control	Transparent Avoids bargaining	Enhances responsibility	Emphasis on self-control External monitoring
Pre-conditions	Constitutional / legal underpinning	Credible rules Transparency Monitoring and enforcement mechanisms	Culture of fiscal discipline Constitutional underpinnings	Developed capital markets Transparency Track record of no bailouts

Types of controls on subnational borrowing

(Share of countries in sample undertaking approach)



Note: Sample consists of 60 industrialized, developed and transitioning countries.
Source: Martinez-Vazquez, J. and Vulovic, V. "How Well do Subnational Borrowing Regulations Work", Asia Development Bank Institute Working Paper, No 563.

Government guarantees

Managing specific fiscal risks

Why guarantees are important?

- Major source of fiscal risk
  - No upfront cash flow, but expose the government to the risk of future cash outflows of uncertain quantum and timing.
  - Size can be significant, e.g., among the European countries 11 with >10% of GDP and 3 with >25% of GDP (excluding deposit insurance and certain other types).
- Remain opaque
  - Typically off-budget operations; remain invisible in budget, accounts and other fiscal reports.
- A source of economic inefficiency
  - May not always have sufficient economic justification.
  - Often used to bypass budgetary constraints, as a substitute for direct expenditure.
- Typically weak control and management
  - Escape routine scrutiny that applies to conventional expenditure, including legislative scrutiny and approval, and often used to assist low priority projects.
  - Incomplete records and disclosure.
  - Weak monitoring.
  - Insufficient budget provisions to meet obligations when they arise.
  - Inadequate risk management.
  - Ambiguity in roles and responsibilities.

How to strengthen guarantees management?

- Knowing the size of the problem
- Ensuring that existing guarantees are properly recorded and disclosed
- Regulating the issuance of new guarantees through a policy framework within a specified ceiling
- Ensuring adequate budgetary provisions to meet the claims
- Developing capacity to evaluate guarantee proposals and assess associated risks
- Developing measures to manage associated risks

Thank you!