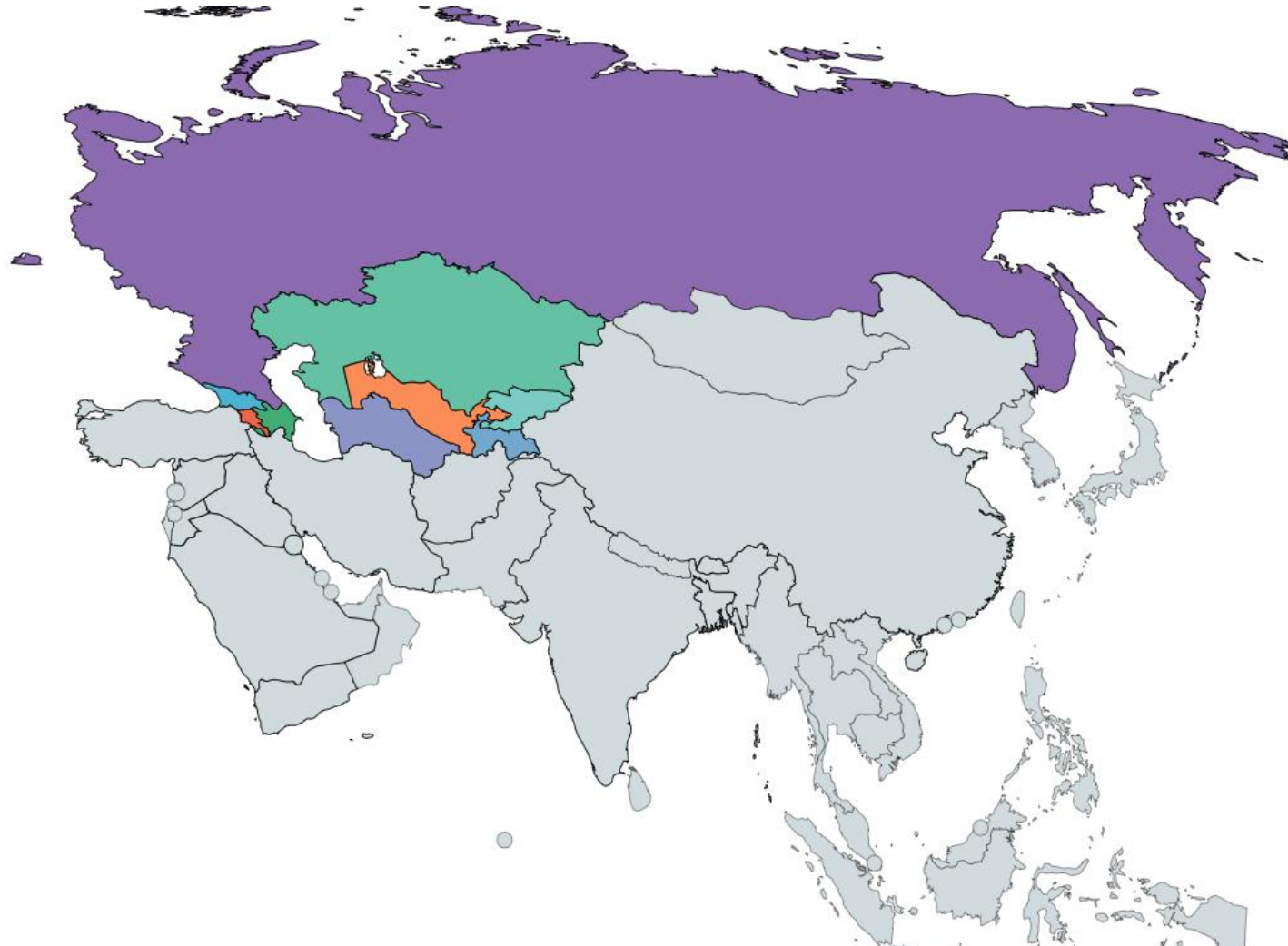


# Infrastructure Financing in North and Central Asia

June 7, Tbilisi

David Lezhava

# North and Central Asia



# Linkages with Russian Federation



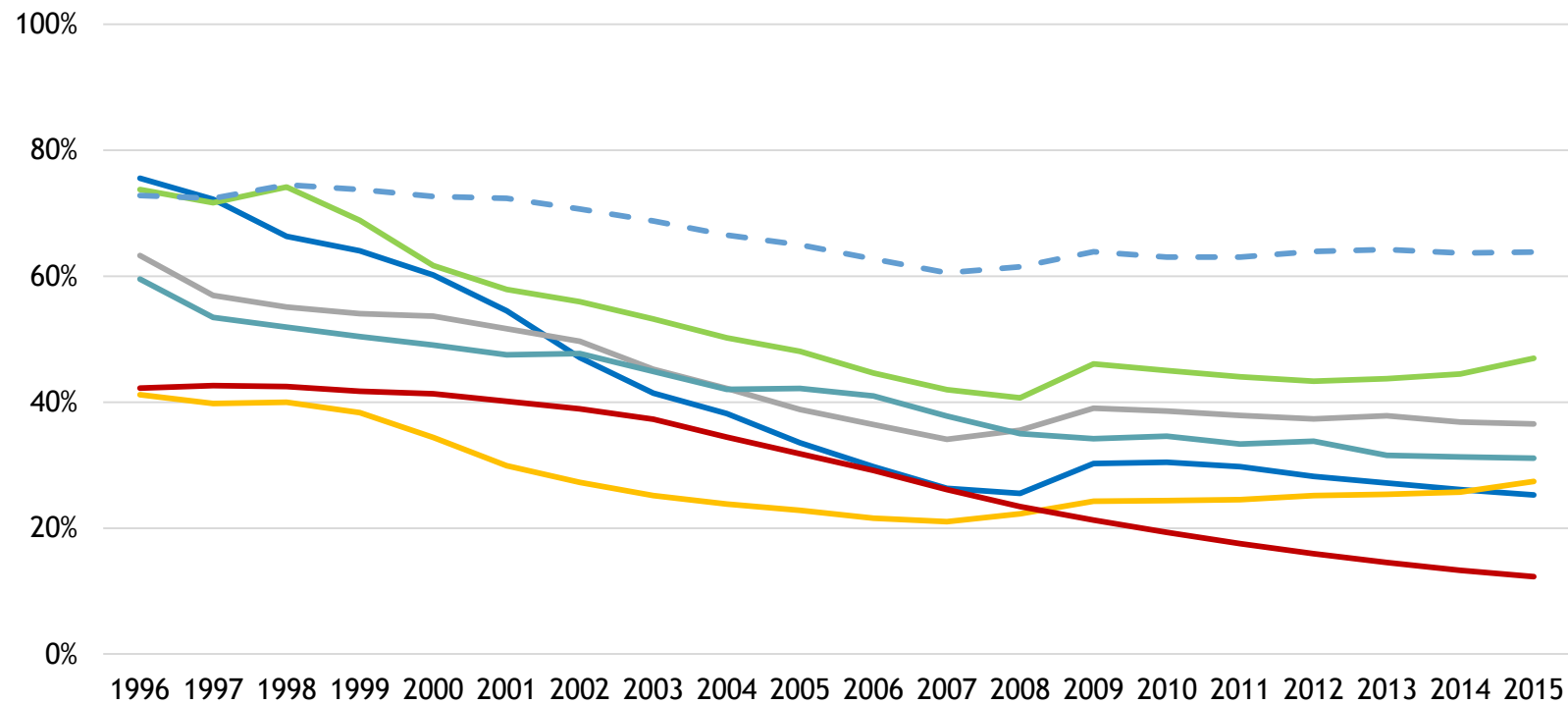
# Investment Plans

	Investment Plan	Period	Yearly Investment (% GDP)	Source
Kyrgyzstan	USD 7.5 billion	2013-2017	>20	(IMF, 2014)
Georgia	USD 7.3 billion	2017-2020	11	MoF
Russian Federation (Large projects)	USD 1 trillion	Up to 2030	5	(Ernst & Young, 2014)
Uzbekistan	USD 41 billion	2015-2019	11	(Sommer, 2016)

# Infrastructure investment needs globally

- ▶ McKinsey & Company - 1.6 times increase (\$57-67 trillion in 18years)
- ▶ ADB - 2.0 times increase (\$26 trillion in Asia in 15 years)
- ▶ WB, OECD - 1.5 times increase

# Public Capital Stock (2011 PPP\$-adjusted, % of GDP)

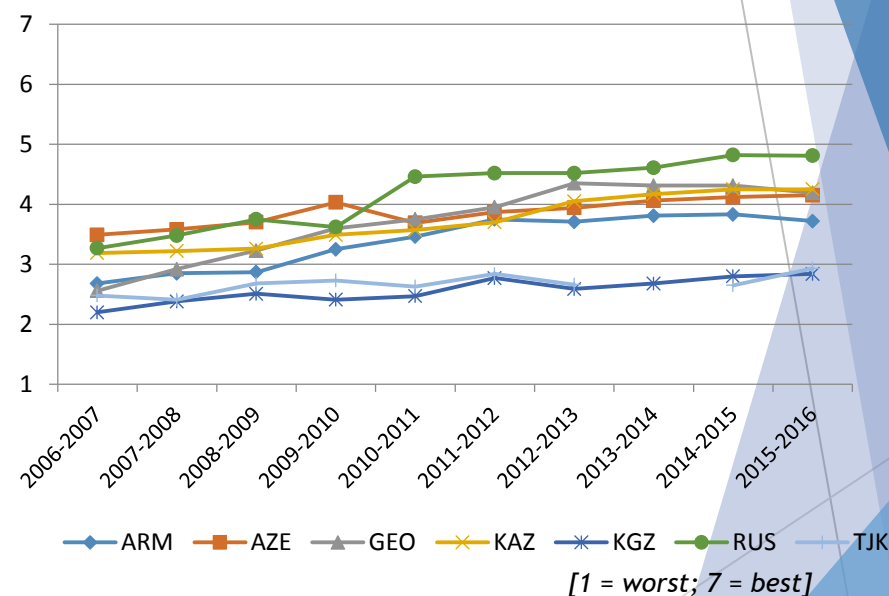


— Armenia      — Georgia      — Kazakhstan      — Kyrgyzstan  
— Russian Federation      — Uzbekistan      - - - Asia

# Global Competitiveness Index: ranking - Infrastructure development

Edition	ARM	AZE	GEO	KAZ	KGZ	RUS	TJK	Average
2015-2016	82	65	61	58	114	35	111	75
2014-2015	78	70	59	62	115	39	120	78
2013-2014	80	69	56	62	122	45		72
2012-2013	80	71	53	67	121	47	118	80
2011-2012	77	73	68	82	114	48	111	82
2010-2011	90	76	73	81	124	47	116	87
2009-2010	81	58	72	75	124	71	109	84
2008-2009	90	61	77	76	111	59	101	82
2007-2008	87	60	83	71	110	65	109	84
2006-2007	87	60	91	67	107	66	93	82

GCI – Infrastructure Development Score



# Transport

## Quality of Transport Infrastructure

	ARM	AZE	GEO	KAZ	KGZ	RUS	TJK
Quality of roads	75	70	73	107	131	123	82
Quality of railroad infrastructure	71	39	35	27	77	24	46
Quality of port infrastructure	132	59	73	114	138	75	133
Quality of air transport infrastructure	86	41	90	85	126	77	78

▶ Transit potential is large

▶ Quality of infrastructure is low  
▶ Roads, Rail

▶ Coordination needs to be strengthened



# Energy

- Abandoned energy resources
- Access to electricity is satisfactory
- Infrastructure is aging, demand is increasing
- Tariffs below cost put the sector in poor financial conditions

## Electricity Tariffs

Country	Tariffs for Residential (US cent/kWh)	Tariffs for Non-residential (US cent/kWh)
Armenia	8.57	7.47
Azerbaijan	5.72	5.72
Georgia	5.67	4.98
Kazakhstan	5	5
Kyrgyzstan	1.48	4.01
Russian Federation	4.9	7.78
Tajikistan	2.32	5.61
Turkmenistan	0.323	0.323
Uzbekistan	5	5
OECD Average	17.4	12.4

Source: IEA and Energy Regulators Regional Association

# Water Supply and Sanitation

- ▶ Important for economic development and leaving standards
- ▶ Water supply is especially poor in rural areas
- ▶ Aging infrastructure needs replacement
- ▶ Some progress is in water supply but not in sanitation
- ▶ Sound economic incentives are necessary

# ICT

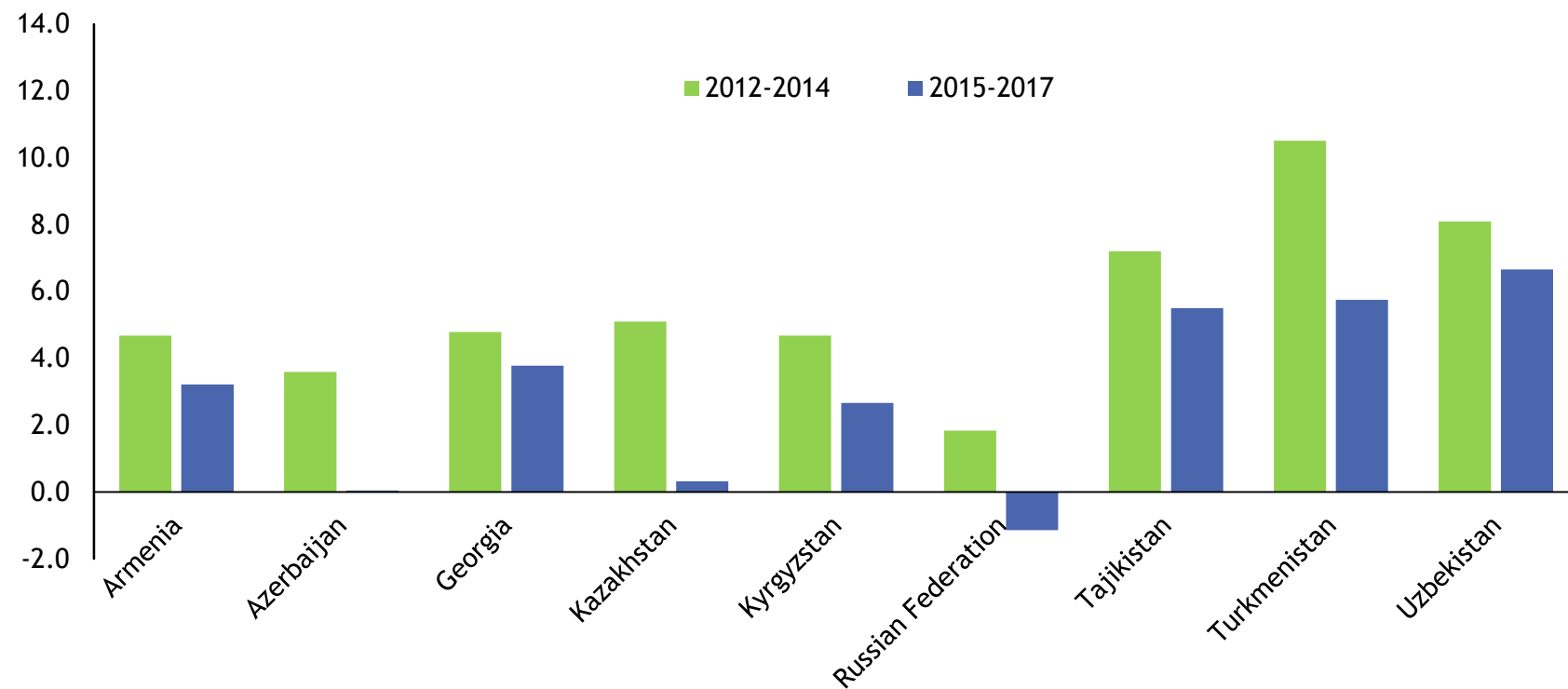
## Digital Adaption Index

	ARM	AZE	GEO	KAZ	KGZ	RUS	TJK	TKM	UZB
Digital Adaption Index	0.67	0.54	0.58	0.63	0.49	0.71	0.4	0.4	0.45
Business indicator	0.48	0.27	0.59	0.32	0.37	0.48	0.35	0.26	0.22
People indicator	0.82	0.7	0.68	0.73	0.6	0.85	0.52	0.87	0.64
Government indicator	0.72	0.64	0.66	0.83	0.5	0.8	0.32	0.07	0.49

Source: WB

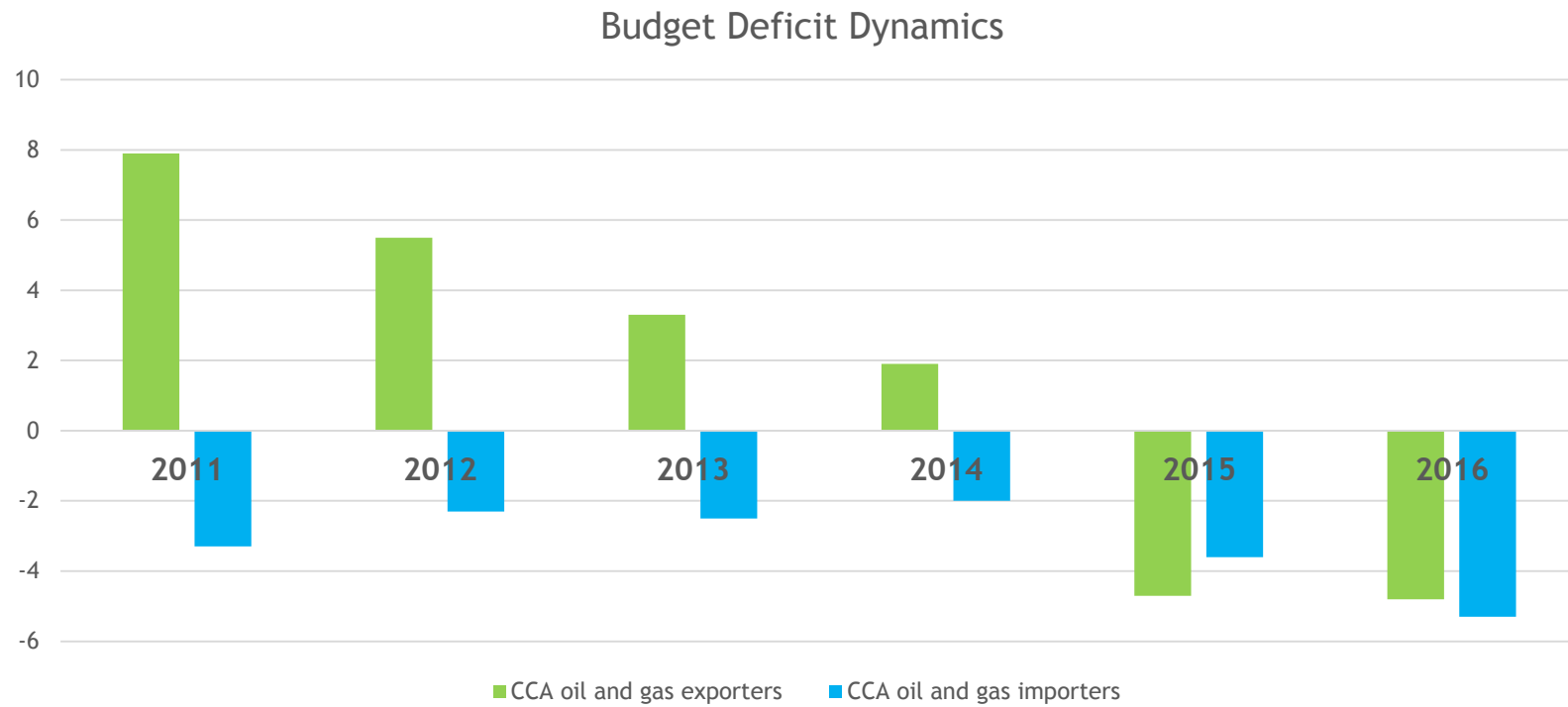
- 👉 Is instrumental for inclusive growth
  - 👉 Speedy progress requires continuous investment
    - 👉 Investment is led by private sector

# GDP Growth



Source: WEO and author's calculations

# Budget Deficit



Source: IMF

Infrastructure upgrade is needed!

How shall we Finance it?

Require Less

PIM

Public  
Sources

Budget

Borrowing

Quasi Fiscal

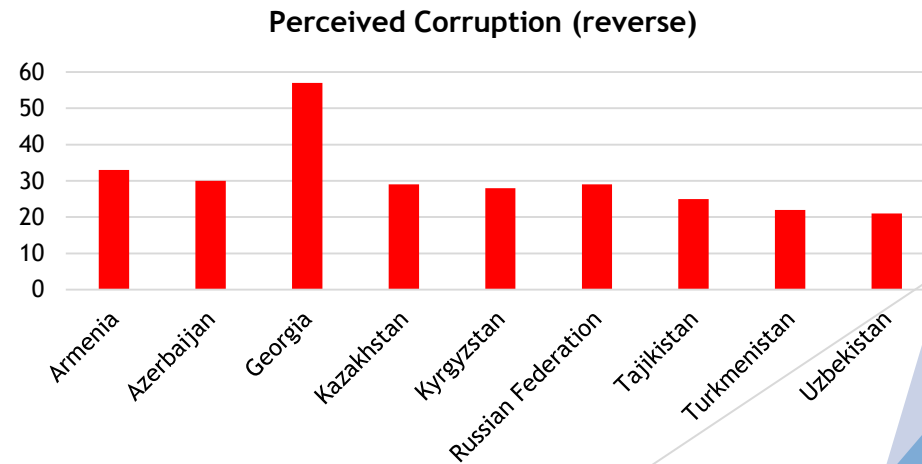
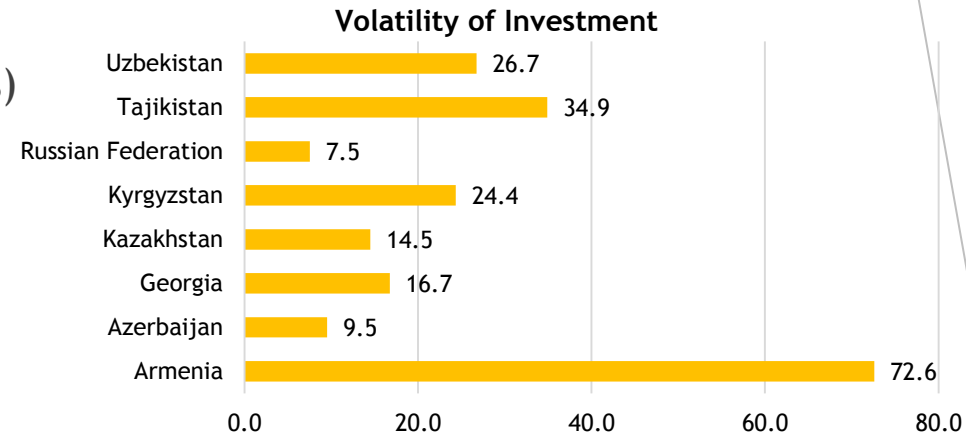
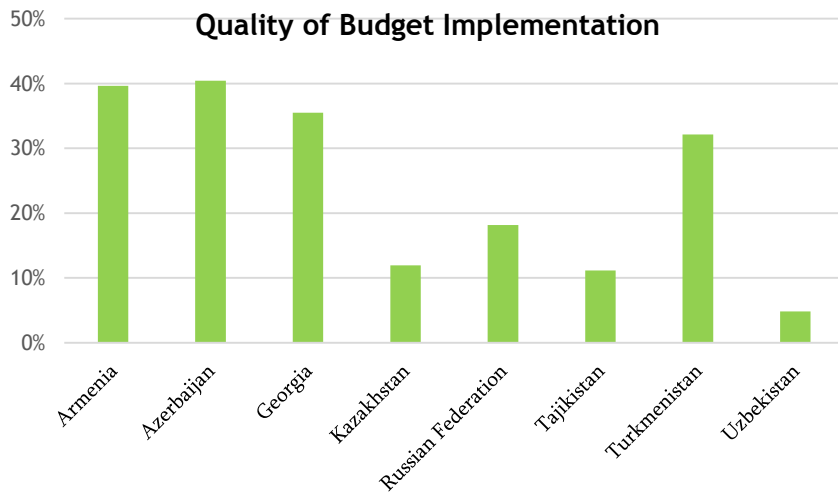
Private  
Sources

PPI

PPP

# Public Investment Management Assessment

- ▶ Savings can be large
- ▶ Volatile investment calls for attention (fiscal rules)
- ▶ Poor budget implementation hints inefficiency
- ▶ Corruption lowers efficiency

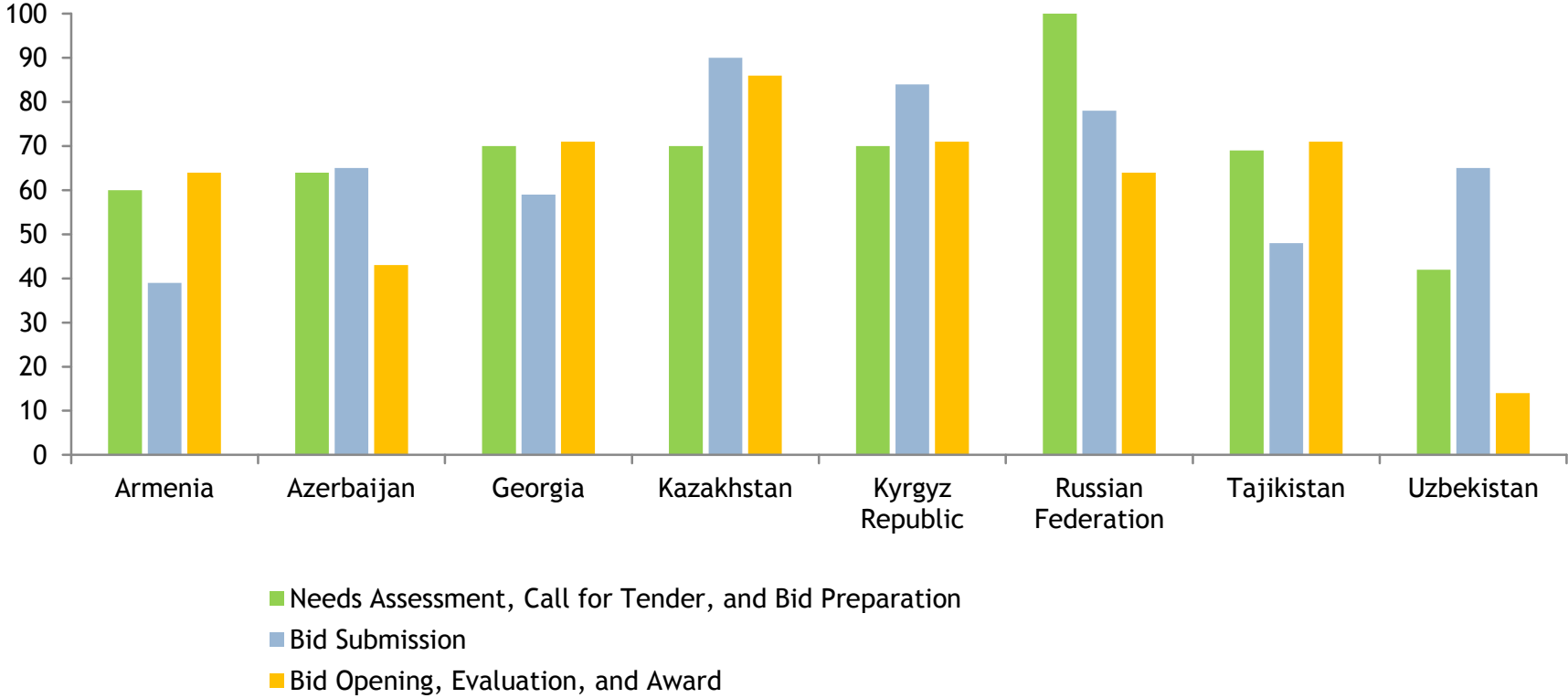


# Stronger PIM associates with lower investment

- ▶ Developed countries have stronger PIM
- ▶ Stronger PIM leads to higher efficiency
- ▶ Stronger PIM associated with better environment for private sector
- ▶ Stronger PIM means higher standard for project selection



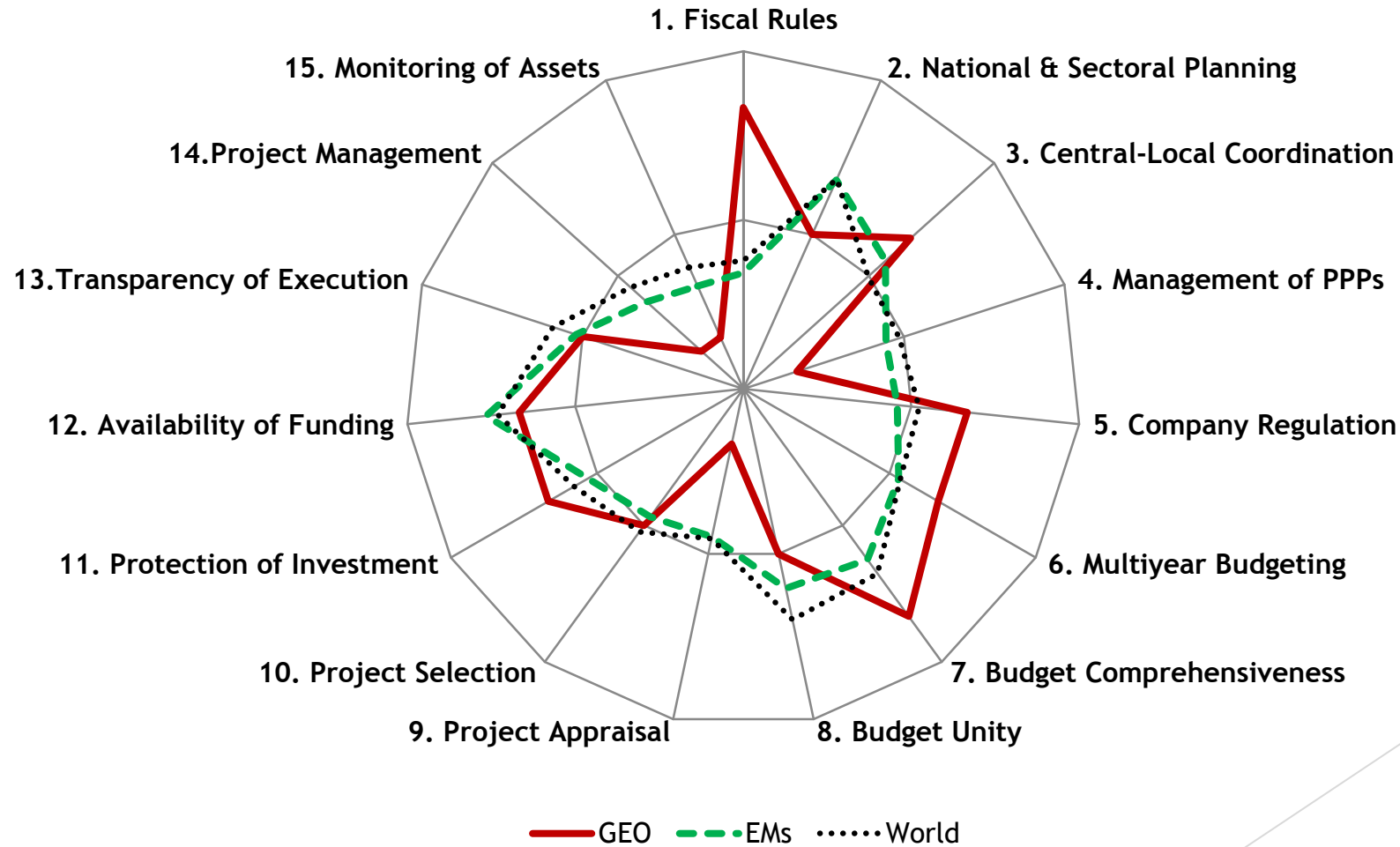
# Benchmarking of Public Procurement



Source: World Bank

# Require Less - Strengthen PIM

# 27



Source: IMF and author's estimate

# Financing sources - State Budget

## Public Debt

Country	2010	2011	2012	2013	2014	2015	2016	2017
Armenia	33.7	35.7	36.5	38.0	41.4	46.9	50.6	51.6
Azerbaijan	12.5	11.4	13.9	12.8	11.2	28.3	39.6	36.1
Georgia	42.4	36.5	34.9	34.7	35.5	41.5	42.1	43.5
Kazakhstan	10.7	9.8	11.7	12.2	14.1	21.9	21.4	21.3
Kyrgyzstan	59.7	49.4	49.0	46.1	52.3	66.0	72.1	72.2
Russian Federation	10.6	10.9	11.8	13.1	15.9	16.4	17.1	17.9
Tajikistan	36.3	35.5	32.4	29.2	28.2	34.1	46.9	58.1
Turkmenistan	4.1	10.0	18.1	20.8	17.4	23.2	23.2	23.4
Uzbekistan	10.0	9.1	8.6	8.3	7.6	10.8	15.1	13.9

Source: IMF;

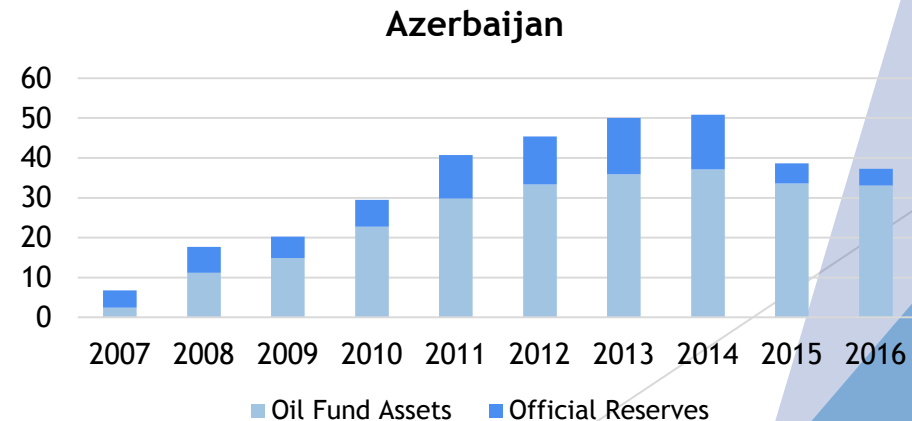
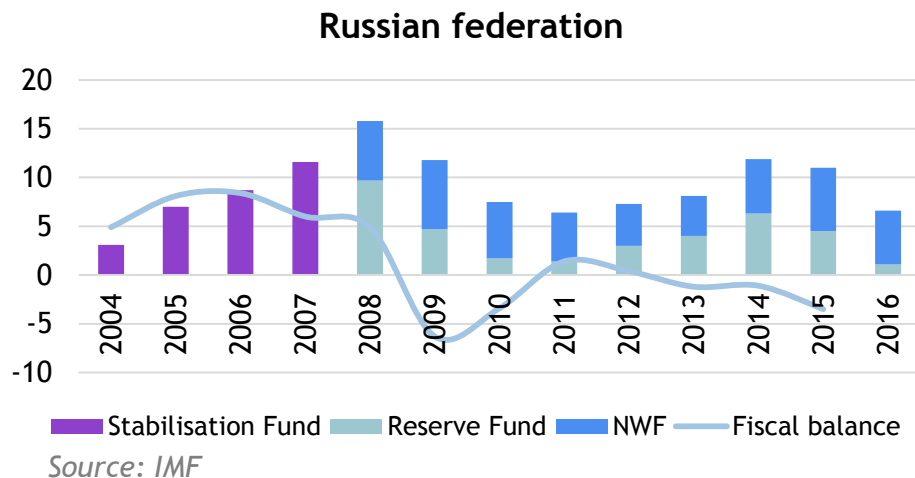
- ▶ Armenia and Georgia rise taxes
- ▶ Azerbaijan lowers taxes, improves administration and cuts investment
- ▶ Georgia puts emphasis on administration
- ▶ Kazakhstan cut investments
- ▶ Kyrgyzstan has room for increasing revenues
- ▶ Russian Federation cut investments
- ▶ Tajikistan cut investments
- ▶ Turkmenistan cut investments
- ▶ Uzbekistan cut investments

# Financing Sources - Donor financing

- ▶ Traditional MDBs - ADB, WB, EBRD, EIB, IDBG...
- ▶ ECAs - Japan, China, Germany, France, Korea...
- ▶ New banks - Silk Road Fund, Asian Infrastructure Investment Bank, New Development Bank

# Quasi fiscal sources of financing

- ▶ Funds allowed Russia to act countercyclically
- ▶ Kazakhstan acts countercyclically and rules based; Uses also SOEs
- ▶ Uzbekistan finances infrastructure through commercial banks
- ▶ Turkmenistan uses public sector entities
- ▶ Azerbaijan invested 15% of GDP on average (2008-2016)
- ▶ Georgia uses Partnership Fund



Source: IMF

# Attracting Private Investment

	ARM	AZE	GEO	KAZ	KGZ	RUS	TJK	TKM	UZB
<i>USD million</i>									
Airports	304	x	105	31	x	2,120	x	x	x
Electricity	836	375	1,542	1,542	x	33,711	956	x	x
ICT	1,246	2,138	1,337	9,610	409	90,138	526	267	3,960
Natural gas	0	x	145	604	40	12,993	x	x	x
Railways	575	x	x	231	x	218	x	x	25
Ports	X	x	468	x	x	4,519	x	x	x
Roads	X	x	x	x	x	8,542	x	x	x
Water and Sewerage	0	0	435	0	0	3,185	x	x	0
Total investment	2,961	2,515	4,031	12,018	449	155,426	1,482	267	3,985

Source: WB

# PPP in infrastructure

## Discouragement

Externalities  
difficult to  
charge

Avoid abuse of  
monopolistic  
power

Long payoff  
period, high  
initial risks

## Motivation

Circumvent  
public finance

Increase  
efficiency

# Access to market

		2008	2009	2010	2011	2012	2013	2014	2015	2016
Armenia	Government Bonds	0.9	1	1	1.7	2.6	2.7	3.2	5.1	9
	Corporate Bonds									0.1
Azerbaijan	Government Bonds							0.1	0.1	0.3
	Corporate Bonds			0.2	0.3	0.3	0.4	0.5	0.6	0.6
Georgia	Government Bonds					0.4	0.7	1.4	2.3	5.1
	Corporate Bonds								0.1	0.3
Kazakhstan	Government Bonds	1	3	4.7	5.9	7.6	7.9	8.7	9.7	9.2
	Corporate Bonds	2	5.6	6.3	4.9	5	5.1	5.8	9.6	8.8
Kyrgyzstan	Government Bonds								1	3.5
Russian Federation	Government Bonds	1.3	1.4	1.3	2.8	3.8	5.5	7	8.3	8.6
	Corporate Bonds	0.4	0.9	1	1.2	1.6	2.9	4.5	6	7.9

Source: Bloomberg



# Conclusion

- ▶ Significant savings can be realized by improving the efficiency (PIM)
- ▶ Public finance has limited space, but options are not fully exhausted
- ▶ Incentives to circumvent the budget should be avoided
- ▶ Governments should incentives private sector involvement
- ▶ PPP framework including regulatory and institutional capacities should be in place

Thank you!