Autoridad Independiente de Responsabilidad Fiscal

Forecast errors and forecast biases: Fiscal implications

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   - The economics
   - The regulation
   - The questions
2. **AIReF's approach**
   - Definition
   - Findings
   - What's next?
3. **IFIs survey**
   - Main findings
4. **Conclusions**

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1. SCENE-SETTER

- Uncertainty is a challenge when it comes to making fiscal policy recommendations:
  - Short term: baseline projections and budgetary impact of policy measures
  - Long term: potential growth, demographics and interest rates

- Uncertainty can be exploited to hamper the effectiveness of fiscal rules.

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1. SCENE-SETTER

- IFIs have been given a prominent role in this respect.
  - Short term: (i) produce or endorse macro forecasts, and (ii) identify significant biases
  - Long term: internalising uncertainty in the assessment of fiscal sustainability and risks assessment.

- AIReF's been watchful for forecast biases:
  - Presentation shares some of the lessons learned
  - Focuses on short-term

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1. SCENE-SETTER

- Directive 2011/85/EU:
  - Regular ex post evaluation of macroeconomic and budgetary forecasts
  - If significant bias affecting ***macro*** forecasts is detected over a period of 4 consecutive years, the necessary action needs to be taken

- Transposition into Spanish law does not provide any further detail

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1. SCENE-SETTER

- Performing such tasks requires pinning down:
  - What is a forecast bias (as opposed to forecast error)?
  - What is a significant forecast bias (as opposed to a trivial one)?
  - What kind of action should follow the identification of such bias?

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2. AIReF's APPROACH

- Benchmark for assessing the existence of bias: difference between the government's forecast (G) and the consensus forecast (C)
  - Distribution of the Spanish economy forecast panel
  - EC, BdE, IMF and OECD are left out because release dates do not match

- A bias is considered significant when 3 conditions are met:
  - It is large: falls outside the IQ range of the distribution of the Spanish economy forecast panel
  - It is unjustitied ex post: |G-Outturn| > |C-Outturn|
  - It is persistent: occurs for at least 4 consecutive years

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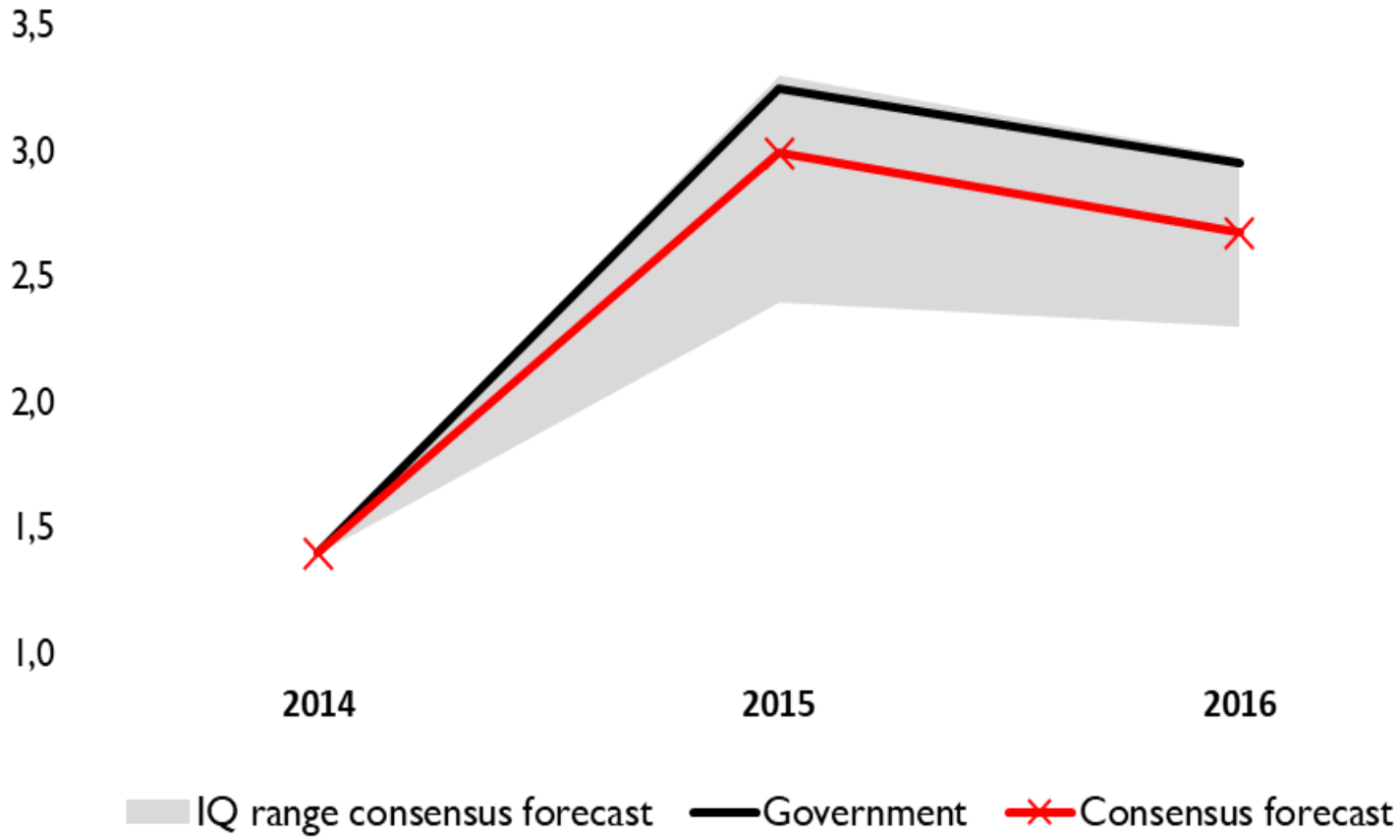
2. AIReF's APPROACH

Magnitude of the bias ('largeness' criterion)

GDP growth forecast
DBP for 2016



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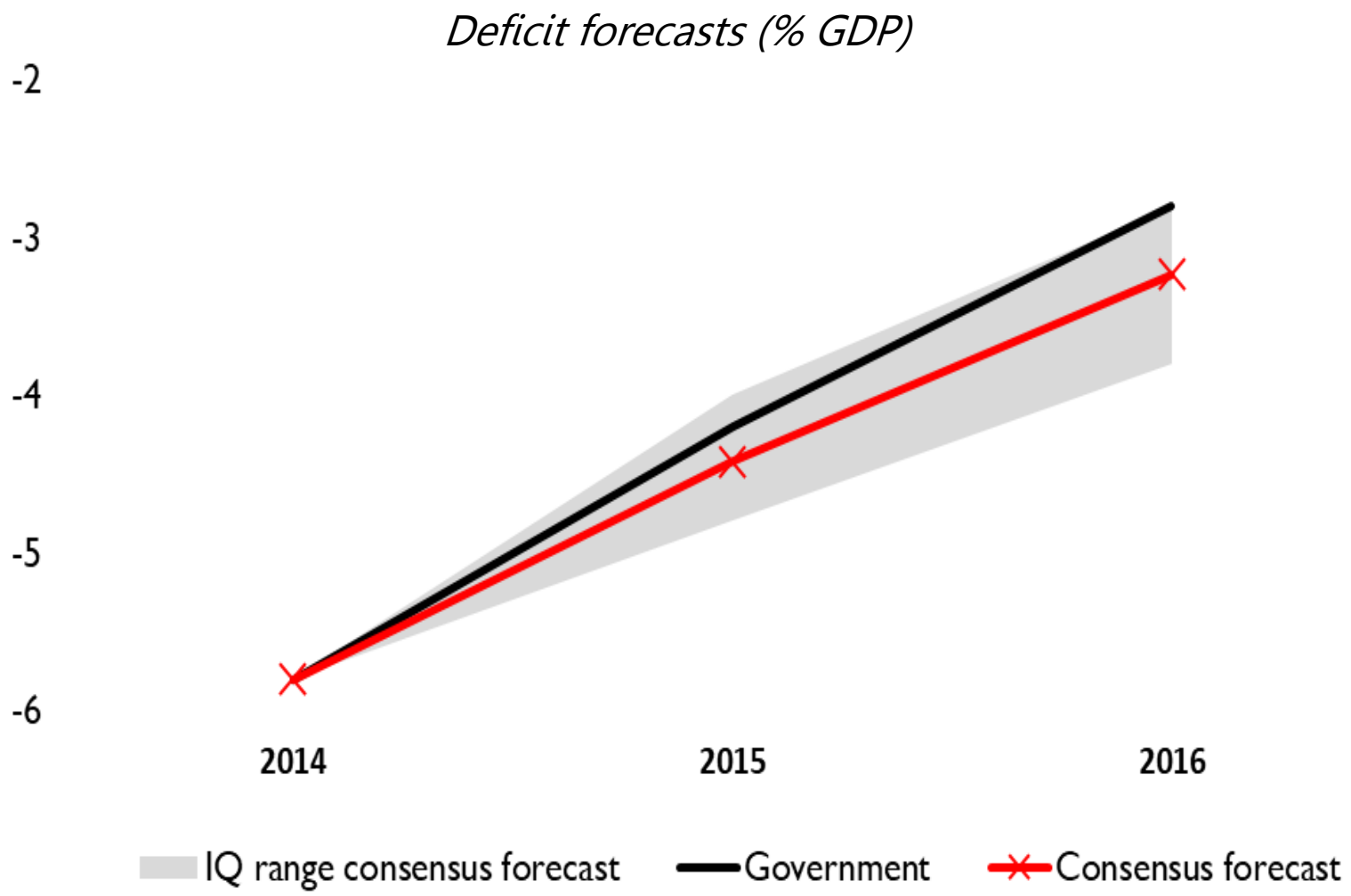
Magnitude of the bias ('largeness' criterion)



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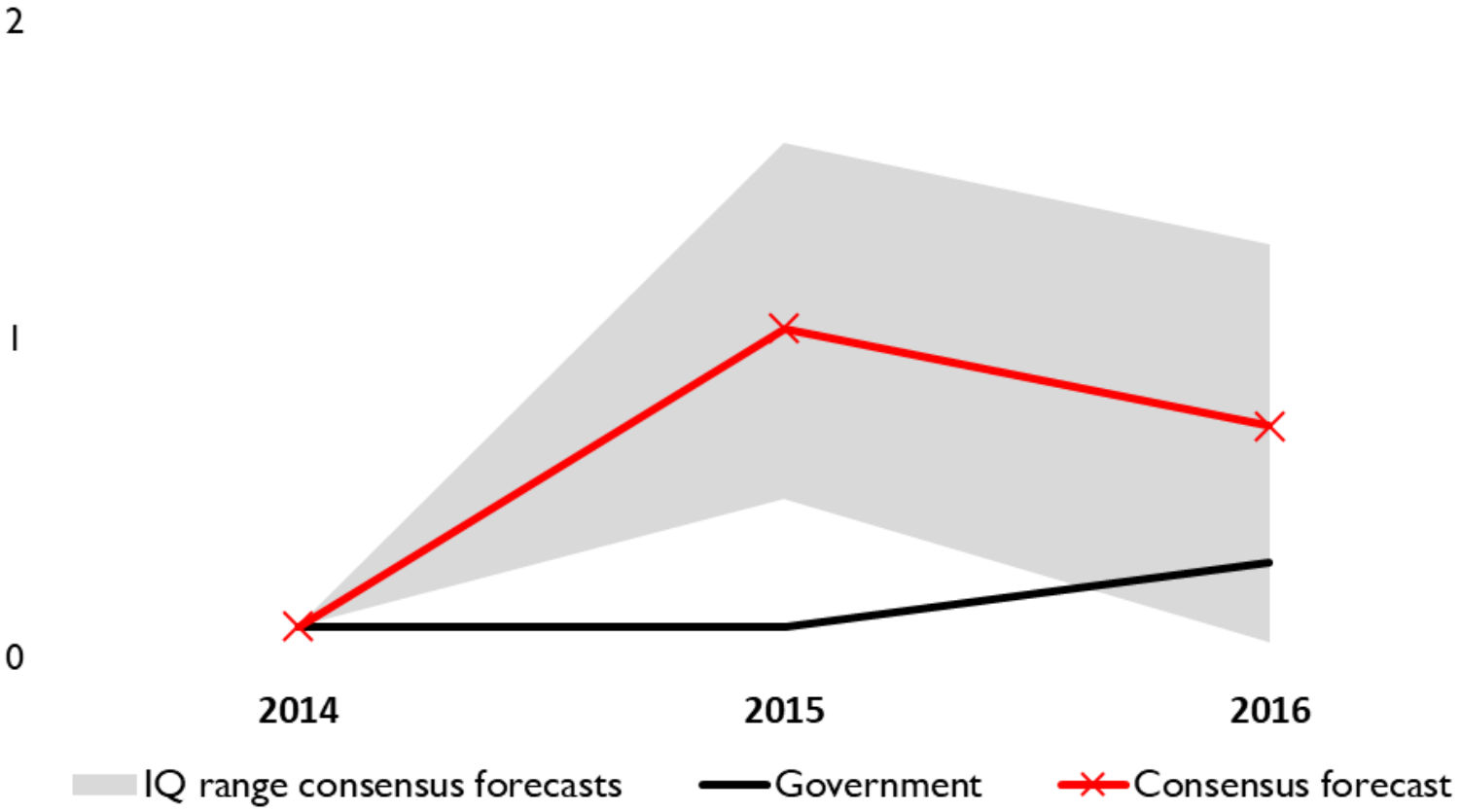
2. AIReF's APPROACH

Magnitude of the bias ('largeness' criterion)

Public consumption forecast (% var)
DBP for 2016



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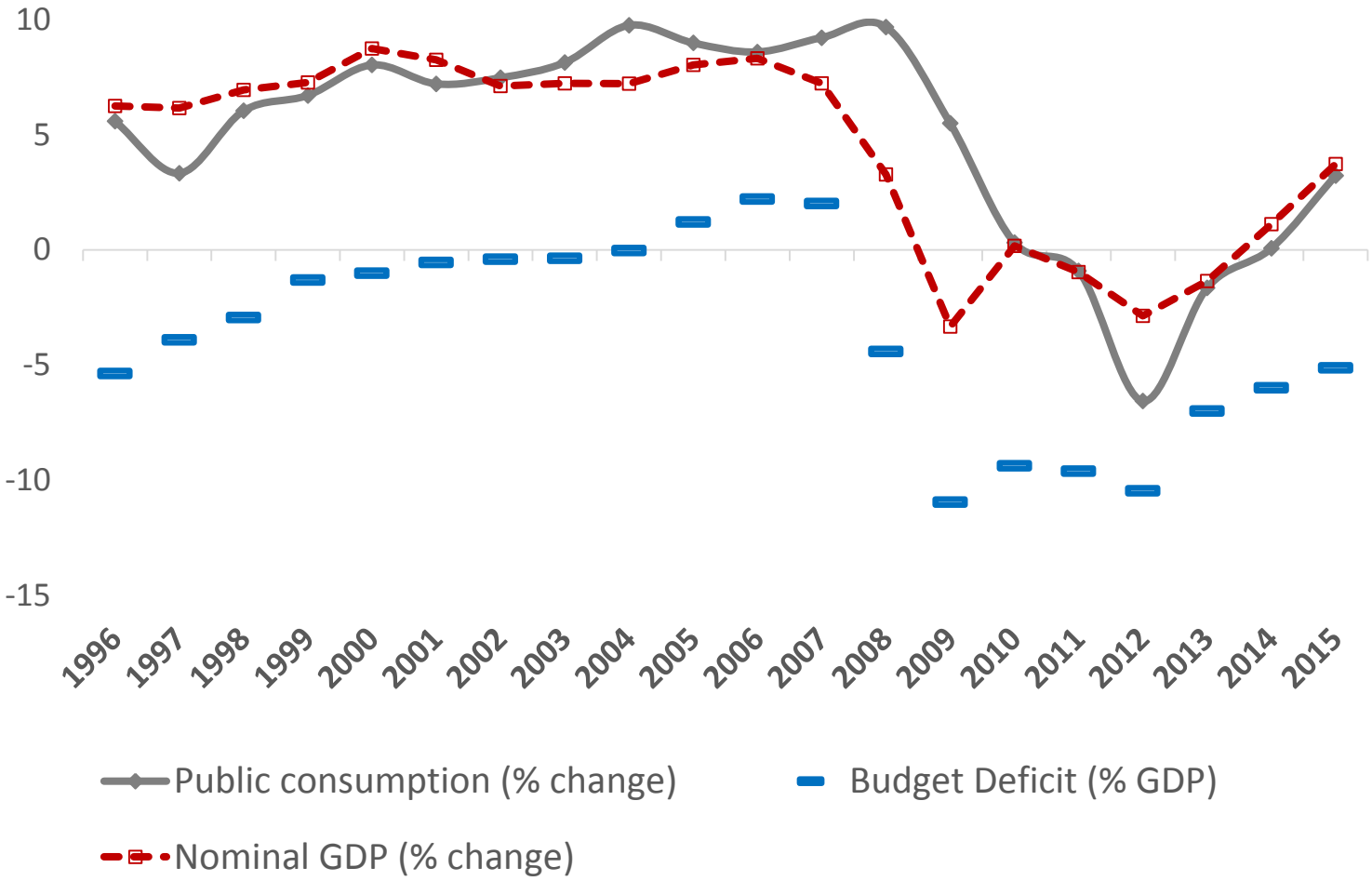
2. AIReF's APPROACH

Public consumption is a pivotal variable: macro and fiscal implications

Public consumption, budget deficit and growth (outturn data)



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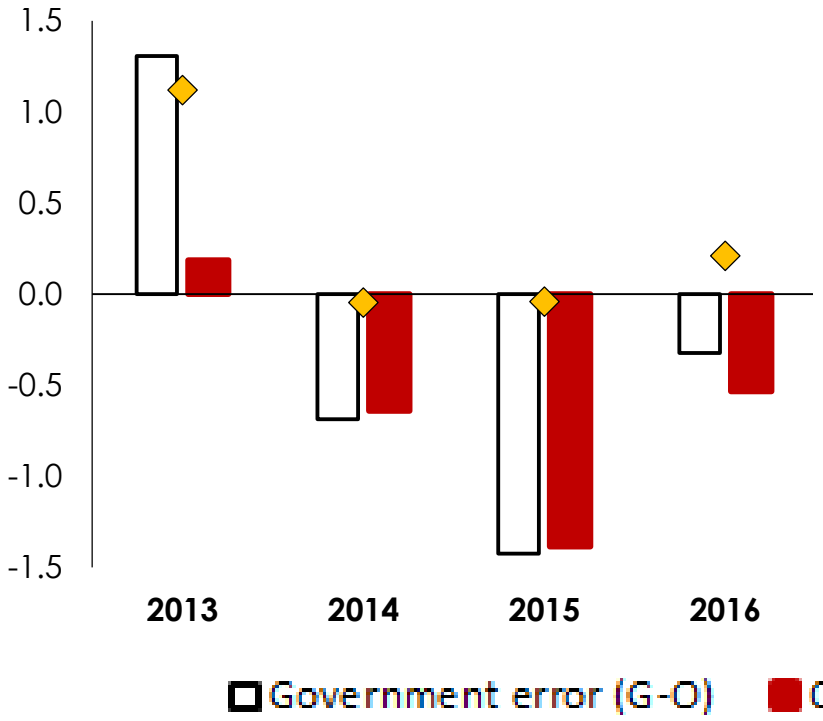
2. AIReF's APPROACH

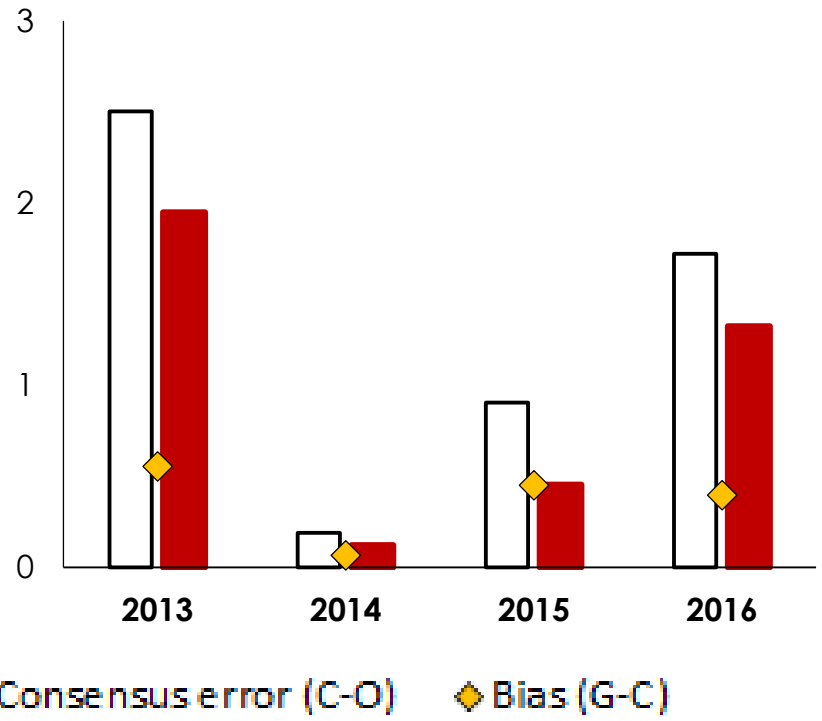
Comparison with outturn data ('justification' criterion)

Except for 2013, government's GDP forecasts were overall cautious. This contrasts with their deficit forecasts

GDP (% var)



Government budget balance (%



Government error (G-O) Consensus error (C-O) Bias (G-C)

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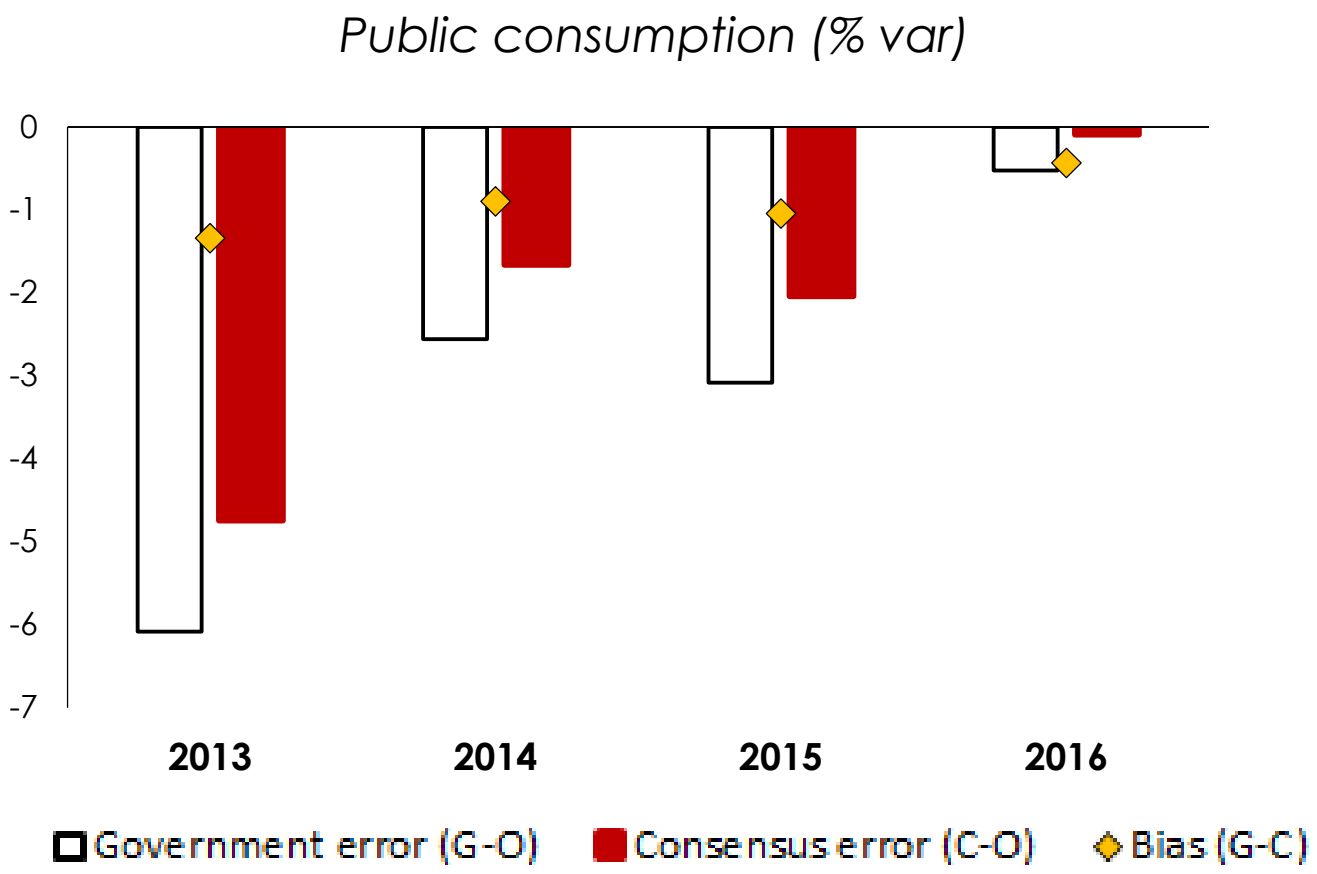
Comparison with outturn data ('justification' criterion)

The explanation lies within the public consumption forecasts. A significant bias is found



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2. AIReF's APPROACH

Comparison with outturn data ('justification' criterion)

Forecast bias in DBPs for 2013-2016

	Forecast made in year t for year t+1	
	Large	***Large that are unjustified***
	%	*%*
GDP	50	50
Private Consumption	50	50
Public Consumption	100	100
GFCF	75	-
Exports	25	100
Imports	25	-
Unemployment	75	33
Deficit/GDP	75	100

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2. AIReF's APPROACH

Comparison with outturn data ('justification' criterion)

Forecast bias in DBPs for 2013-2016

	Forecast made in year t for year t+1		*All forecasts (including in-year)*	
	Large	*Large that are unjustified*	*Large*	*Large that are unjustified*
	%	%	%	%
GDP	50	50	50	50
Private Consumption	50	50	25	50
Public Consumption	100	100	63	100
GFCF	75	-	75	17
Exports	25	100	25	100
Imports	25	-	38	33
Unemployment	75	33	50	50
Deficit/GDP	75	100	50	100

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2. AIReF's APPROACH

- Directive and national legislation are vague
- AIReF issued a recommendation:
  - Asking the Ministry to adopt and make public necessary actions to correct the significant biases detected
- Ministry of Economy's reply:
  - If there is a bias in public consumption, the government's projection is substituted by the closest value of the IQ's range

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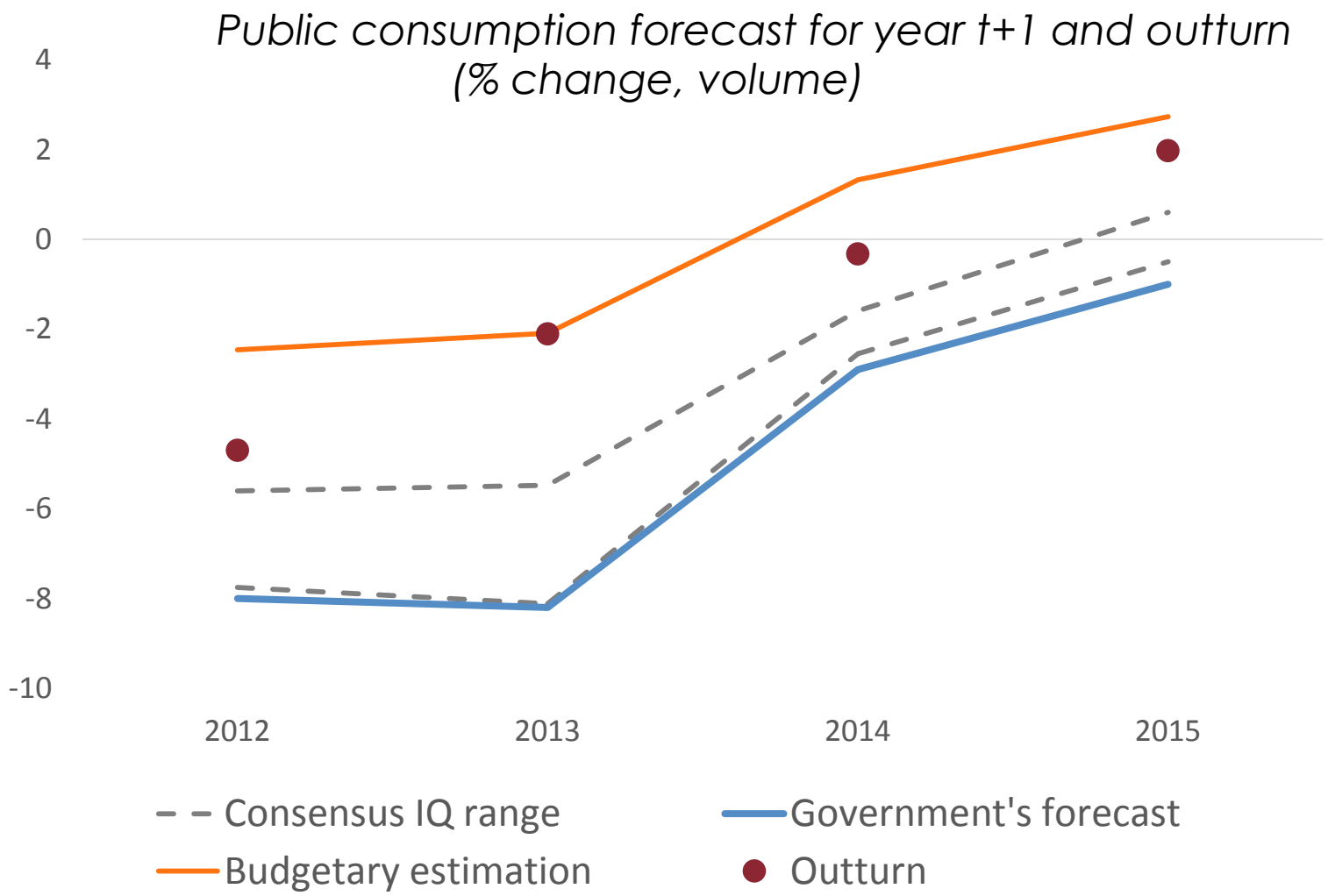
2. AIReF's APPROACH

The proposed solution is not fully satisfactory

There is better information available



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2. AIReF's APPROACH

- The proposed solution has some limitations:
  - There is better available information
  - It is the utmost discretionary variable in the macro forecasts: government should be best-placed institution to forecast it
  - If government's forecasts for public consumption are to be substituted by the consensus forecasts, why not ultimately the rest of macro variables?
- So… what now?

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3. IFIs SURVEY

- 9 IFIs conduct specific ex-post bias assessment
  - 3 of them produce the forecasts themselves, different exercise
  - Out of the remaining 6
    - Benchmark varies (previous vintages, outturn values, first-released data, other forecasters' projections)
    - Variables examined also vary (main macro and fiscal variables, just GDP and inflation, different set of variables each year)

- The remaining IFIs:
  - Endorsement exercise sometimes includes an assessment of biases or a comparison with other independent forecasters
  - Some evaluate their own performance when assessing government's forecasts

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4. CONCLUSIONS

- When forecasts underpinning the budget are endorsed (not produced) by IFIs, the assessment of biases is far from straightforward

- This is so in what concerns:
  - Definition of significant biases
  - Enforcement of recommendations that may ensue the detection of biases

- Useful for IFIs to agree on some common principles

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Thank you

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