

# PPP Promotion vs Fiscal sustainability

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Korea's Leading Think Tank **KDI** PIMAC

# Presentation Outline

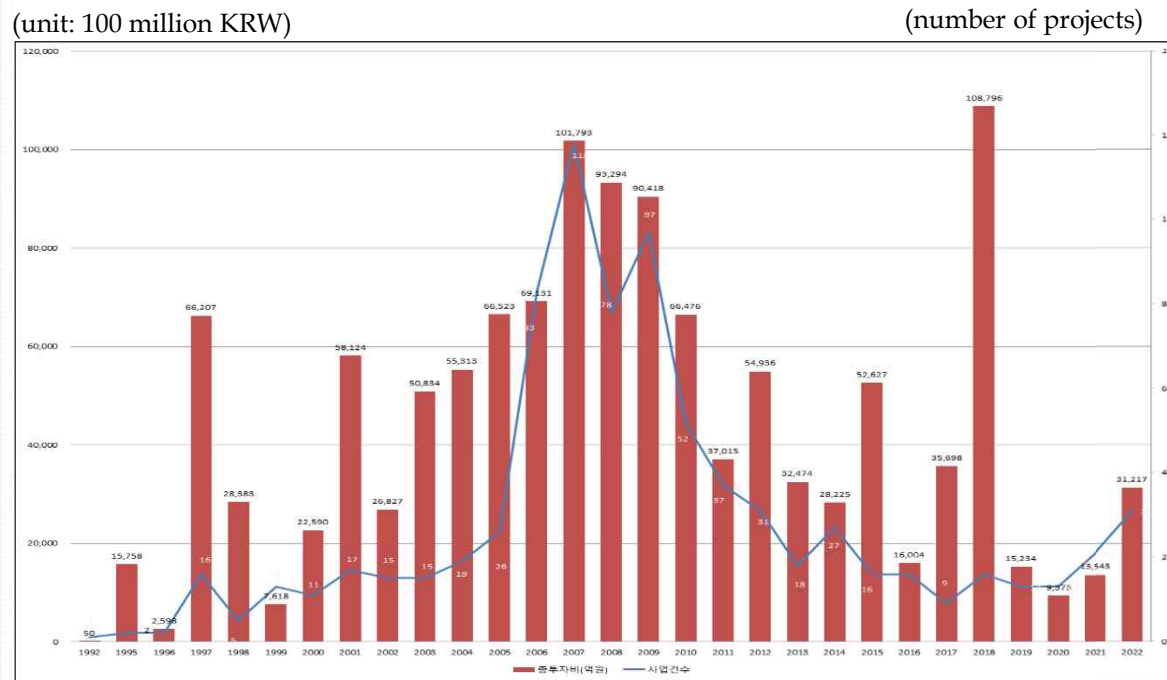
- I. Current Status of PPPs in Korea**
- II. Infrastructure gap and PPP promotion**
- III. Government Support for Promotion**
- IV. Fiscal Sustainability Management**
- V. Conclusion**

# I. Current Status of PPPs in Korea

# Current status of PPPs in Korea

## Performance of PPP Implementation

- The number of PPP projects and the investment amounts have continuously increased since 1994, when the legal grounds for the PPP system were established.



- The investment amount for PPP projects significantly increased mainly due to introduction of methods and support system.
  - (1999): Introduction of unsolicited project proposal and the MRG
  - (2005): Introduction of BTL method

Source: 2022 KDI Public and Private Infrastructure Investment Management Center Annual Report, KDI Aug. 2023

## Current status of PPPs in Korea

### Performance of PPP Implementation

- ❑ Both the concession-type (BTO) and the service purchase-type (BTL) projects are implemented in Korea.

Total number of projects and project cost (trillion KSW)				Termination	Under operation	Under construction	Under preparation
Procur ement Method	BTO	No. of Projects	276 (33.7%)	51	202	16	17
		Project cost	91.3 (72.6%)	2.1	69.3	16.8	3.1
	BTL	No. of Projects	542 (66.3%)	13	484	19	26
		Project cost	34.4 (27.4%)	0.3	28.9	3.8	1.5
Total		No. of Projects	818 (100%)	54	686	35	43
		Project cost	125.7 (100%)	2.4	98.1	20.6	4.6

Source: 2022 KDI Public and Private Infrastructure Investment Management Center Annual Report, KDI August, 2023

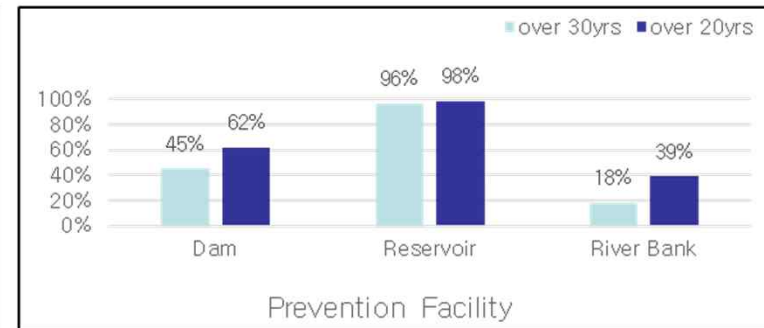
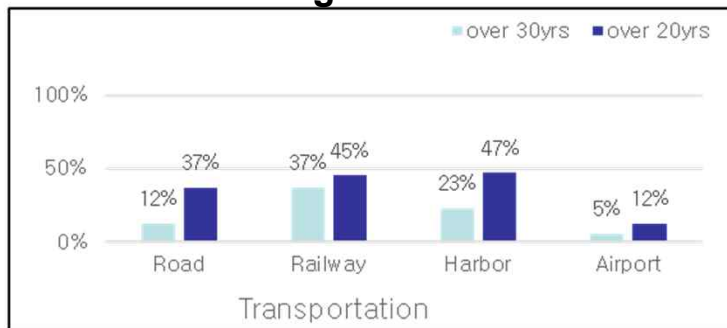
# Current Issues and Challenges

## Current Issues and Challenges (Overall Infrastructure)

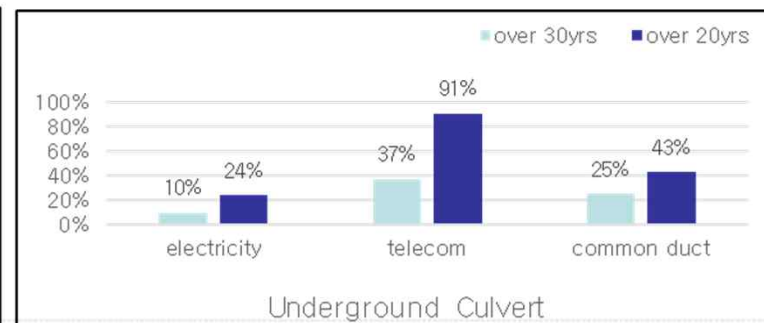
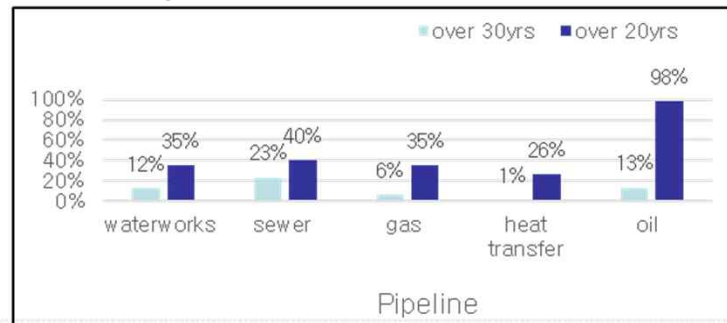
### ❑ Aging infrastructure

- Korea's infrastructure has been under intensive construction since 1970, and rapidly aging infrastructure is one of the challenges we face for now

#### Medium and Large scale Infrastructure



#### Underground facilities



Source : Korea Government, Comprehensive measures to strengthen sustainable infrastructure safety (2019.6)

# Current Issues and Challenges

## Current Issues and Challenges (Overall Infrastructure)

### □ Action for Climate Change

- Efforts to alignment of infrastructure investment projects with the Paris Agreement and the Sustainable Development Goals
  - ✓ Over 60% of global carbon emissions are derived from existing infrastructure systems
  - ✓ Strengthening facility standards in preparation for climate change
  - ✓ Enhancing the investment for renewable energy (ex : EV charging station etc.)
  - ✓ Construction of high voltage electricity transmission cables connecting offshore wind farms to the onshore network.
- Increase in public financing due to the launch of climate change policy

# Current Issues and Challenges

## Current Issues and Challenges (PPP projects)

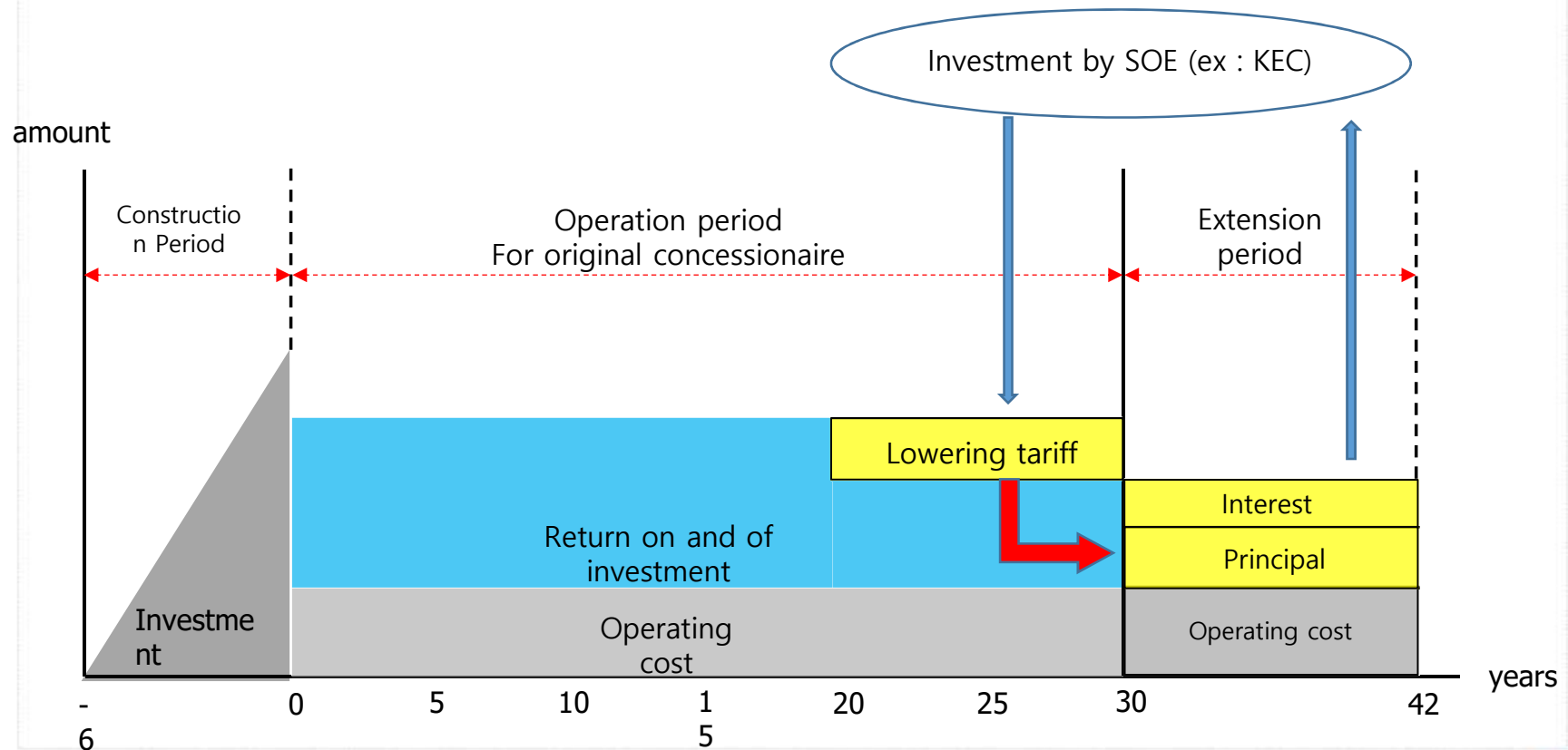
### □ Higher Tariff Issue

- Tariff : low political acceptance
  - ✓ The Toll of PPP road is about 1.3times higher than government road operated by SOE(Korea Highway Corporation).
- Government's Tariff management
  - ✓ Payments from the government to maintain the proper level of the toll  
(Difference compensation = Concession toll revenue – Adjusted toll revenue)
  - ✓ Implement the policy that maintains the private-invested road toll level to 1.1 times of SOE's toll level.
  - ✓ In some cases, difference compensation is paid by SOE or a private investor, and after the facility management right expires, they take the operating right to recover the investment cost.

# Current Issues and Challenges

## Current Issues and Challenges (PPP projects)

### □ Lowering the tariff through investment by SOE



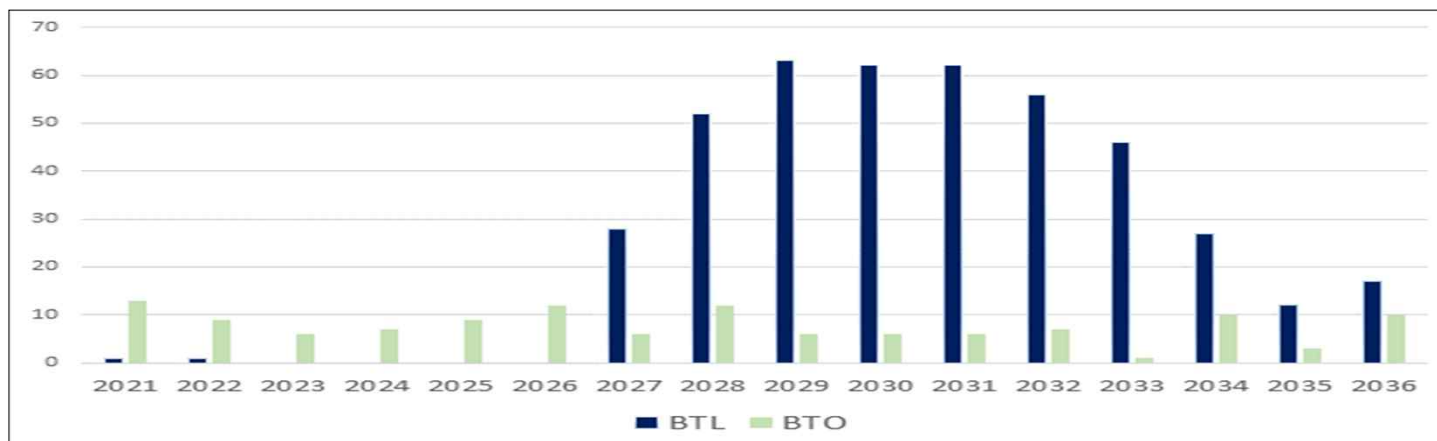
## Current Issues and Challenges

### Current Issues and Challenges (PPP projects)

#### ❑ Increasing number of projects at the end of concession period

- 123 BTO projects' and 427 BTL projects' concession period will be expired until 2036.
- In case of BTO projects, the majority are environmental facility, road, road(parking), and airport. In case of BLT projects, number of the projects that ends in following years is educational facility, environment facility, national defense facility, cultural facilities

Number of projects whose management operation right expires



Source : PIMAC, InfraInfo data base

## II. Infrastructure Gap And PPP promotion

# Infrastructure Gap and PPP Promotion

## □ Infrastructure investment –to-GDP

- SOC investment – to – GDP ratio is 2.83%, in 10-year average

### 2010~2019 SOC investment-to-GDP ratio (constant price, 2015)

(Unit : trillion KRW)

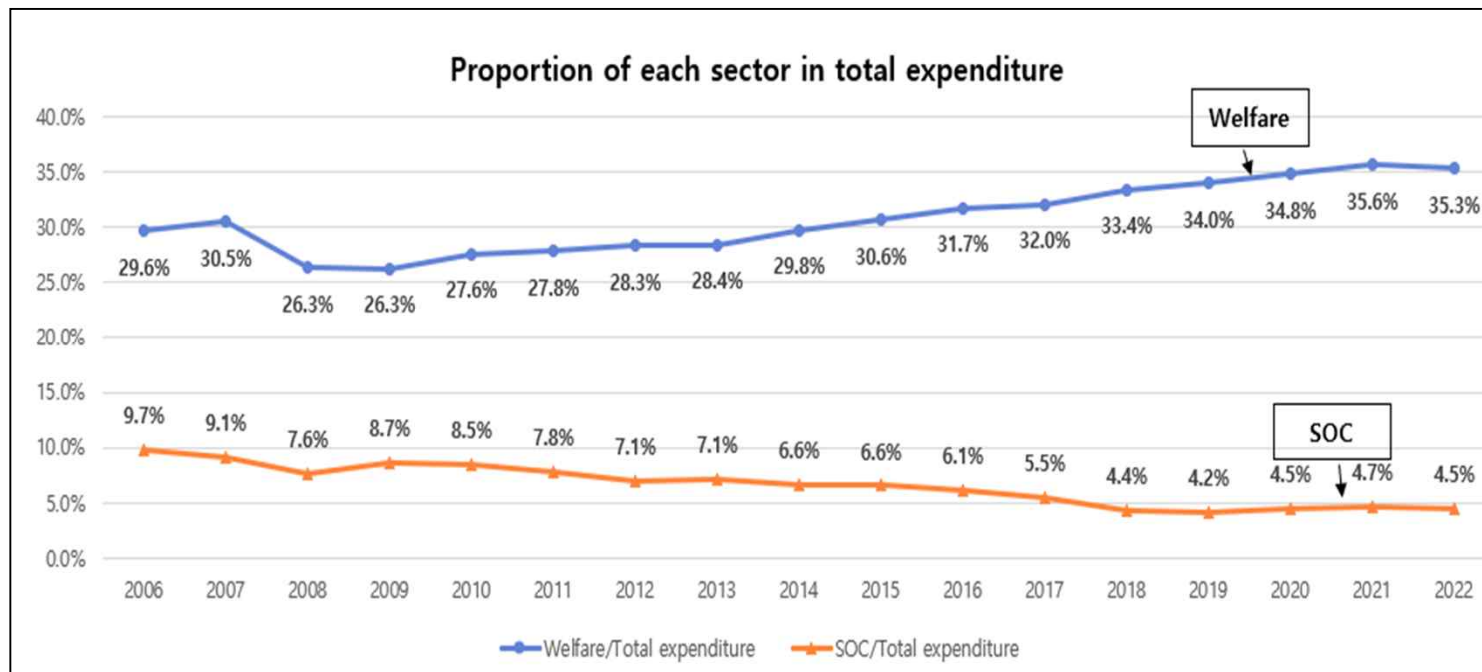
Year	SOC (A)	GDP (B)	Ratio (A/B)
2010	54.1	1426.6	3.79
2011	48.8	1479.2	3.30
2012	47.5	1514.7	3.13
2013	47.0	1562.7	3.01
2014	43.4	1612.7	2.69
2015	48.0	1658.0	2.90
2016	42.9	1706.9	2.51
2017	42.8	1760.8	2.43
2018	44.4	1807.7	2.45
2019	39.2	1844.5	2.13
Average	–	–	2.83

Notes : SOC investment and GDP are 2015 real-term variables. SOC investment is sum of national government budget, regional government budget, state-owned company investment and private investment, as derived before

# Infrastructure Gap and PPP Promotion

## ☐ Increase in % of Welfare expenditure

- As the government expenditure for welfare increased, % of infrastructure investment in government expenditure has been decreasing



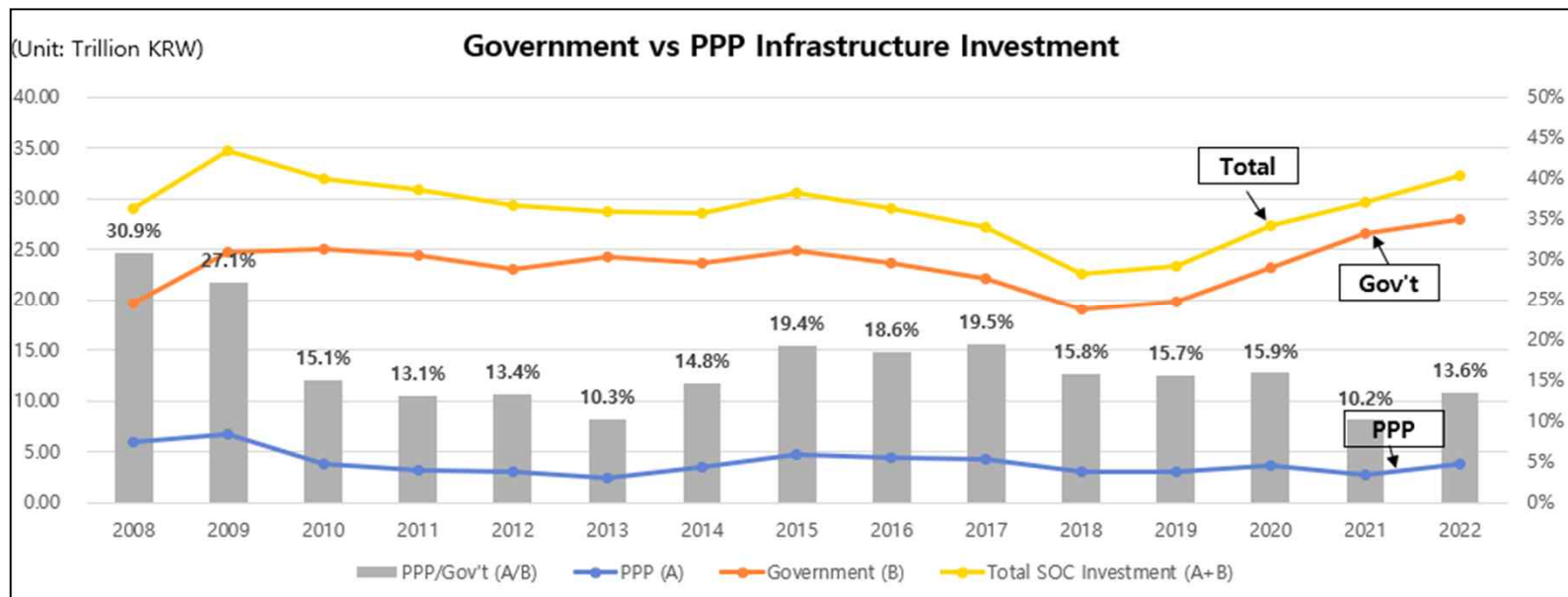
Note: 1) Welfare: Including Health and Labor expenditure.

2) Total expenditure: Sum of expenditure in 12 sectors in fiscal year.

Source: MOEF, Open Fiscal Data

# Infrastructure Gap and PPP Promotion

- PPP has undertaken a considerable part of public investment, as the ratio of infrastructure investment through PPP ranges from 10% to 30%.



Note: 1) Government = Fiscal expenditures in the SOC sector for each fiscal year.  
 2) PPP = executed amount of total investment cost of PPP(BTO projects and BTL railroad projects) for each fiscal year.

Source: 1) MOEF, Open Fiscal Data

2) MOEF, "Report on the operation status and performance of PPP", each year.

3) 2022 KDI Public and Private Infrastructure Investment Management Center Annual Report, KDI August, 2023

# Infrastructure Gap and PPP Promotion

## □ Infrastructure Gap and PPP Promotion

### Mid-term financial management plan

(Unit : trillion KRW, %)

	2023	2024	2025	2026	2027	Average
Government Expenditure (A)	638.7	656.9	684.4	711.1	736.9	
(growth rate, %)	5.1	2.8	4.2	3.9	3.6	3.6
SOC infrastructure(B)	25.0	26.1	26.2	27.3	28.0	
(growth rate, %)	(10.7)	4.6	0.1	4.2	2.8	2.9
B/A(%)	3.9	4.0	3.8	3.8	3.8	3.9

Source : Ministry of Economy and Finance

- Additional infrastructure investment which includes investment to deal with aging infrastructure and climate change investment is required along with certain level of infrastructure investment for the economic growth. However, the government has a budget constraint.
- Alternative ways to cover the Infrastructure Gap is needed.
- PPP could be one of the choices, so the government encourages to invite private sector for PPP investment.

# III. Government Support For Promotion

# Government Support for Promotion

## □ PPPs can impose some obligations on the Government

- Types of government support(fiscal commitment)

	Firm Support	Contingent Support
Government payment	• Unitary payment for BTL	• Unitary payment from project restructuring (MCC)
Risk sharing mechanism		• MRG payment • Compensation for base cost (BTO-a, BTO-rs)
Subsidy	• Land acquisition costs • Construction subsidy	
Guarantee	• Infrastructure credit guarantee through Infrastructure Credit Guarantee Fund	
Tax incentive	• Exceptions from charges and taxes • Relaxation of finance-related regulation	
Buyout right and termination payment		• Force majeure compensation • Compensation on early termination

# Government Support for Promotion

## □ Why government take this burden?

- Make the projects commercially viable
  - ✓ Private investors : target Equity IRR
  - ✓ Lenders : minimum DSCR
- Allocate proper risk between the parties
- Maintain the proper range of user fee

# Government Support for Promotion Firm Support

## ❑ Construction subsidy

- Governments Support: Construction Subsidy
  - ✓ Subsidy shall be determined in each individual concession agreement.

### Internal Guideline for Negotiating a Construction Subsidy

Type		Negotiation Guideline(Max.)
1. Roads		25–30
2. Ports	(1) Container terminal	30
	(2) General Cargo	40
3. Railways		50

- Notes: 1. Many port projects have attracted private participation even without fiscal commitment to construction cost. Recent support ratios have averaged 20%.  
 2. Container terminal refers to facilities that specialize in containers.  
 3. General cargo is used to refer to freight such as wheat, iron ore, coal and crude oil that is not packaged and transported in bulk. Terminals that mainly process such freight are referred to as general cargo.

Source: PIMAC Internal data

# Government Support for Promotion Firm Support

## □ Government support in BTL scheme

*Government pays the rental fee and the operating cost*

- Rental Fee

$$= \text{Rental Fee} = \text{Total investment cost} * \left[ \frac{ROI}{1 - (1 + ROI)^{-t}} \right] \text{ m1}$$

$t = \text{Concession Period}$

- ✓ Total Investment Cost will be recovered by Government Payment.
  - ↳ Total Project Cost + Inflation Rate + Interest during Construction
- ✓ Rental Fee is adjusted every 5 years according to the current government bond rate (spread is fixed)
- Current Operating Cost
  - ✓ Current operating cost is determined by aggregating all costs incurred in the provision of operation services including maintenance cost, managerial cost, and etc.
  - ✓ Actual price fluctuations are reflected.

m1

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# Government Support for Promotion Contingent Support : Risk Sharing Mechanism

## ❑ Previous Risk Sharing Mechanism : MRG

- Under the MRG provision, the government provides partial coverage for yearly operating revenue that falls below a specified limit of the estimated revenue stipulated in the agreement.
- Among the operating 633 PPP projects as of end of 2012, 78 projects include MRG provision in the concession agreement, 39 of which generate MRG payments.
- In order to mitigate increasing fiscal burden from MRG payment, the government continuously revised MRG policy in the Basic Plans.

	1998~April 2003	May 2003~2005	2006	2009
Period	•20~30 years	•15 years	•10 years	
Coverage	• 80~90% of estimated operating revenue	• 80~90% during initial 5 years, 10% yearly reduction after 5 years	• Abolished in unsolicited projects • For solicited projects: 75% during initial 5 years, 65% during following 5 years	• Abolished in solicited projects
Conditions		No guarantee when realized revenue falls below 50% of estimation		

## Government Support for Promotion Contingent Support : Risk Sharing Mechanism

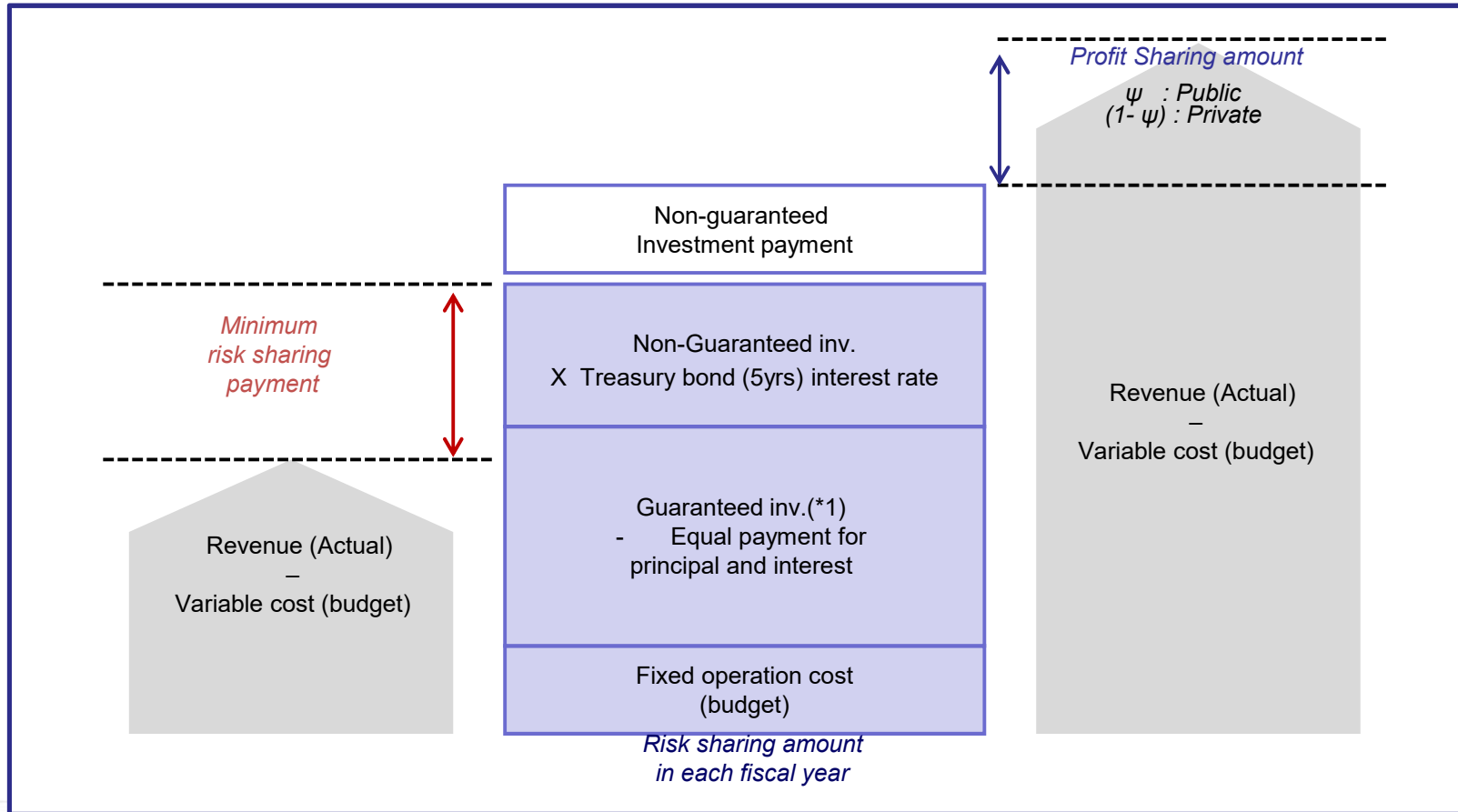
### □ Current Risk Sharing Mechanism : BTO-a, Hybrid(BTO+BTL)

- Diversification of risk sharing schemes:
  - ✓ BTO-adjusted : government bears risk for minimum cost required for construction and operation and share surplus gain(implemented in 2015)
  - ✓ BTO+BTL : It refers to the method that recovers the investment by collecting usage fees from facility users(BTO portion), and government payment (BTL portion) : implemented in 2019

# Government Support for Promotion

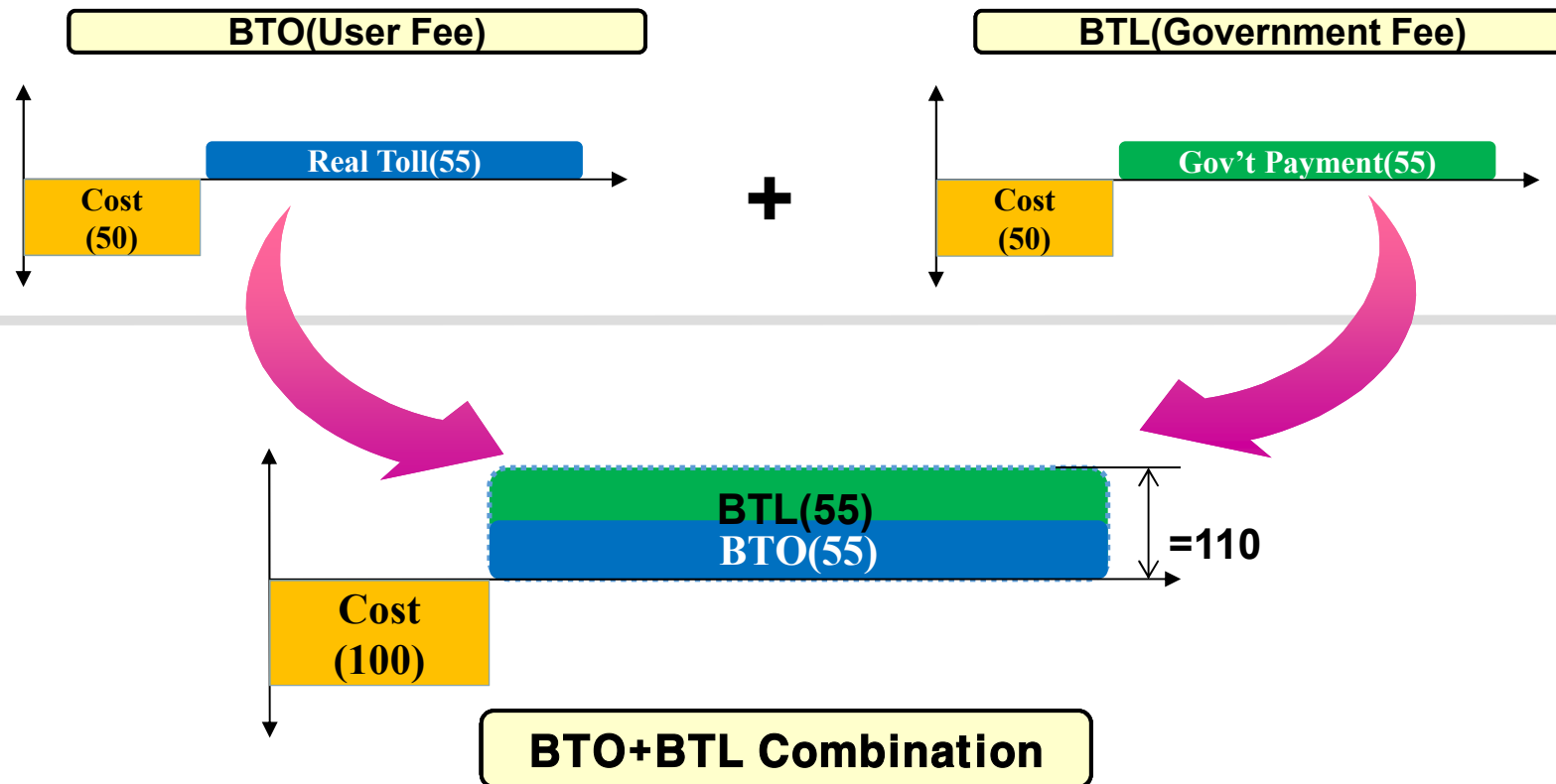
## Contingent Support : New Risk Sharing Mechanism

### □ BTO-a



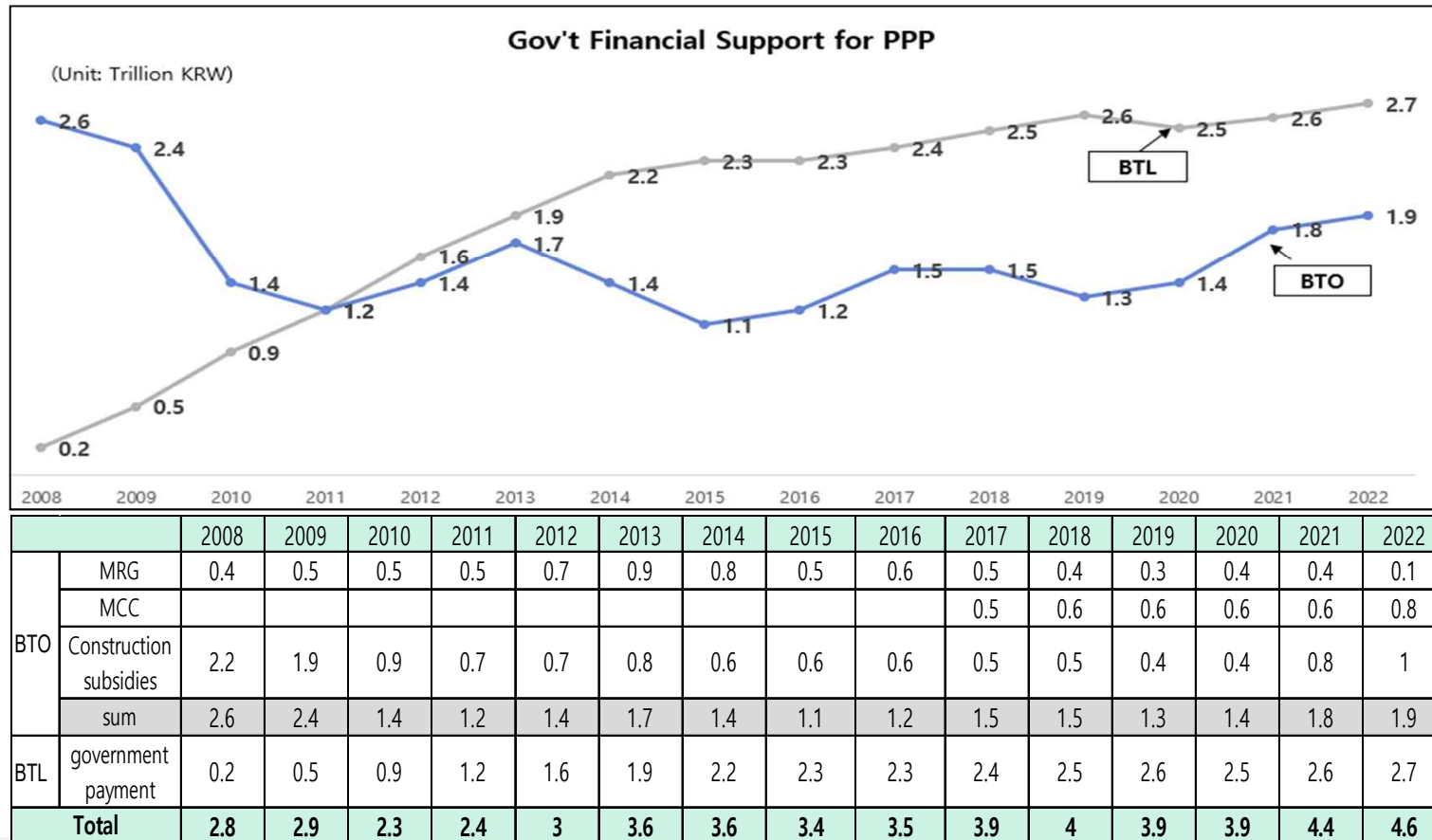
# Government Support for Promotion New Risk Sharing Mechanism

## □ BTO + BTL



# Government Support for Promotion Government Support

## □ Government Financial Support for PPP projects(2008~2022)



Note: Gov't financial support: MRG, MCC, Construction subsidies for BTO, Government payments for BTL projects.

Source: MOEF, "Report on the operation status and performance of PPP", each year.

# IV. Fiscal Sustainability Management

# Fiscal Sustainability Management

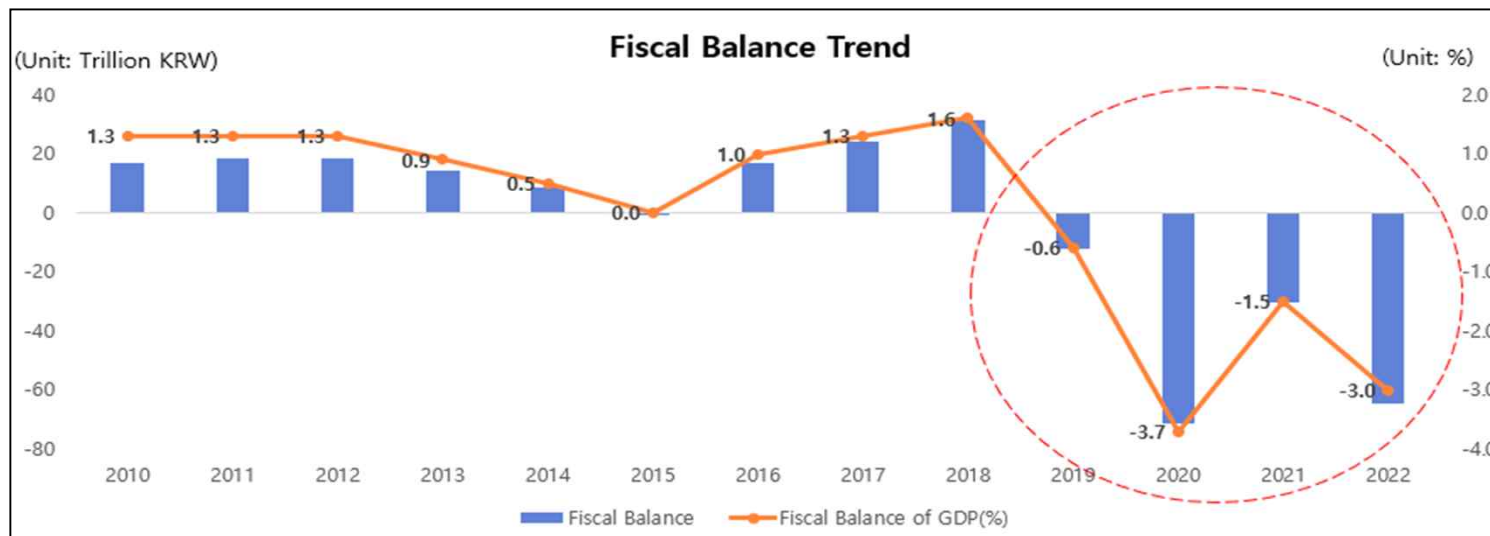
## □ Why public financial management for PPPs matters

- Specific rules to address and manage PPP-related fiscal risk are necessary.
  - ✓ PPPs can be used to bypass budget constraints or borrowing limits and create hidden deficits for the government.
  - ✓ And Governments also often underestimate the cost of bearing risk under PPPs.
  - ✓ This can result in significant levels of exposure to PPP-related risks that can jeopardize fiscal sustainability if not monitored and managed proactively
- It is important to keep the balance between PPP market promotion and Fiscal discipline in the practice of the PPP policy.
  - ✓ Control annual amount of government expenditure for the PPP projects
  - ✓ Liability should be identified and measured in the context of long term public sector commitments

# Fiscal Sustainability Management

## □ Increasing demand on fiscal sustainability management

- Deterioration of Fiscal Balance due to the fiscal expansion policies after Covid-19 and revenue reduction from the Ukraine conflict and global economic downturn



Note: It is Consolidated Fiscal Balance(Total revenue – Total expense).

Source: MOEF, Open Fiscal Data

- Increasing need for fiscal sustainability management with the rise in national debt

# Fiscal Sustainability Management

- ❑ **Assessing Financial Implications of a PPP Project : Strategic planning in the Initial Phase**
  - (Stage 1) Unified framework of feasibility study for both public investment projects(or government-finance projects) and PPP projects
  - (Stage 2) Mandatory Pre-Screening process of PPP projects through VfM test
    - ✓ Review of fiscal risks through estimating fiscal costs(or total project costs) and conducting sensitivity analysis in the stage of VfM test
    - ✓ Review of alternatives for least-cost way of achieving the benefits
  
- ❑ **Multi-stage and Multi-party regulation on budget approval process for major PPP projects**
  - Check and balance between National Assembly and the Budget Ministry
  - PPP Review Committee reviews and approves major PPP projects in each implementation procedure.

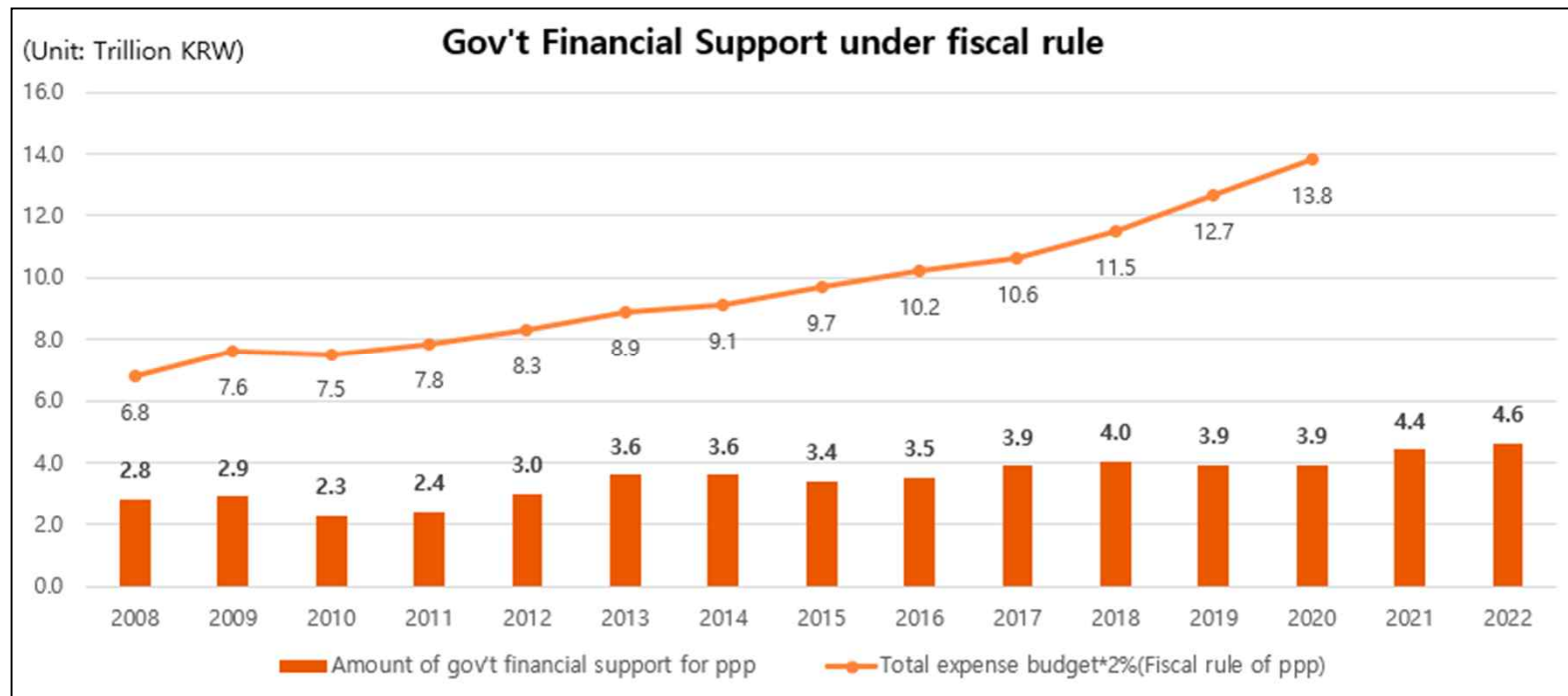
# Fiscal Sustainability Management

## □ Controlling Aggregate Exposure to PPPs

- Setting the Fiscal Rule
  - ✓ Setting the Fiscal Rule to manage fiscal burden from PPP projects in the mid-long term
- Background
  - ✓ Increasing fiscal costs of contingency liability realizations due to the MRG scheme introduced in 1999
  - ✓ Expanding the size of government payment after revitalization of BTL projects in 2015
  - ✓ Strong need for fiscal management to ease fiscal constraints
- Fiscal Rule
  - ✓ Managing fiscal burden of central and local government payments on PPP projects: aggregate ceiling should not exceed 2% of the total government budget expenditure
- Stable management of aggregate ceiling at 1% level after introducing fiscal rule

# Fiscal Sustainability Management

## □ Government financial support under “Fiscal Rule” since 2008.



Note: 1) Gov't financial support: MRG, MCC, Construction subsidies for BTO, Government payments for BTL projects.

2) Fiscal rule of ppp: Managing gov't financial support within 2% of total expense budget.

Source: 1) MOEF, Open Fiscal Data

2) MOEF, “Report on the operation status and performance of PPP”, each year.

# Fiscal Sustainability Management

## ❑ Refinancing gain sharing and Restructuring as measures to mitigate excessive fiscal burden

- Private sectors refinance in order to reduce financing costs by gaining financial leverage effect, and the government can share the windfall gain.
  - ✓ The portion shared by the government is utilized to lower user fees, reduce government payment, and shorten the concession period.
- Government and concessionaire are able to renegotiate project terms and conditions and may go through process of project restructuring.
  - ✓ Insolvent projects may restructure concession conditions to raise fund for termination payment : MCC(Minimum Cost Compensation) scheme
  - ✓ Government burden will be reduced by renegotiating concession conditions in the process of shareholder change in the projects with MRG scheme

# V. Conclusion

# Conclusion

## ❑ Lessons from the Korean PPP experience

- **Strategic planning including fiscal commitments at the upfront stage**
  - ✓ PPP projects are screened through Value-for-Money (VfM) assessment.
  - ✓ Korea has a unified tool to assess both conventional and PPP procurement.
- **Controlling aggregate exposures to PPPs**
  - ✓ Setting the Fiscal Rule to manage fiscal burden of PPP projects in the mid-to-long term
  - ✓ Managing fiscal burden within a certain percentage(2%) of the government expenditure budget
- **Important budget approvals made on a multistage and multi-party bases**
  - ✓ PPP requires checks and balances between the National Assembly and the finance ministry.
  - ✓ The PPP Review Committee (PRC) reviews and approves at every important stage.

## Conclusion

### ❑ Measures to mitigate excessive fiscal burden

- Private sectors refinance in order to reduce financing costs by gaining financial leverage effect, and the government can share the windfall gain.
- Government and concessionaire are able to renegotiate project terms and conditions and may go through process of project restructuring.

### ❑ It is important to keep the balance between PPP market promotion and Fiscal discipline in the practice of the PPP policy.

- It is critical to manage PPP commitments if government are to make good choices about which projects to implement as PPPs.
- PPP projects require to be continuously looked after, from the outset and onwards.

Thank you

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