INTERNATIONAL MONETARY FUND

Brazil 2016 Article IV

Washington D.C. | November 2016

Roadmap

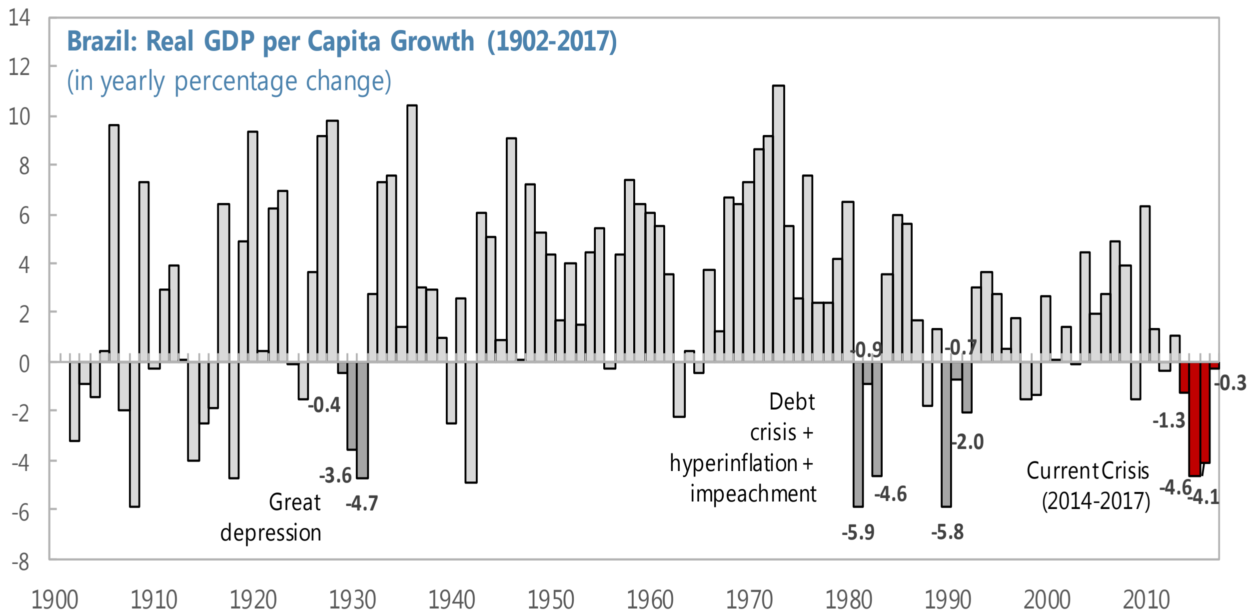
- Context
- Outlook and risks
- Policy discussions
- Debt sustainability
- Selected Issues:
  - Consumption and growth
  - Pension reform
  - Political fragmentation and fiscal discipline

CONTEXT: A deep, largely home-grown recession

Domestic factors dominate

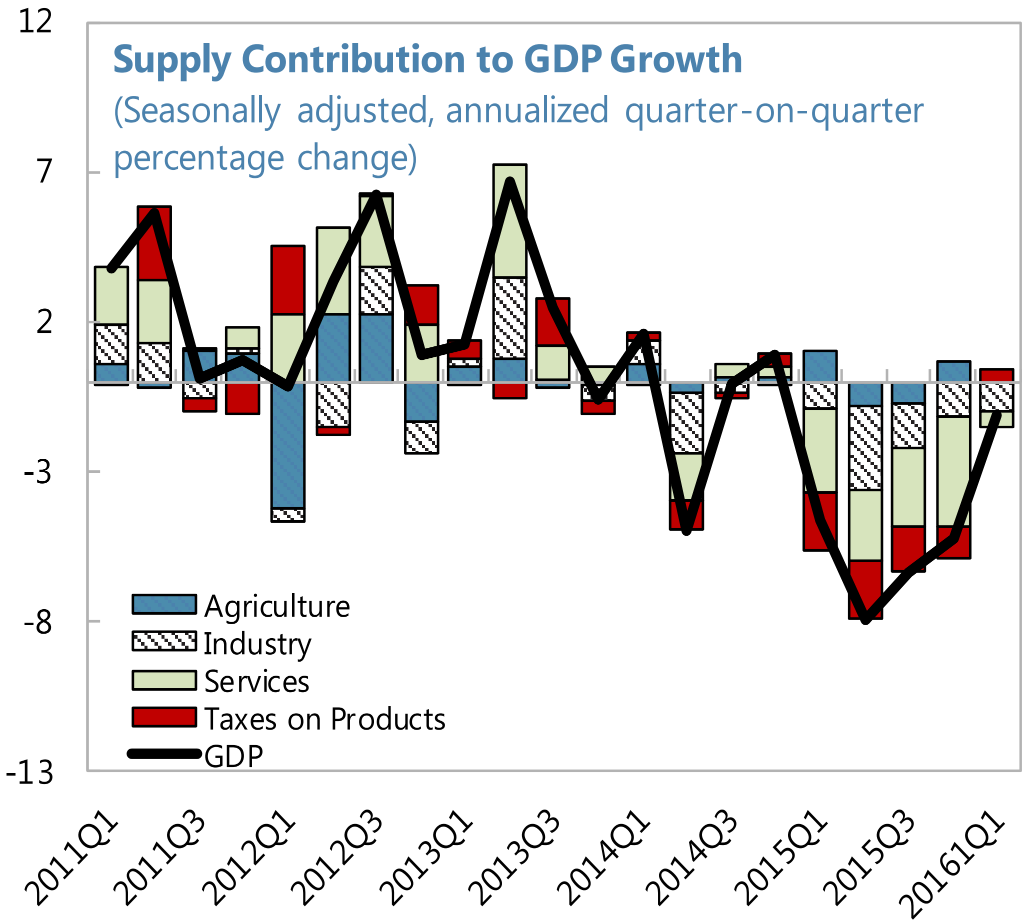
- Legacy of policy mistakes
- Lava jato and political uncertainty
- Loss of confidence
- Tightening credit conditions
- Domestic energy prices
- Loss of jobs
- Export prices

Recession is largest per capita contraction



Sources: For 1902-1947. Haddad, C. "Crescimento do produto real no Brasil, 1900-1947", R. bras. Econ., 1975. For 1947-2015, IBGE. For 2016-17, IMF Staff forecasts. Population data from IBGE's decennial census with log-linear interpolation.

CONTEXT: The recession has affected almost all sectors

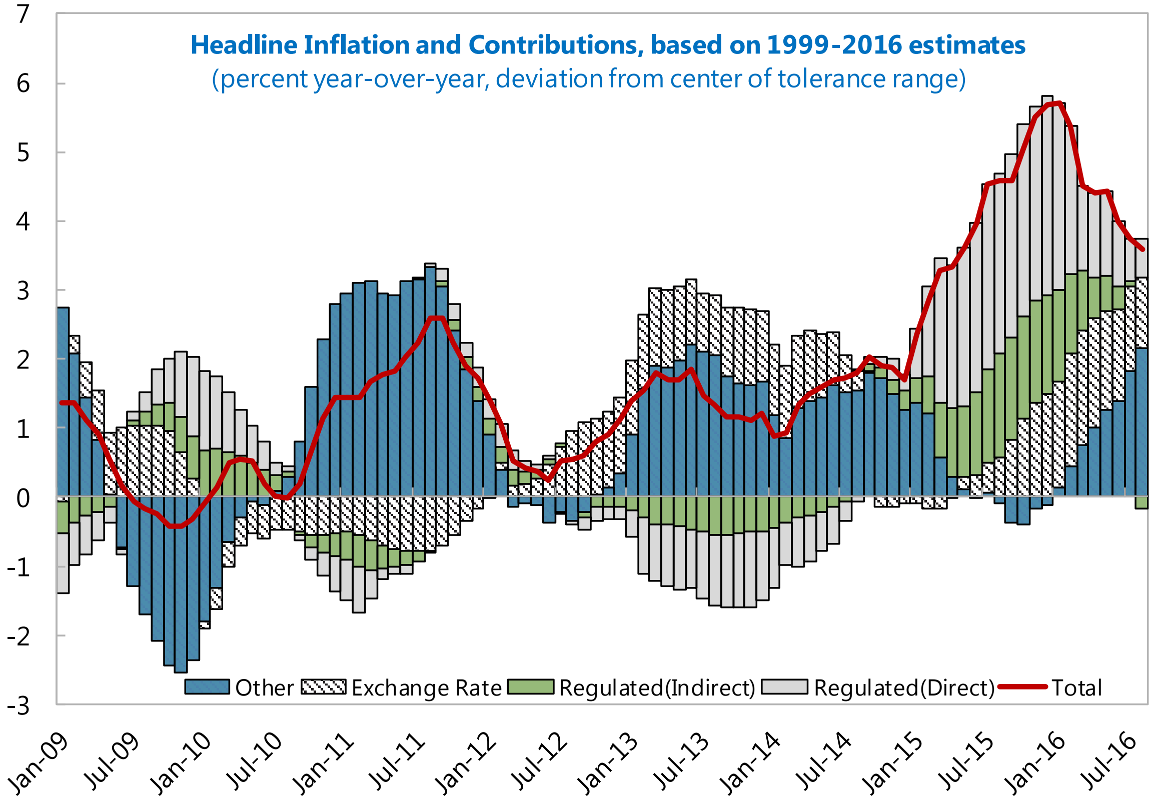


Expenditure side:

- Sharp contractions in investment and consumption
- Import compression
- Broadly neutral fiscal policy

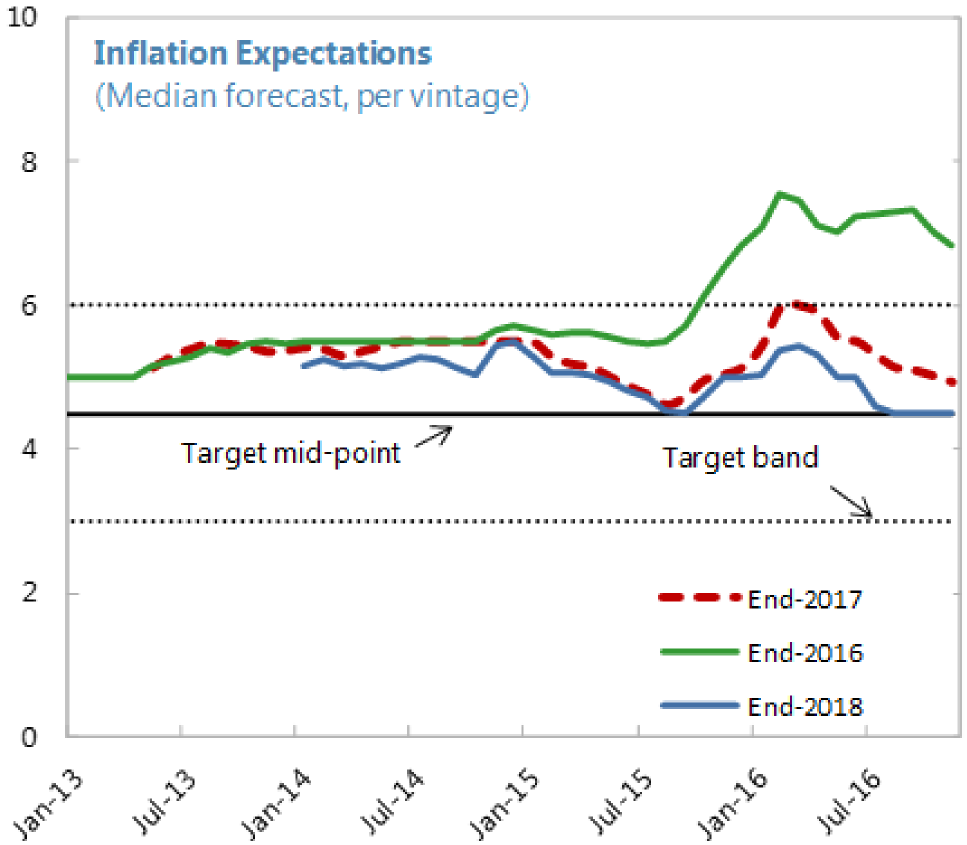
CONTEXT: Disinflation is now progressing and expectations converging

FX and regulated price adjustment caused inflation to spike in 2015



Source: Find staff estimates.

Inflation expectations are starting to converge



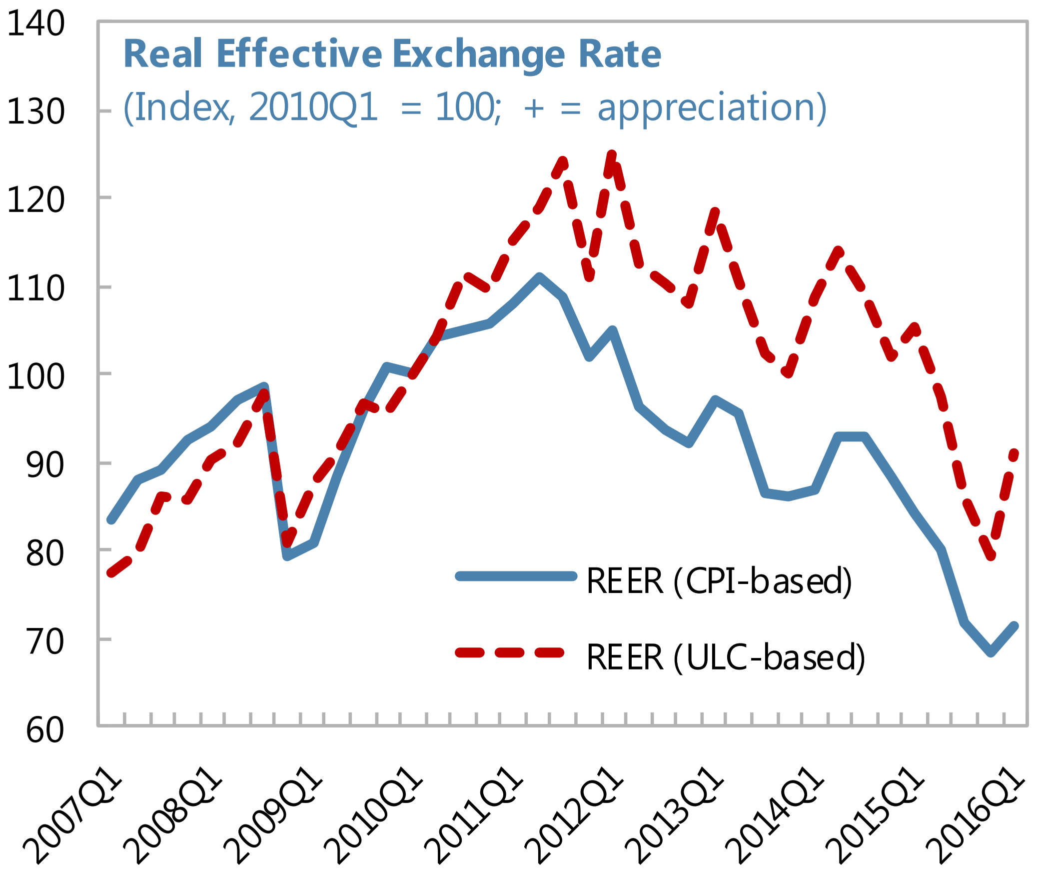
CONTEXT: The external position improved

External Sector

- Current account deficit narrowed to < 1 percent of GDP in 2016
- Sizeable capital inflows continue, composition has changed

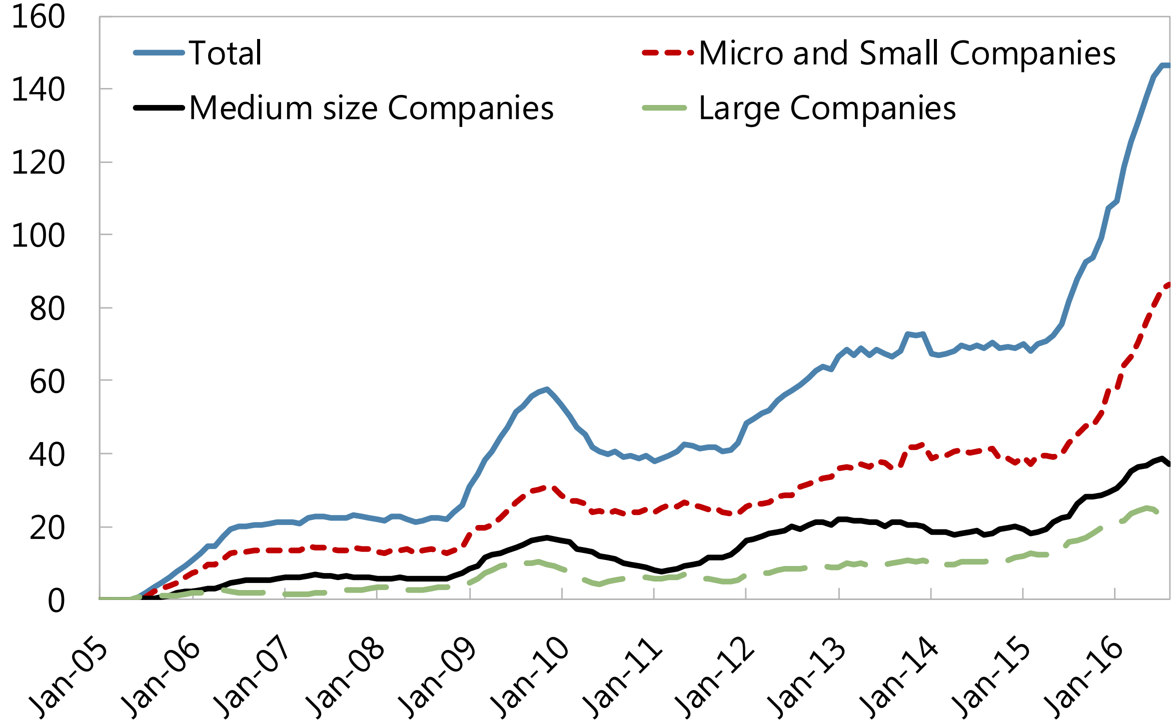
External position still weaker than implied by fundamentals and desirable policies

REER depreciated sharply in 2015



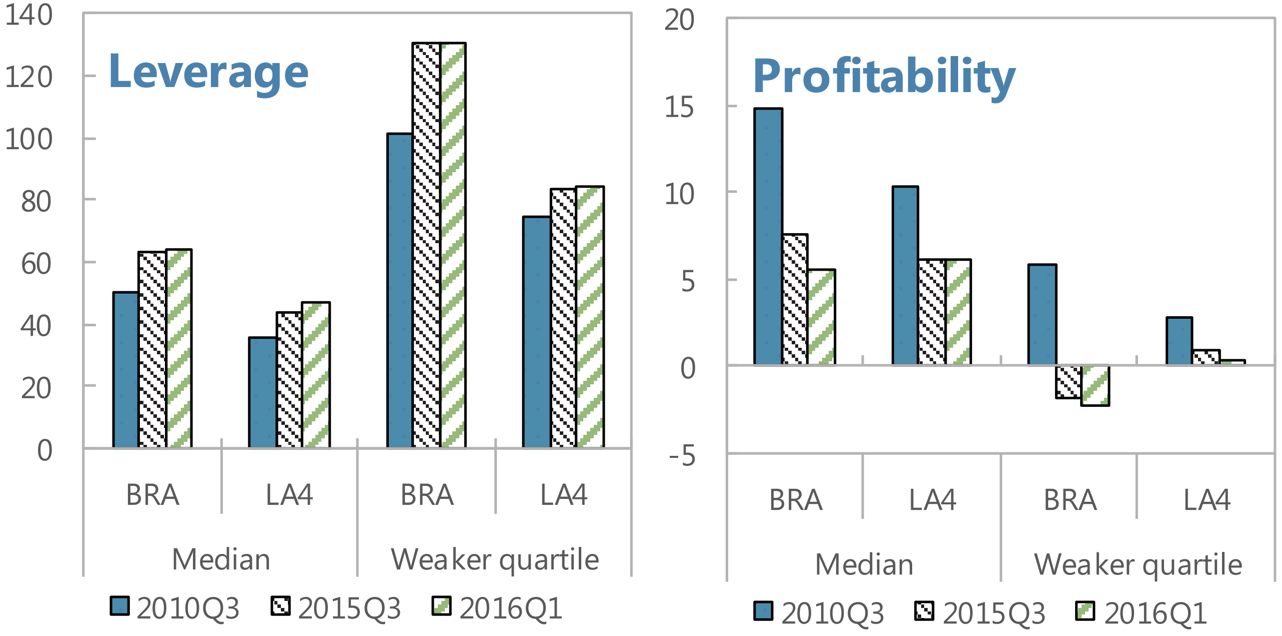
CONTEXT: Corporate health has suffered

Brazil: Bankruptcy Protection Applications Index
(12-month rolling average; higher means more applications)



Sources: Serasa.

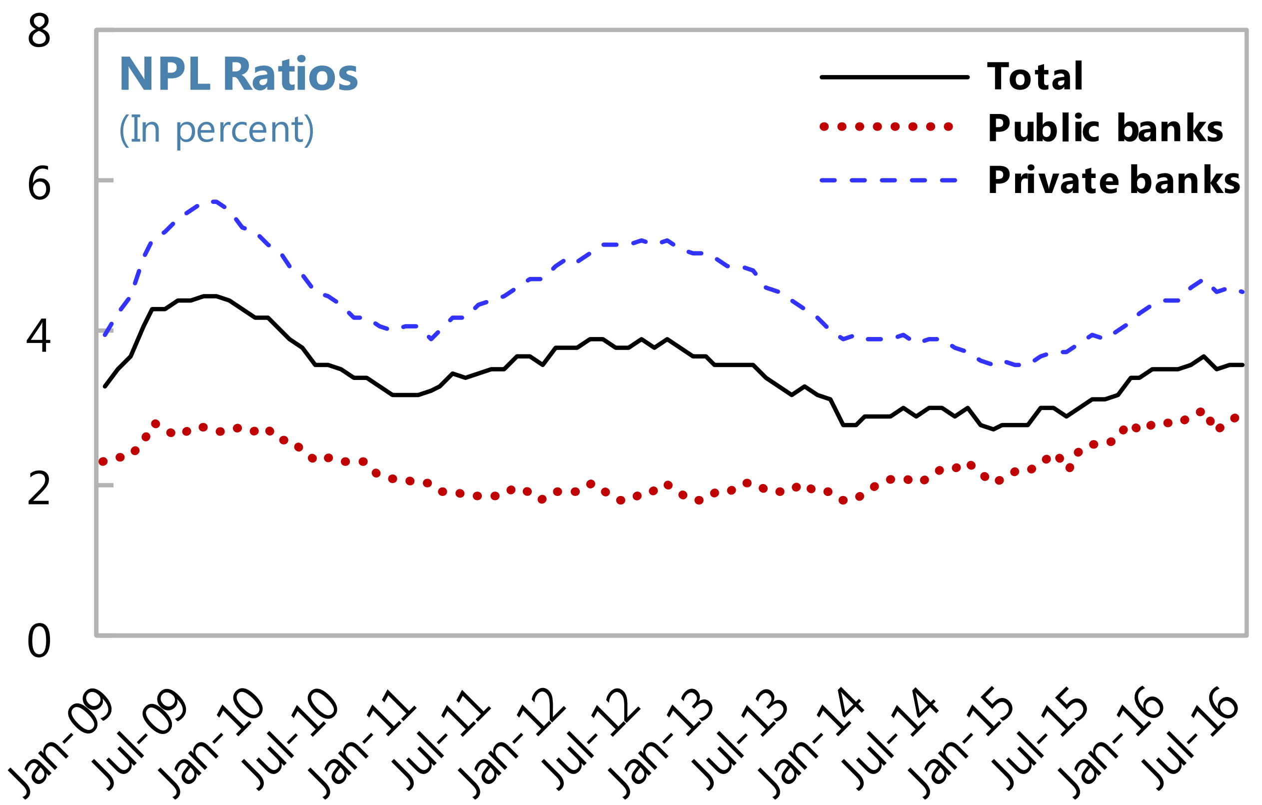
Nonfinancial Corporates: Brazil and LA4
(Chile, Colombia, Mexico, and Peru)



Sources: Bloomberg and IMF Staff calculations. Leverage: total debt to total equity (percent), profitability: return on equity (percent, 4-quarter average), liquidity: cash ratio (cash and equivalents over current liabilities, 4-quarter average).

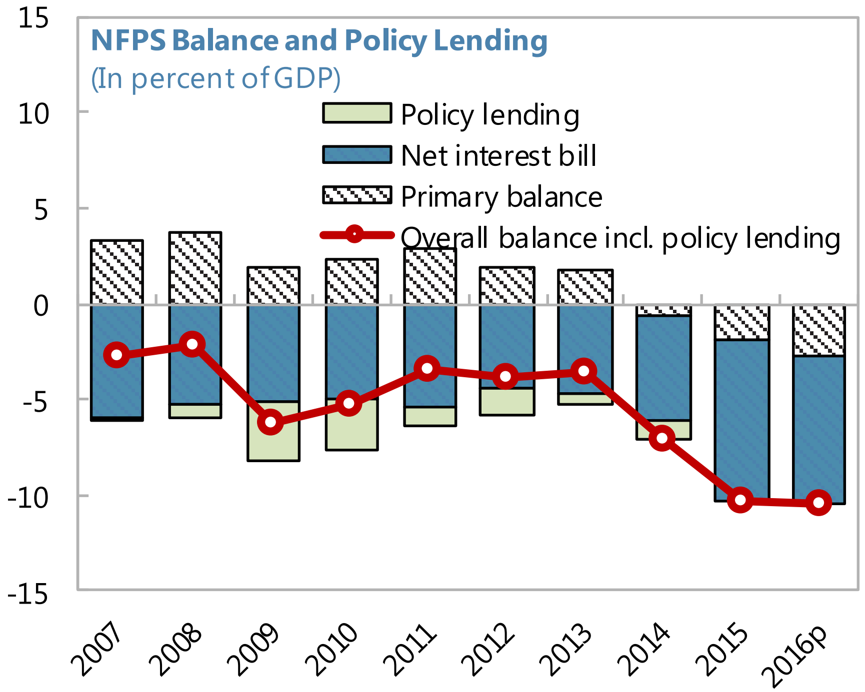
CONTEXT: Banking system remains sound *malgré tout*

Capital and liquidity are above the regulatory minima and NPLs are contained

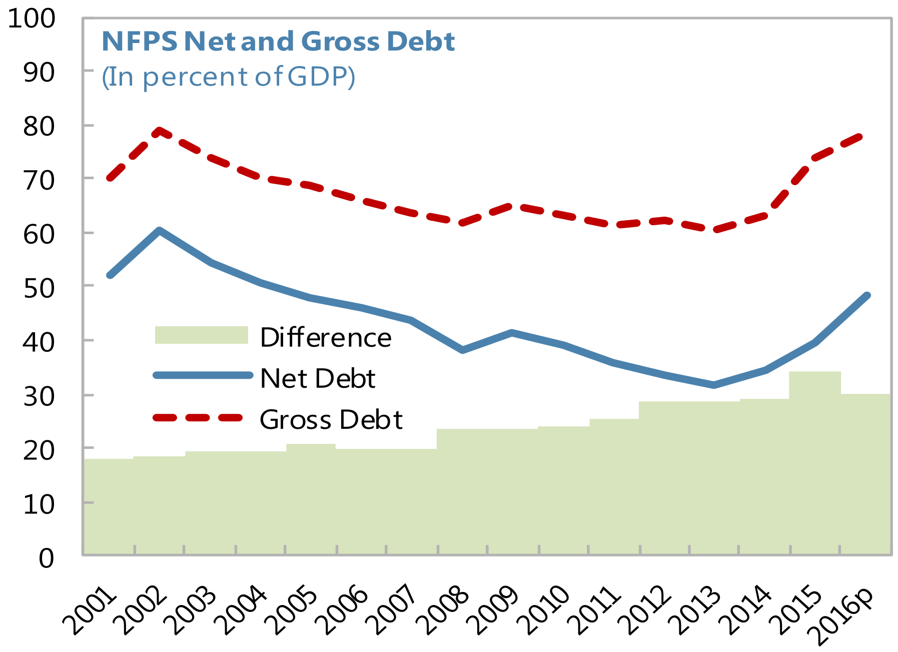


CONTEXT: Fiscal outcomes deteriorated

Deficits around 10 percent of GDP in 2015-16



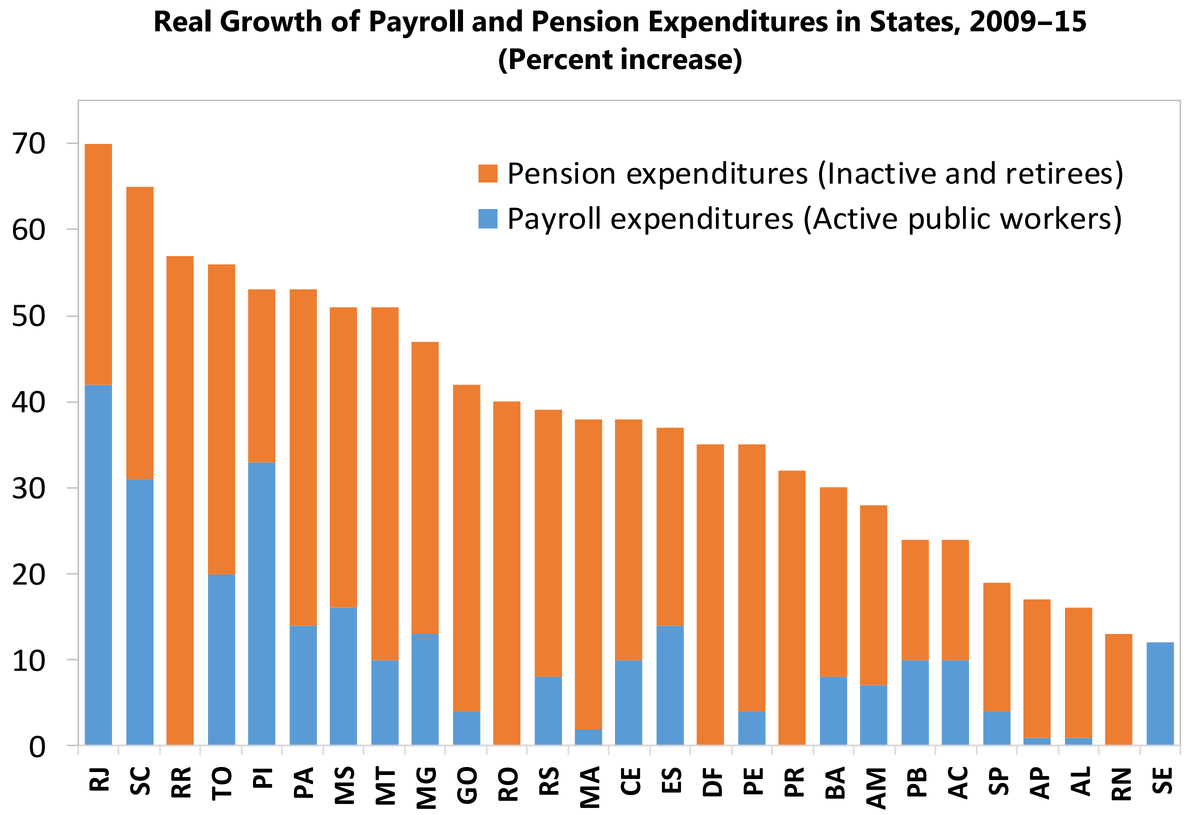
Gross public debt above 75 percent of GDP in 2016



Sources: Central Bank of Brazil, IBGE, Haver Analytics, and IMF Staff calculations.

CONTEXT: Subnational finances under stress

High growth of mandatory expenditures



Source: Boletim das Finanzas dos Entes Subnacionais, Tesouro Nacional.

- Variety of situations; partial information
- Many states in crisis, cash-strapped
- Confluence of structural expenditure trends and collapse in revenue
- Debt service relief granted by federal government
- Durable solutions needed

CONTEXT: The government prioritizes fiscal consolidation and proposes a sequential strategy

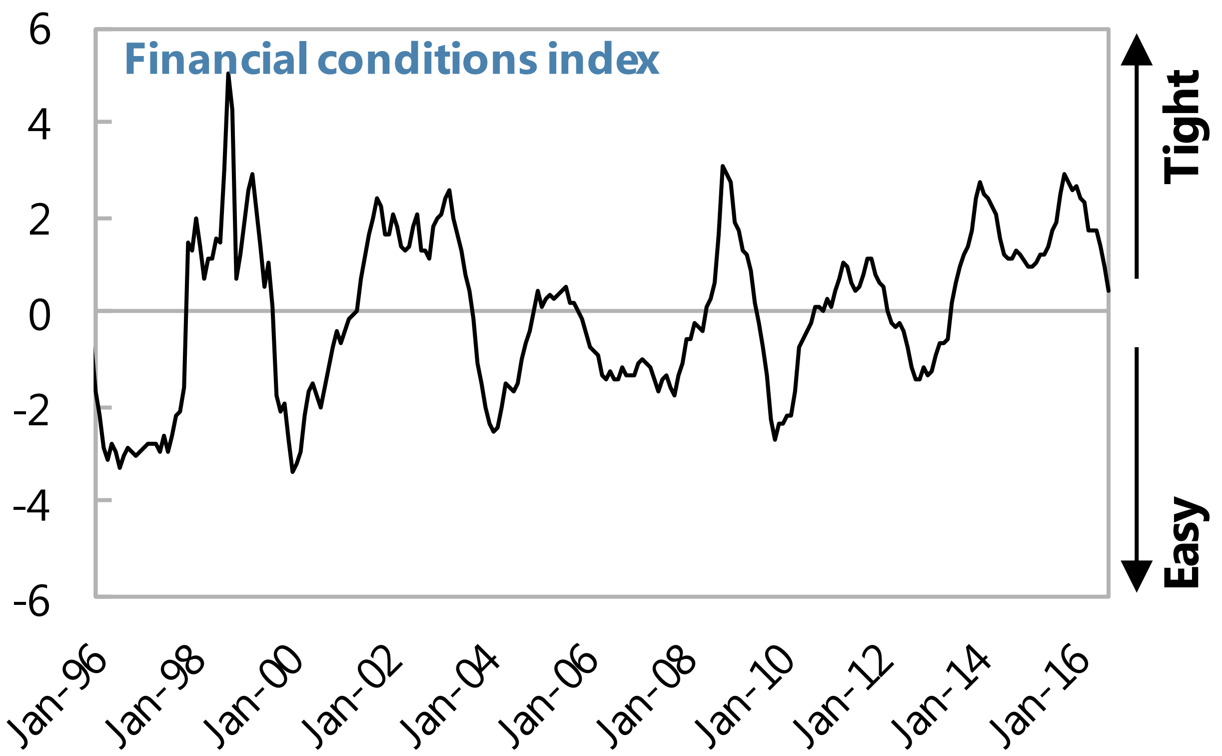
Main strategy:

- 1st approve the spending cap at FG level
- 2nd pass the social security reform
- Discussion of revenue measures is postponed till 2017 at least
- Supply side and other structural reforms to be pursued after approval of fiscal reforms

On a parallel track:

- Discussions between federal government and states on actions at subnational level
- Concessions

CONTEXT: Strategy was well received by markets



OUTLOOK: A gradual recovery, subject to risks

Outlook

- Policy uncertainty falls, confidence improves
- Drag from spending cap to start in 2018
- Firms' and households' debt hamper recovery
- Financial and credit conditions continue tight

	2016	2017	2018	2019	2020	2021
Growth, %	-3.3	0.5	1.5	2.0	2.0	2.0
Inflation (IPCA), %	7.2	5.0	4.8	4.5	4.5	4.5
NFPS Primary Balance, % GDP	-2.7	-2.3	-1.3	-0.5	0.1	0.8
Public Debt (GFSM 2014), % GDP	78.4	82.9	85.7	88.2	90.9	93.5

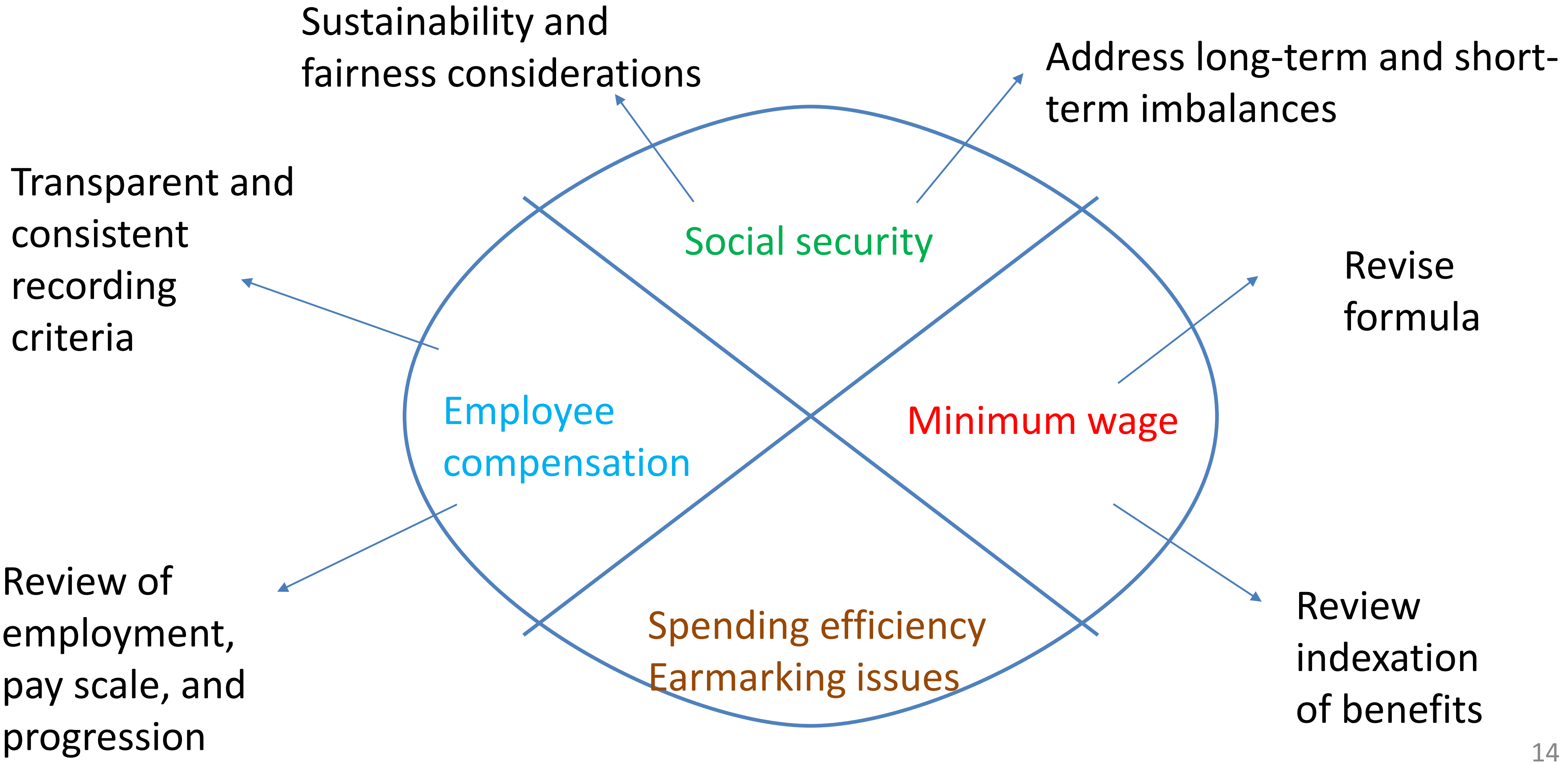
Downside risks

- Failure to deliver on fiscal consolidation strategy
- Re-intensification of political uncertainties
- External risks

Upside risks

- Sharper turnaround in investment and growth

POLICIES: Overall fiscal strategy welcome, but needs to be underpinned by fiscal reforms and planning

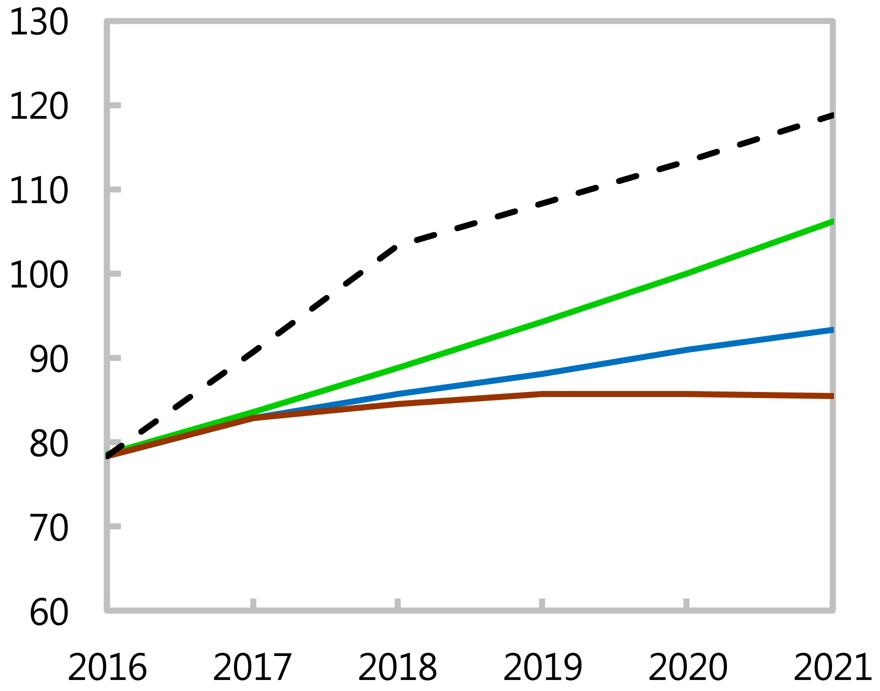


POLICIES: Given side effects of high debt, IMF recommends additional measures as the economy recovers

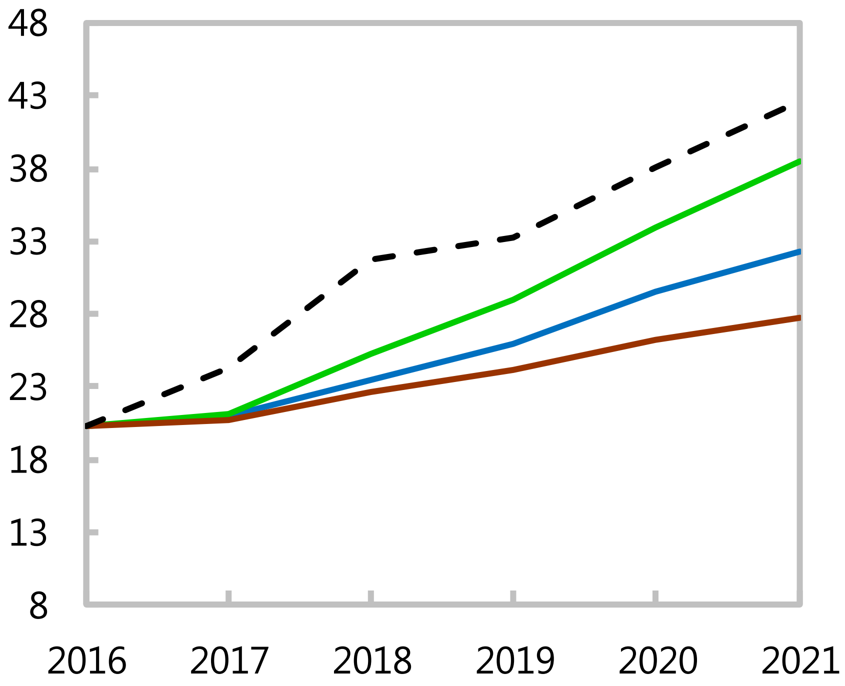
“IMF recommended” includes a stronger effort (mainly on the expenditure front) in the next few years

Baseline
No reform
Combined Macro-Fiscal Shock
IMF recommended

Gross Nominal Public Debt
(Percent of GDP)



Public Gross Financing Needs
(Percent of GDP)



POLICIES: Recommended scenario

Scenario: IMF Recommended

	2016	2017	2018	2019	2020	2021
Growth	-3.3	0.2	1.5	2.2	2.5	2.2
Inflation (GDP deflator), %	8.0	6.1	5.3	5.1	5.0	5.0
Exchange Rate	3.5	3.4	3.5	3.6	3.6	3.7
Primary Balance, % GDP	-2.7	-1.9	-0.6	0.7	2.0	3.0
Gross Debt, % GDP	78.4	82.8	84.7	85.7	85.8	85.5

POLICIES: Assist subnational fiscal reforms

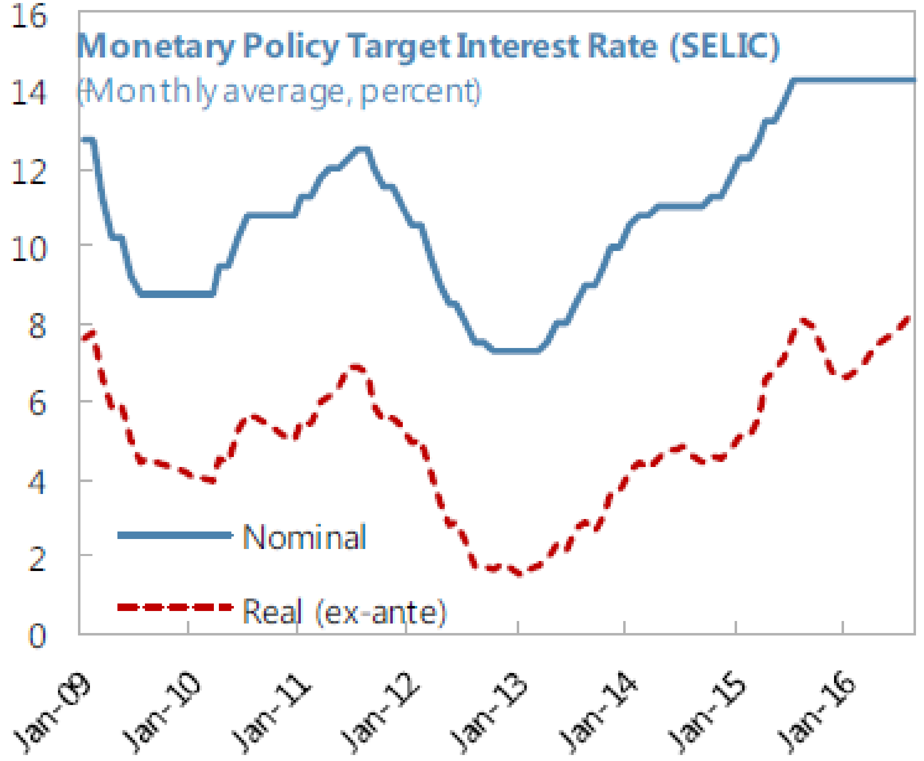
While the financial situation is heterogeneous across states the sources of disequilibria are similar: high spending on personnel (inducing low investment) and weak revenue performance.

Objectives:

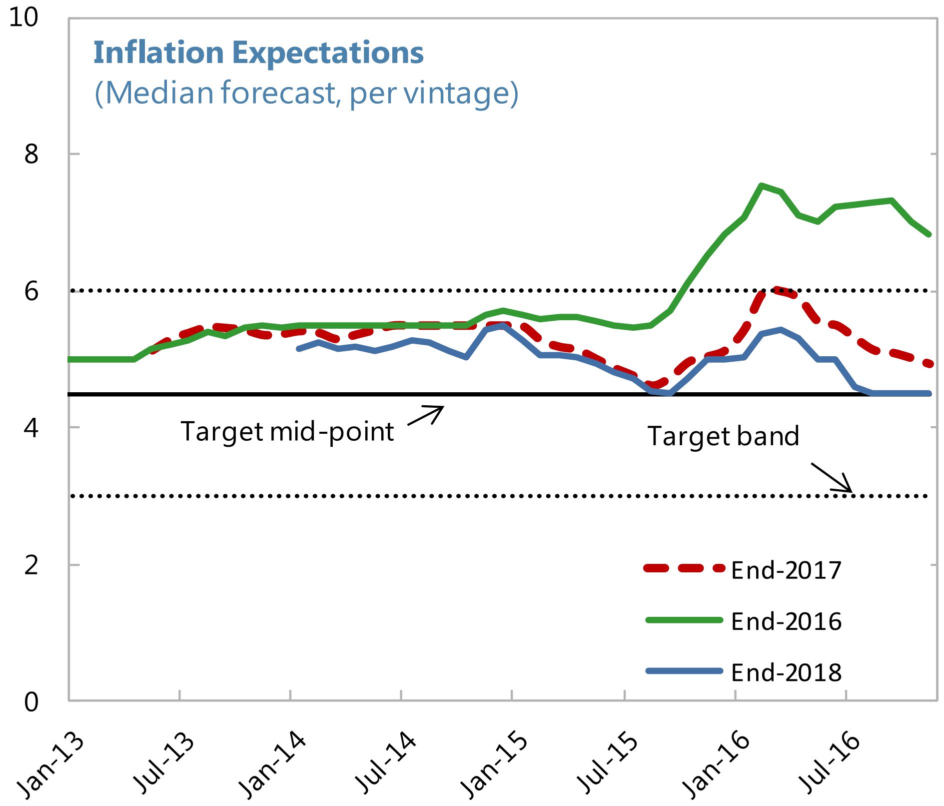
- Support structural subnational fiscal reforms (pension, and administrative reforms)
- Increase fiscal transparency in subnational data

POLICIES: Keep monetary policy tight until clear signs of convergence appear and reforms are under way.

Interest rates are high



Inflation expectations are converging



POLICIES: Aim to boost potential growth

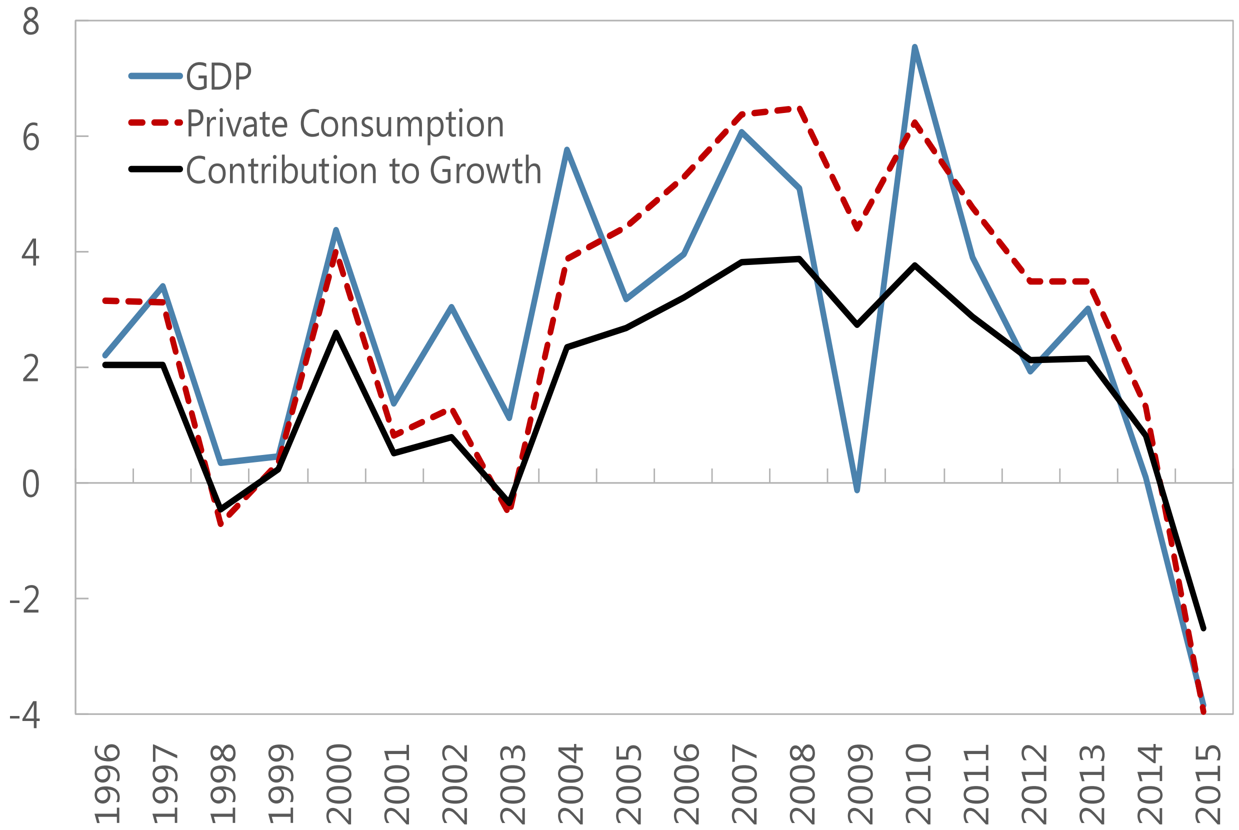
Structural Reform Priorities

Infrastructure	Tax reform	Opening the Economy	Labor reform	Efficient allocation of Savings
• Enhance regulatory framework • High standards of governance • Secure LT financing • BNDES to play a key role	• Simplify PIS/COFINS • Unify ICMS	• Reduce tariffs and nontariff barriers • Revise domestic content requirement • Pursue FT outside Mercosur	• Facilitate productive employment • Minimum wage indexation and youth unemployment	• Review credit earmarking rules • Focus role of public banks

Consumption and Growth

Where to next for consumption—has Brazil's growth model run its course?

Figure 1: GDP and Consumption Growth
(In annual percent change, constant prices)



Source: IBGE.

Why has consumption been so strong?

Past policies

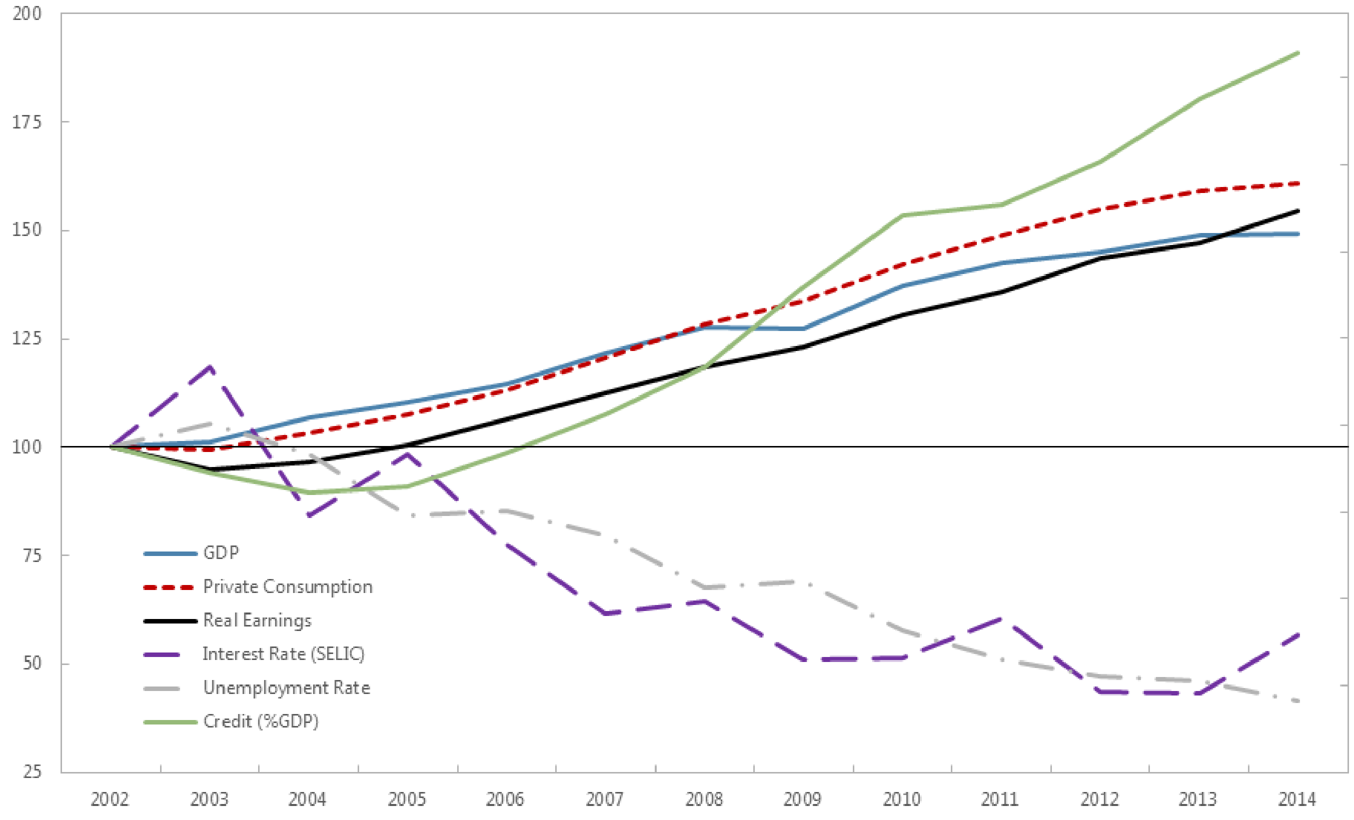
- *Structural:* Education, social programs, and the minimum wage
- *Cyclical (recent):* Income tax relief, subsidized lending for cars and other durables, and an expansion of credit by public banks.

Strengthened policy framework

- Capital account liberalization, inflation targeting, and the fiscal responsibility law contributed to improved risk perceptions against the backdrop of declining global interest rates.
- Nominal and real interest rates fell dramatically and credit rose rapidly.

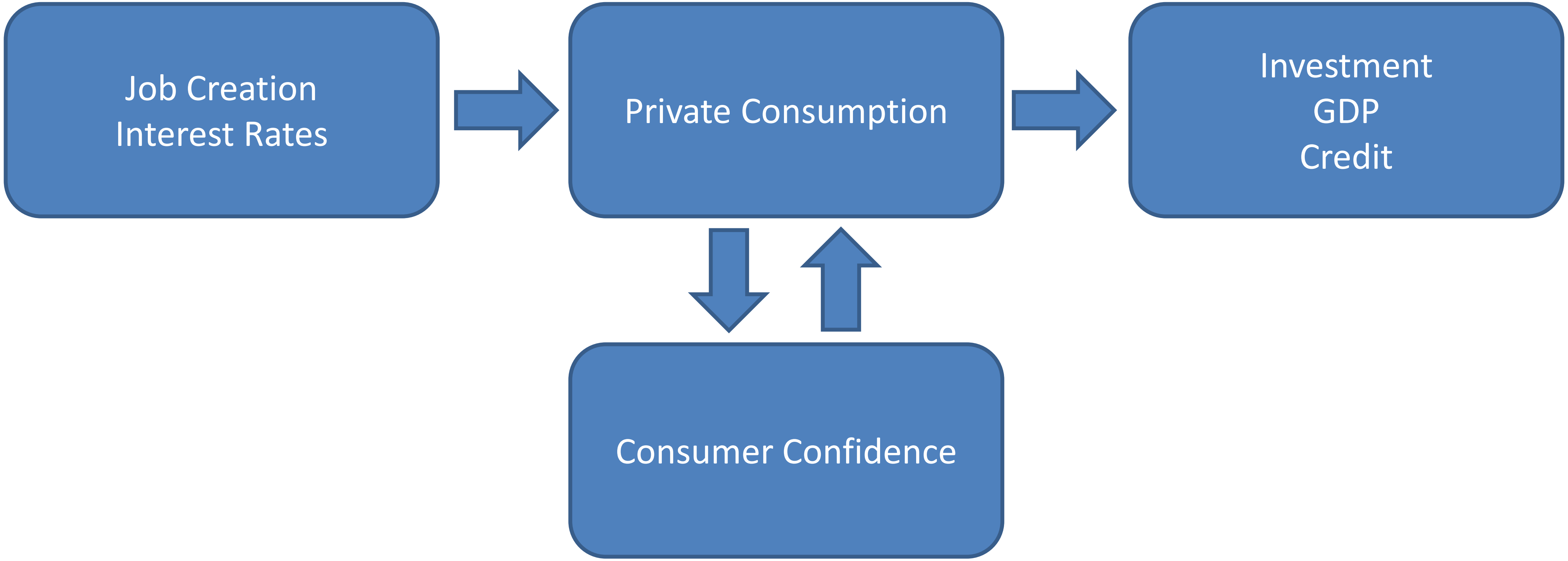
Key Determinants of Consumption (2002-14)

(Index, 2002 = 100)



Source: Authors' calculations.

Bivariate Granger-causality test



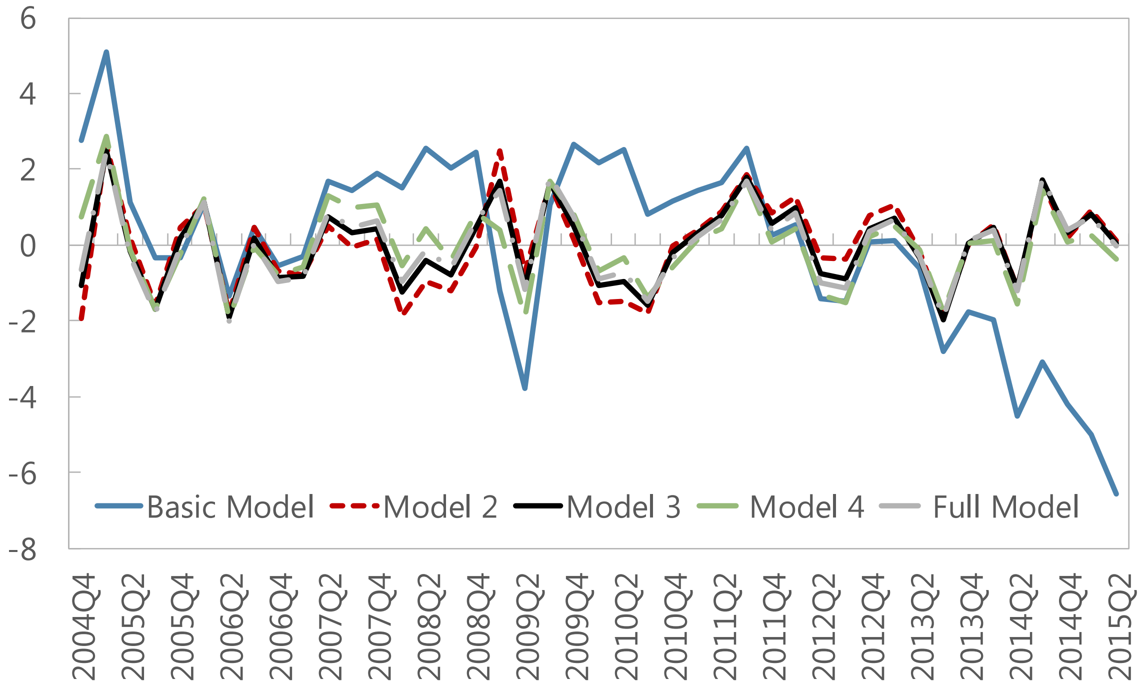
VECM

– **Basic Model**
  - New Keynesian consumption function (consumption relates to *disposable* income)

$$c_t = \beta_0 + \beta_1 y_t + \epsilon_t$$

– **Full Model**
  - Includes real interest rates, net job creation and consumer confidence (capturing uncertainty about income prospects), and credit (capturing access to finance)

Private Consumption, Residual of Cointegration Equation
(In percent deviation from long run equilibrium)

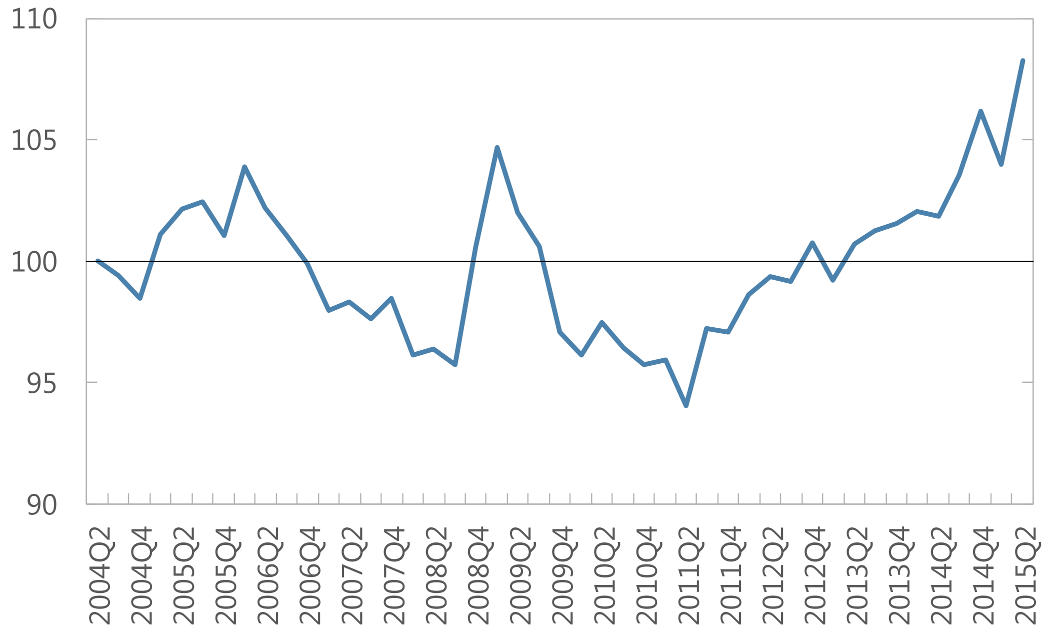


Source: Authors' calculations.

Where to next? Headwinds…

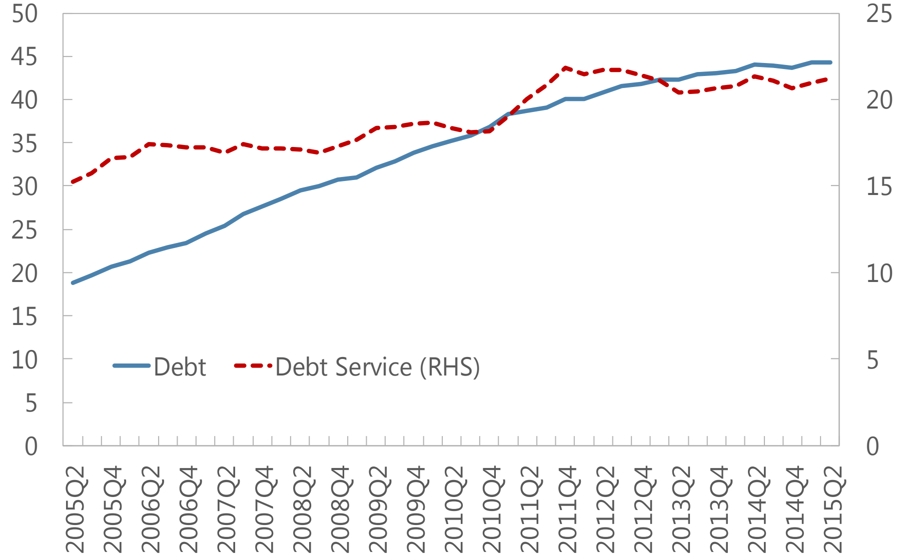
- Income and the labor market
- Real interest rates
- Credit and debt
- Uncertainty (e.g. pension reform) and confidence

Disposable Income as a Percent of GDP
(Index, 2004Q2 = 100)



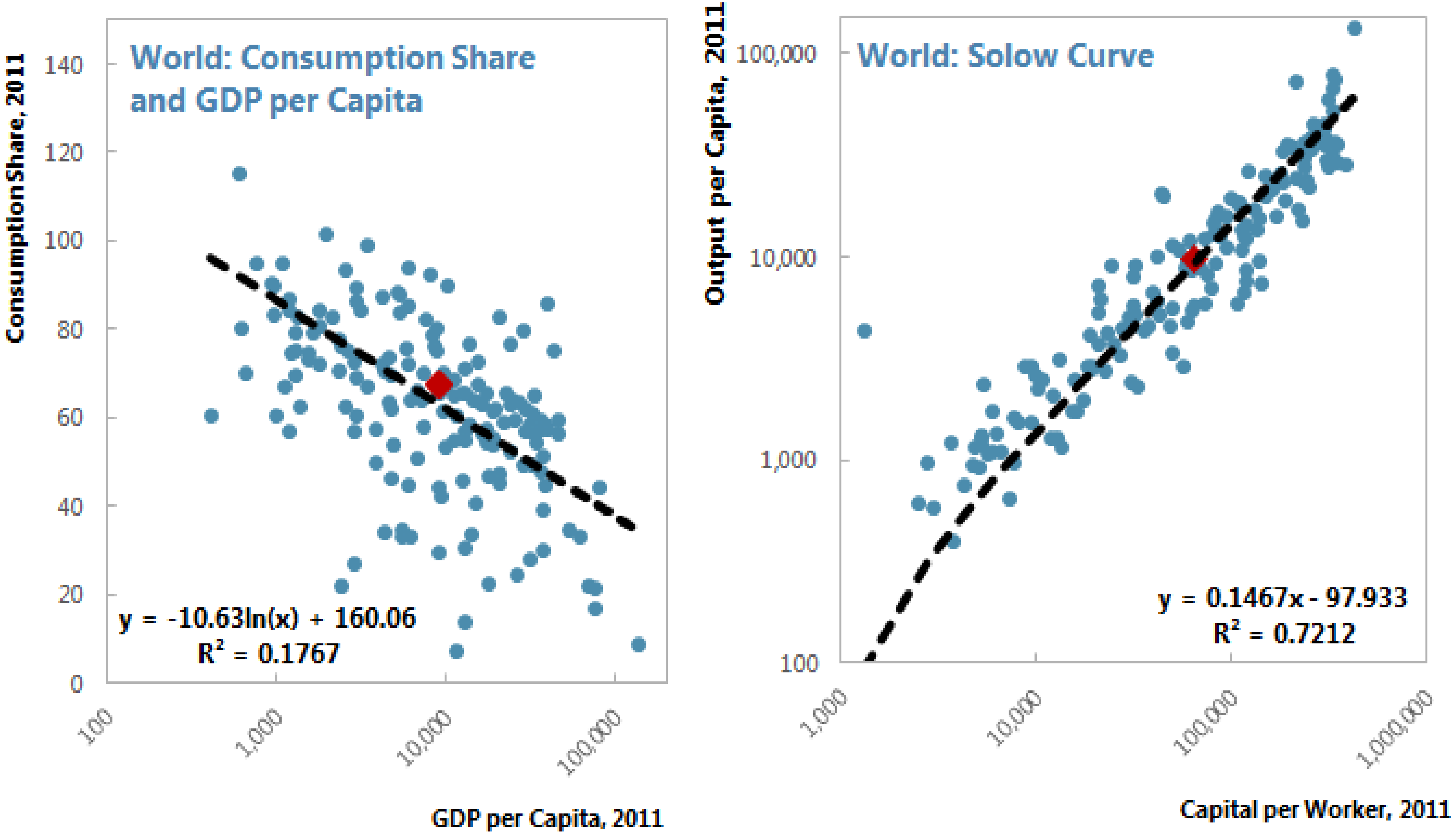
Sources: Authors'calculations with IBGE data.

Household Debt
(In percent of disposible income)



Source: Brazilian Central Bank.

Need to change growth model?



Policy implications

- **Consumption-led growth has run its course**
- **Headwinds over coming years**
- **Opportunities to foster alternative sources of growth:**
  - Infrastructure and supply-side reforms
  - Social security and the minimum wage

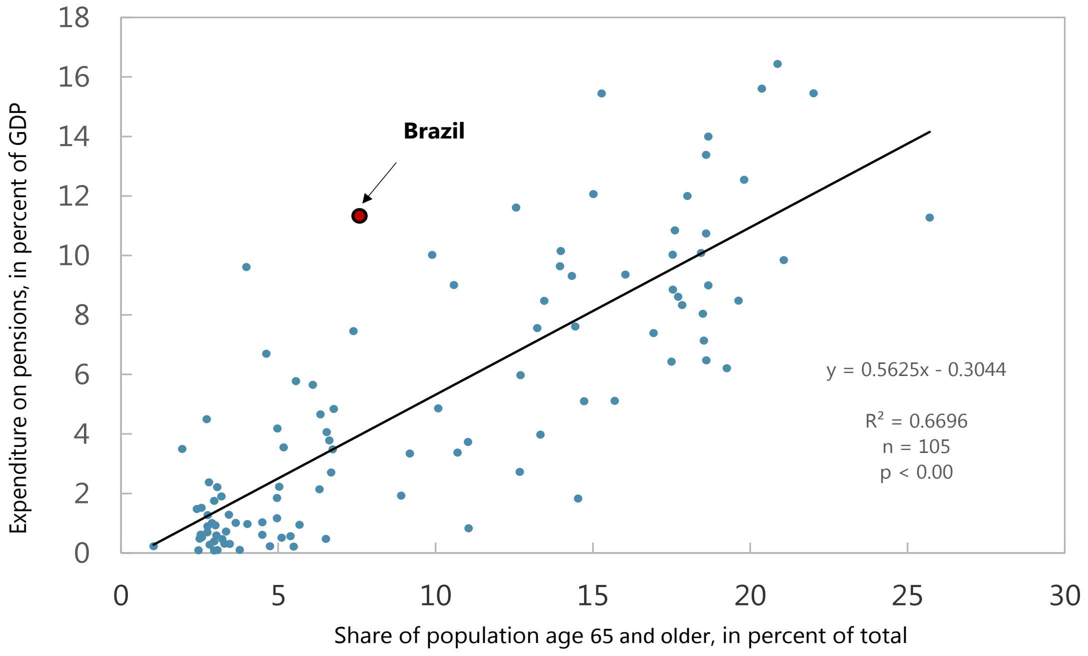
Fiscal Challenges from Aging Population

- Why does Brazil need a social security reform?
  - Intergenerational equity
  - High pension spending and explosive demographic trend
  - Income equality

How large is pension expenditure?

Controlling for demographics, pension spending is among the highest.

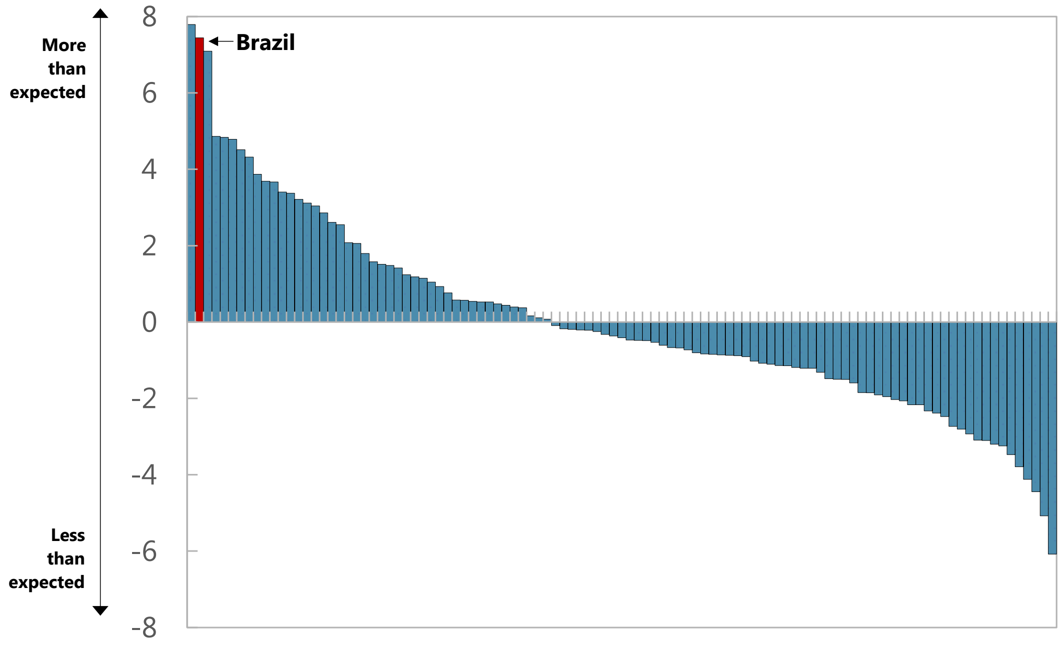
Pension Expenditure and Elderly Population



Sources: World Development Indicators; and IMF Staff estimates.

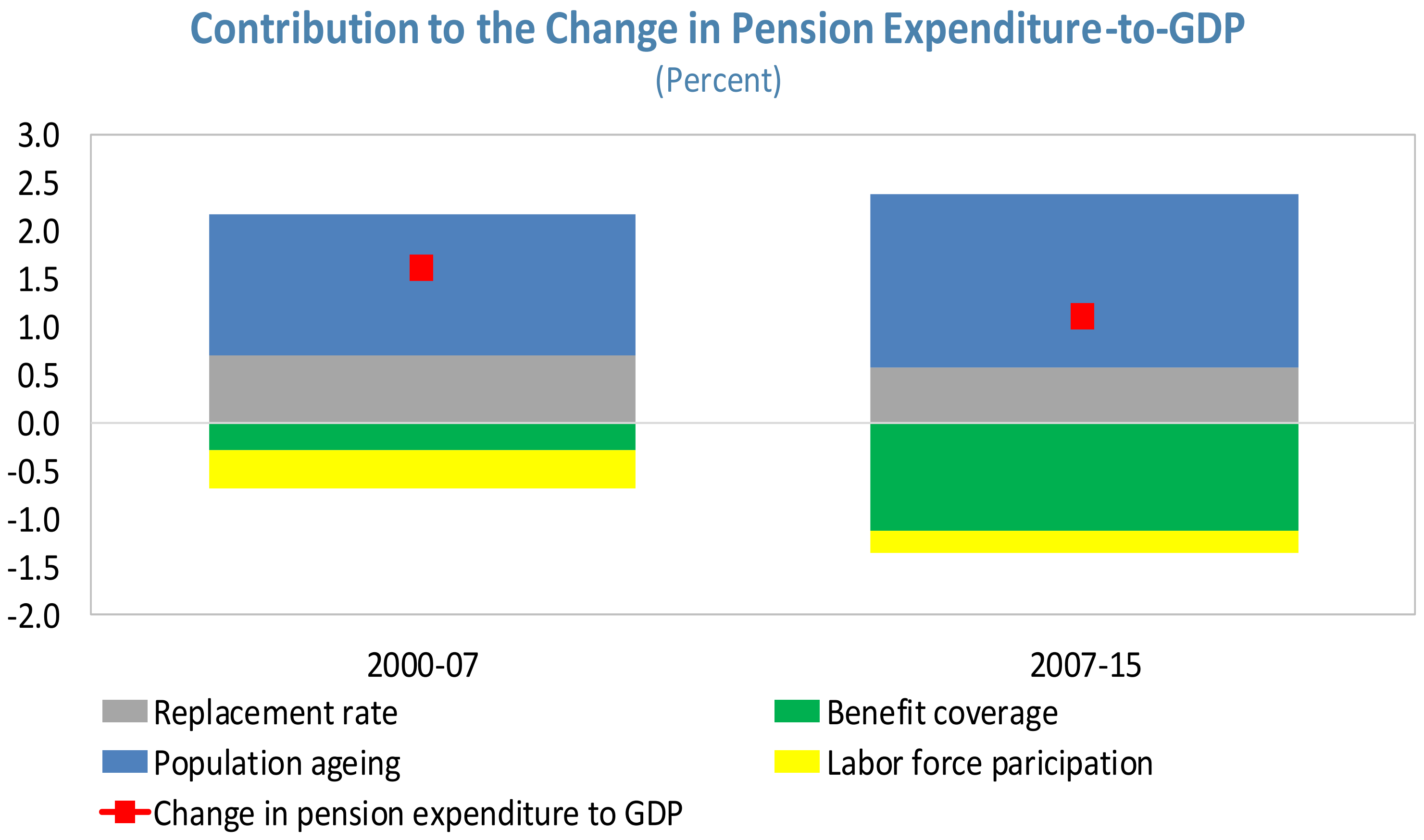
Distance from Fitted Values

(Percent of GDP)

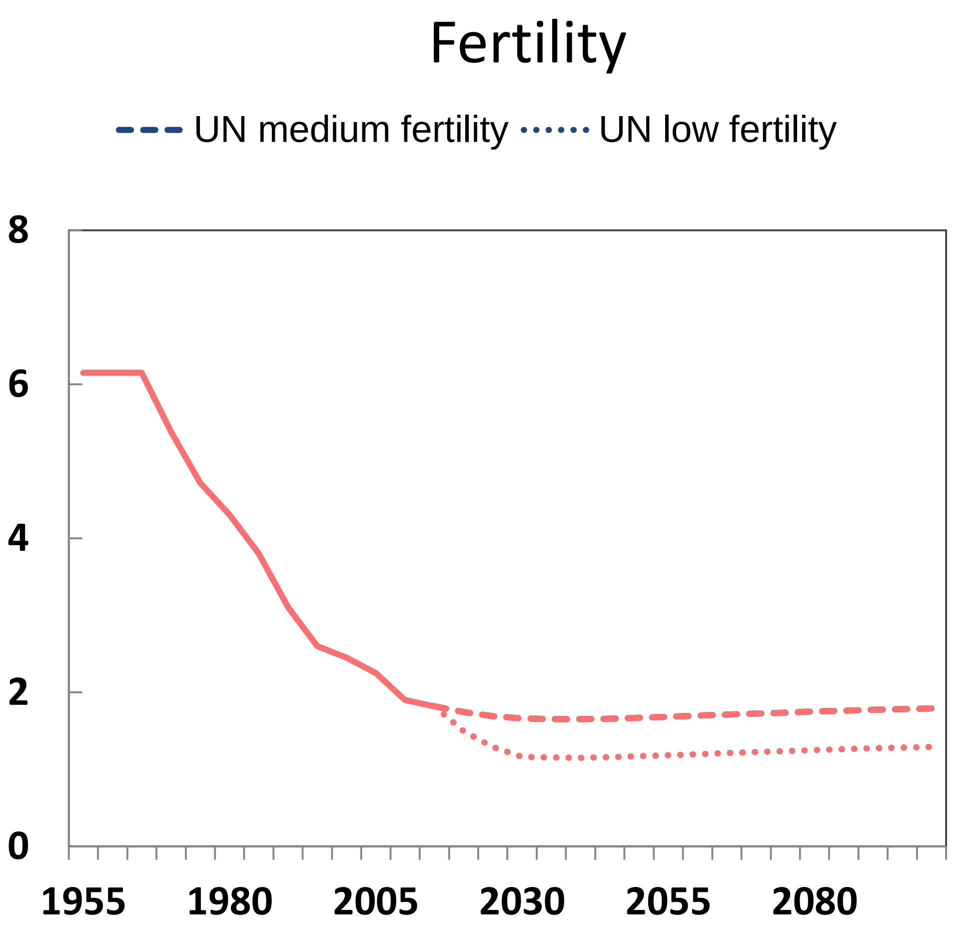


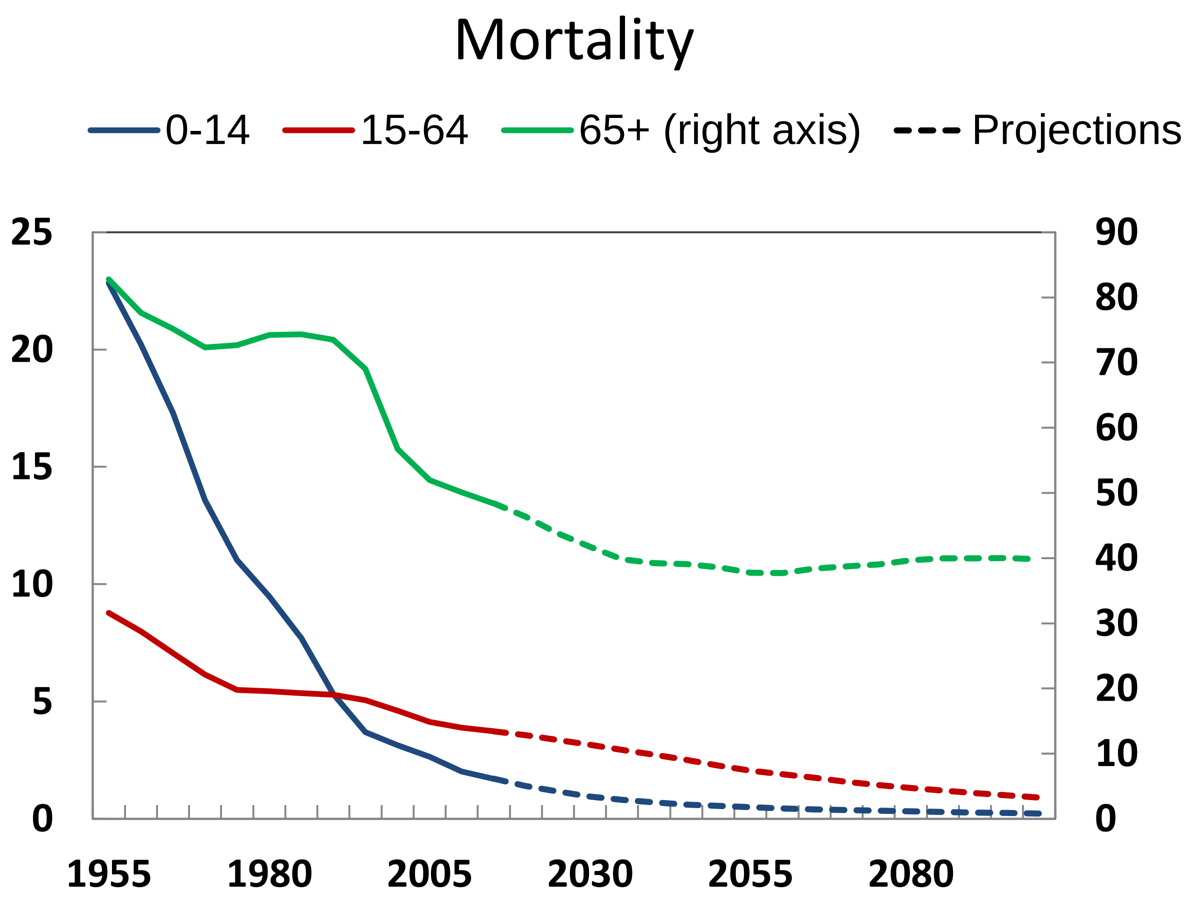
Sources: IMF Staff estimates.

What drives pension spending growth in Brazil?

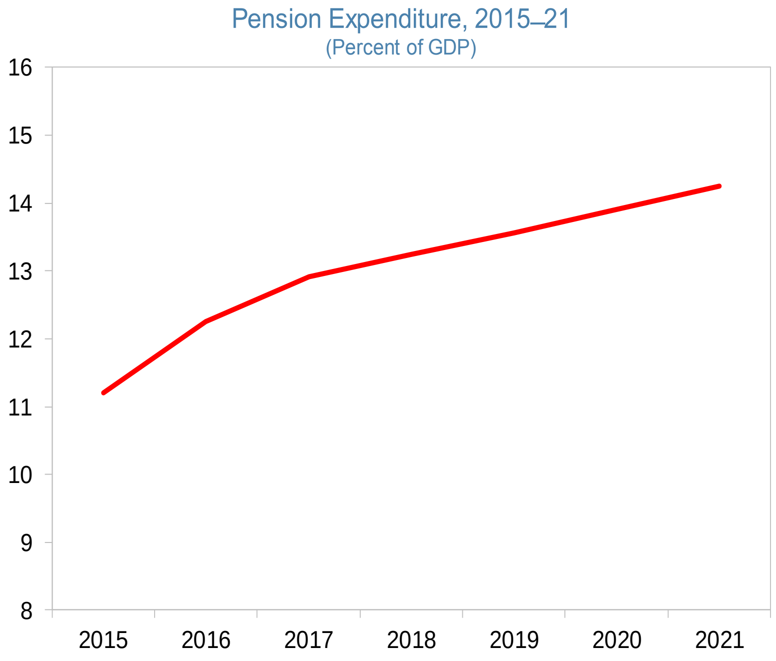


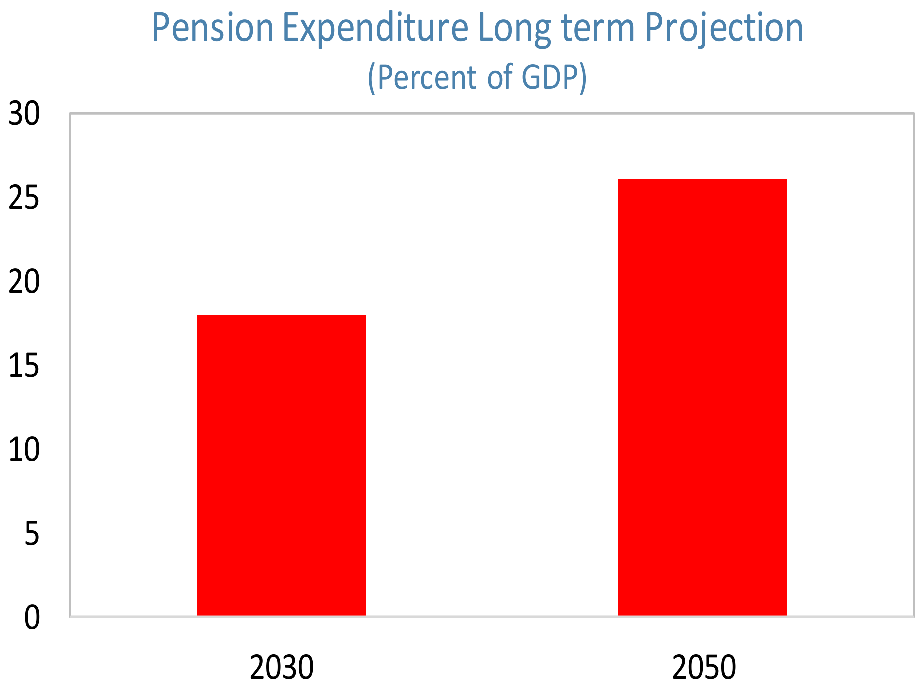
Declining fertility rates and higher longevity are pushing up old age dependency.





Pension spending will increase by 2 ½ pp of GDP by 2021





Pension reform options

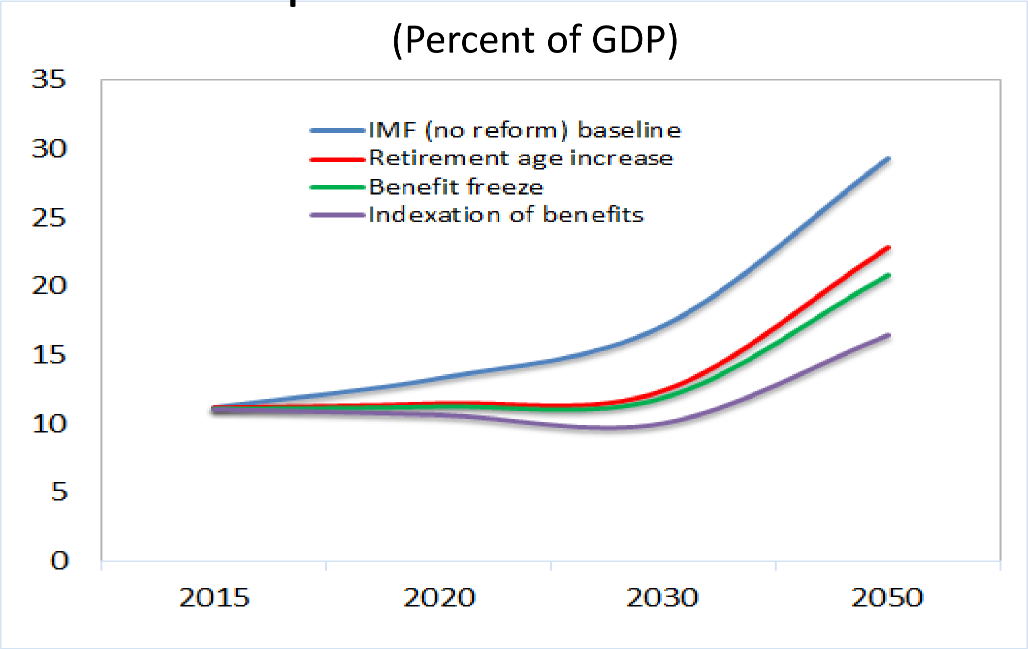
- Labor market policies
  - Participation rates for elderly and women: ultimately not effective

- Policies directly affecting the system
  - Cover both RGPS and RPPS
  - Replacement rate
  - Growth of benefits post-retirement
  - Coverage (eligibility)
  - Financing (contributions)

Possible package of pension reforms

- Increase retirement age by 5 years over 5 years w/o raising replacement rate.
- Freeze benefits -> Shrink benefit package by 10 percent.
- Switch indexation from minimum wage to CPI.
- Possibly lower social security contributions

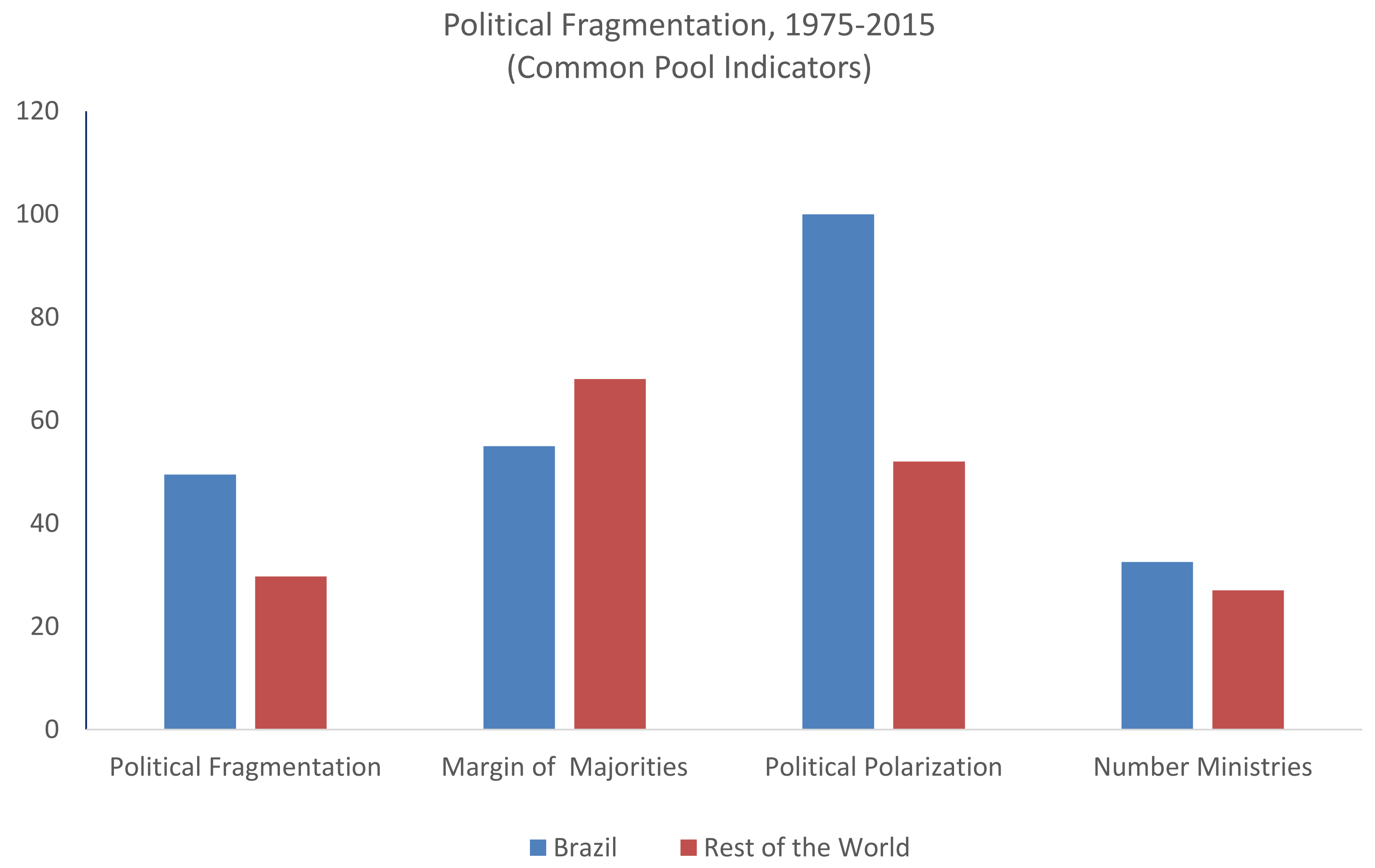
Pension Expenditure Reforms Simulation



Political Fragmentation and Fiscal (In)discipline

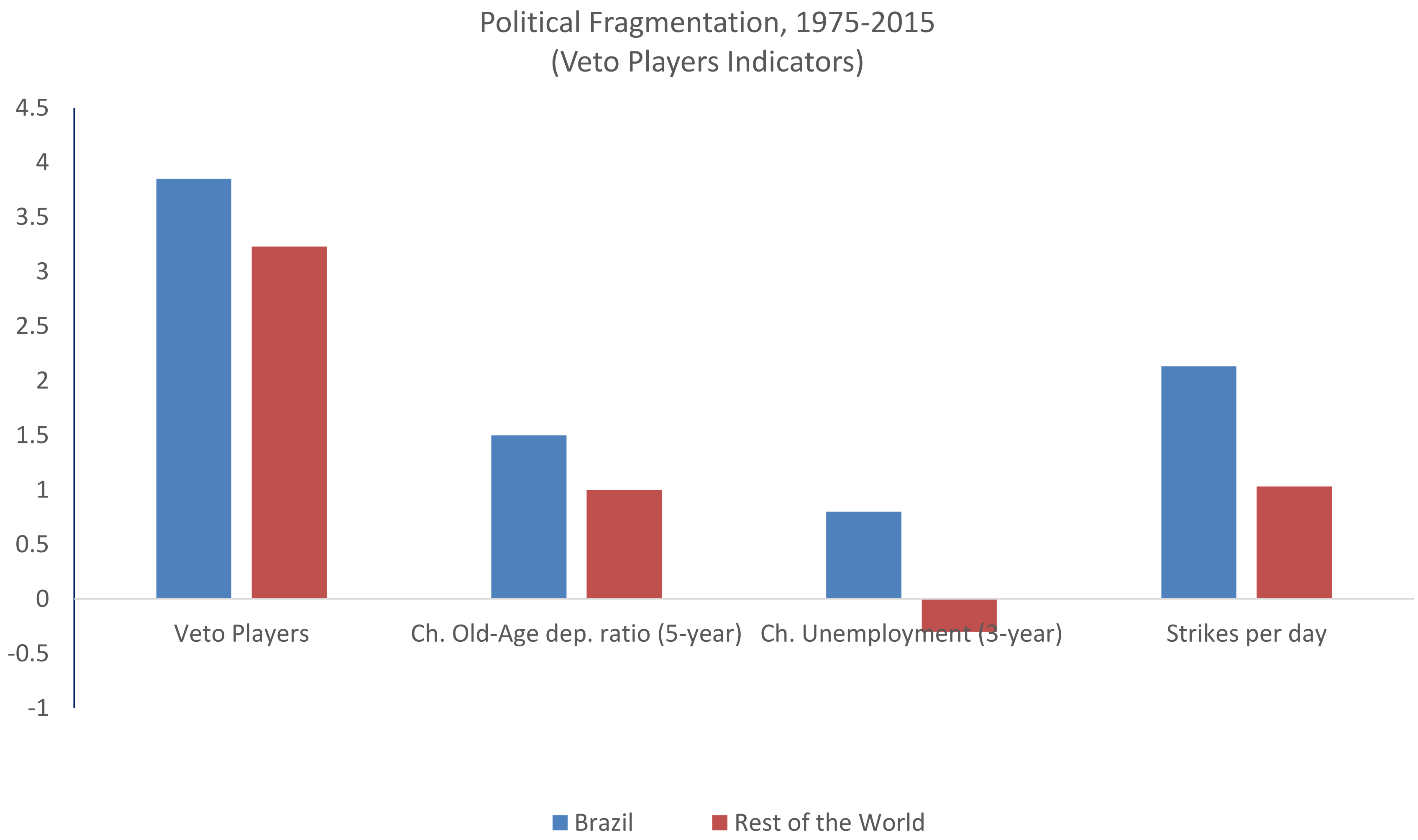
- International experience shows that pension and other expenditure reforms are politically very difficult
- Is political fragmentation a problem for fiscal discipline and debt reduction?
- What is the situation in Brazil vis-a-vis other countries?

Common pool theory: the larger the number of parties and polarization - the larger the deficit/debt.



Source: Crivelli, Gupta and Mulas-Granados (2016). Data DPI (2015)

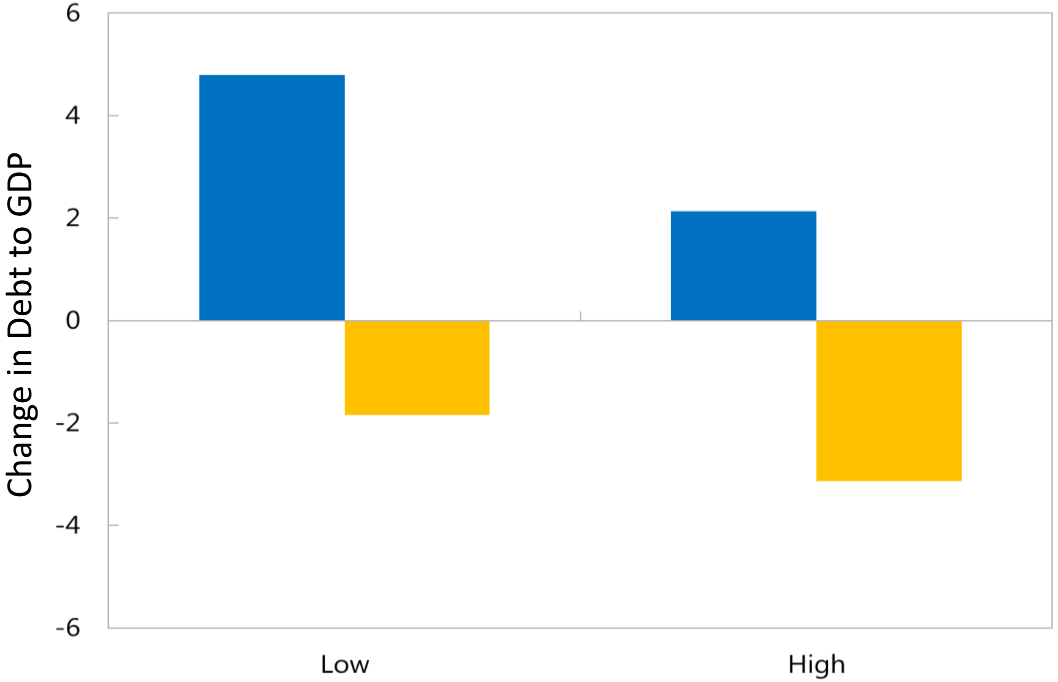
Veto players theory: large number of blocking groups hinders reforms – deficit/debt reductions are less likely



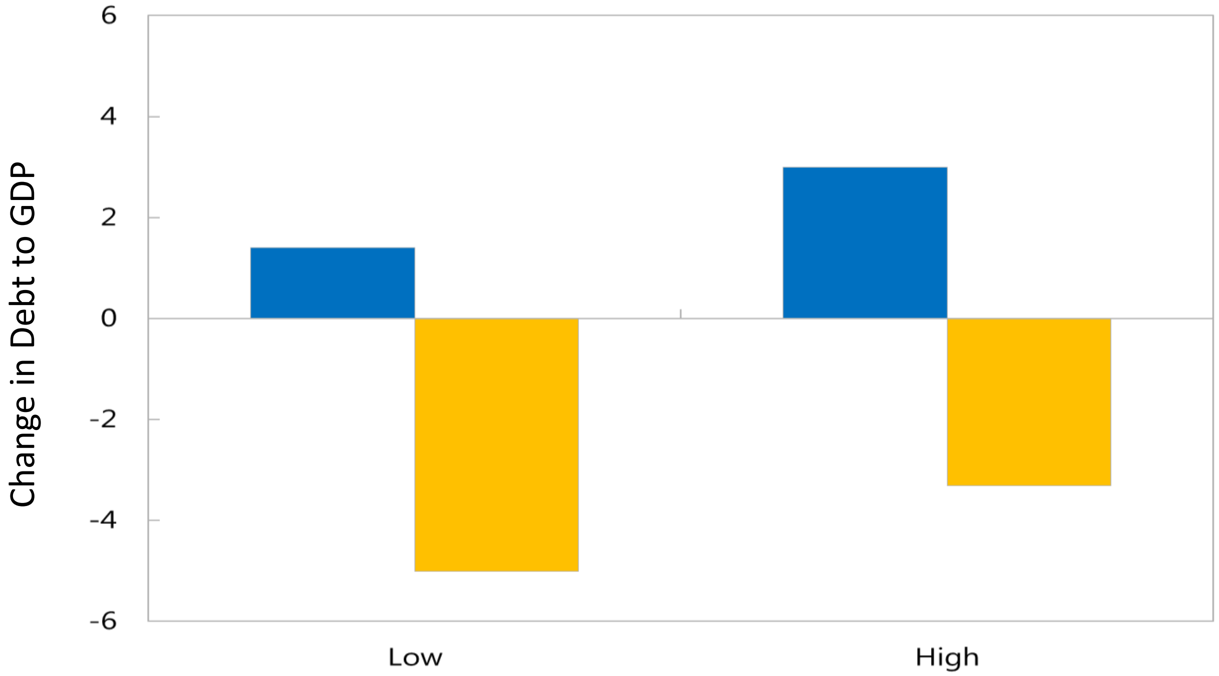
Source: Crivelli, Gupta and Mulas-Granados (2016). Data DPI (2015)

Common pool results: Parliamentary majorities and small cabinets are associated with better debt results

Margin of Majority

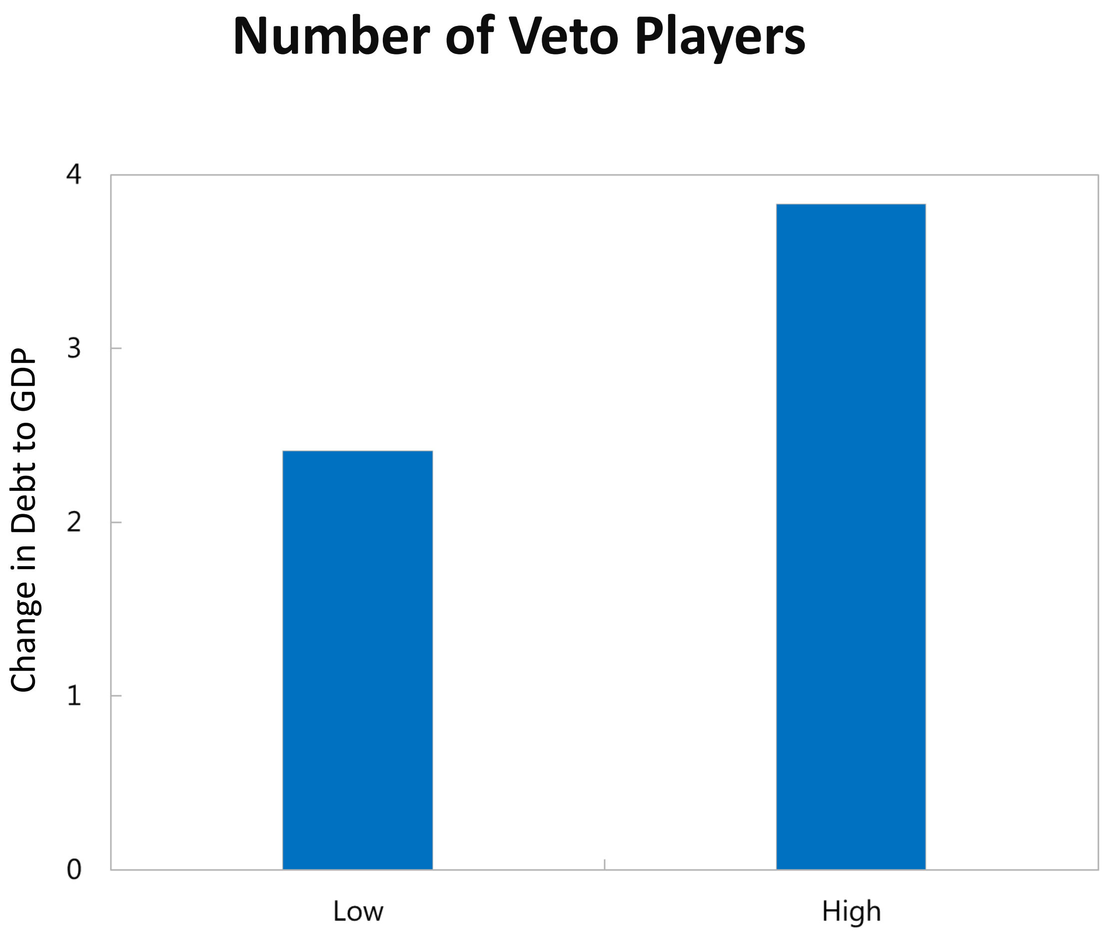


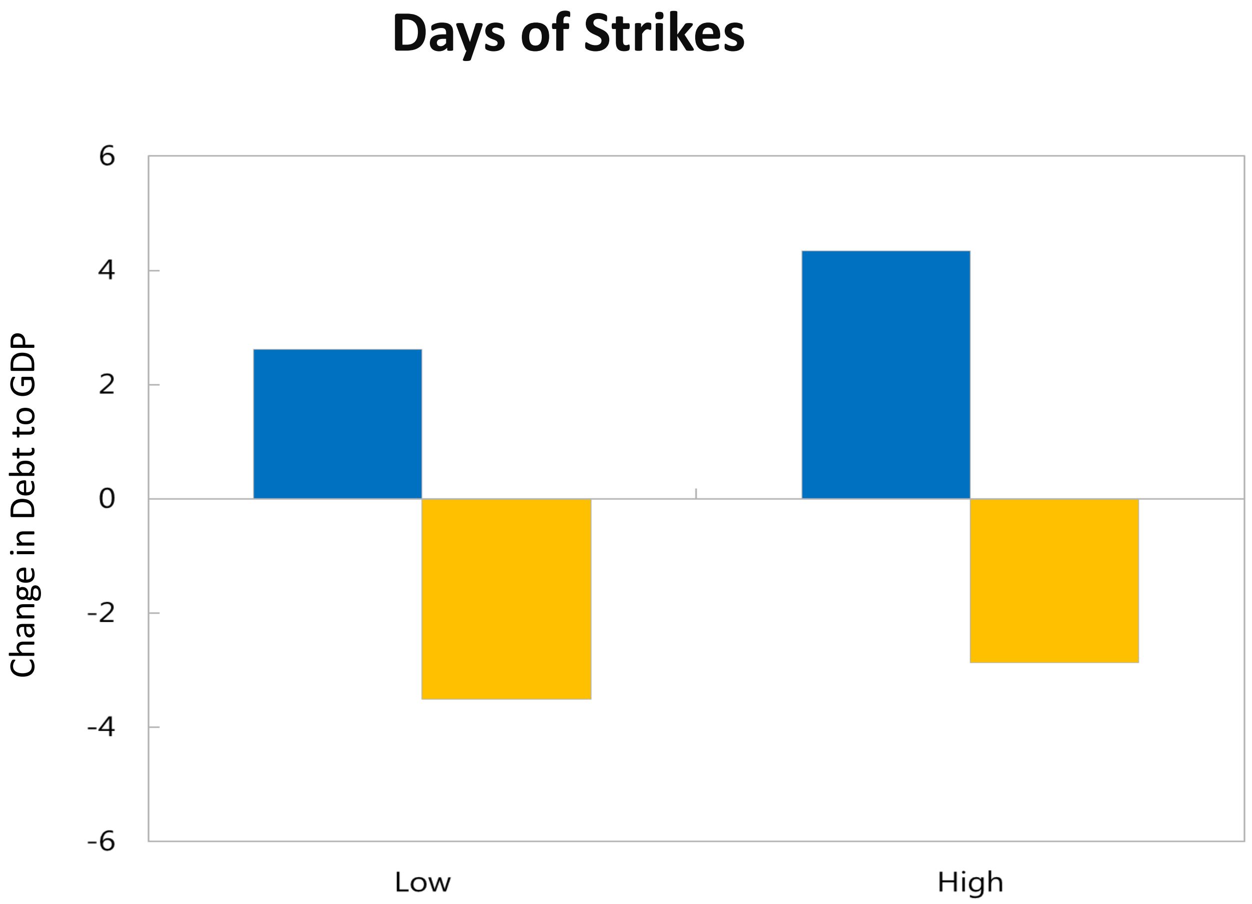
Number of Ministers



Advanced Economies   Emerging and Developing Economies

Veto players results: more political confrontation and social unrest lead to worse debt results.





Advanced Economies   Emerging and Developing Economies

C.Pool Regressions: Parliamentary weakness and polarization increase public debt

Common Pool Theory

	(1)	(2)	(3)	(4)	(5)	(6)
political system	3.405***					
	(0.931)					
margin of majority		-7.857*				
		(5.101)				
control of parliament			-5.522***			
			(1.554)			
Polarization				1.966**		
				(0.828)		
number of ministries					0.0013*	
					(0.001)	
number of opposition parties						-0.003
						(0.031)
R2	0.093	0.068	0.088	0.078	0.198	0.071
F-statistic	5.26	3.15	4.02	3.63	10.04	3.29
P-value	0.000	0.001	0.000	0.000	0.000	0.000
Observations	768	762	766	756	411	764
Number of countries	92	92	92	92	41	92

Notes:

Dependent variable is change in debt-to-GDP ratio. All control variables included in all regressions. Robust standard errors, in parenthesis; ***(**,*) indicate significance at 1(5, 10) percent.

V.Players Regressions: social unrest from labor market and aging societies increase public debt

Veto Players Theory

	(1)	(2)	(3)	(4)
number of veto players	0.619*			
	(0.434)			
change in unemployment rate		5.163***		
		(1.175)		
days of strike			0.003**	
			(0.001)	
old age dependency ratio				0.504***
				(0.102)
R2	0.249	0.099	0.134	0.102
F-statistic	4.02	8.36	5.67	6.46
P-value	0.000	0.000	0.000	0.000
Observations	137	724	470	750
Number of countries	20	92	63	92

Notes:
Dependent variable is change in debt-to-GDP ratio. All control variables included in all regressions. Robust standard errors, in parenthesis; ***(**,*) indicate significance at 1(5, 10) percent.

Conclusions

- Political fragmentation is an important factor explaining changes in public debt.
- Brazil is above the average in both set of indicators. Political fragmentation is high and the strength of veto players increasing.
- Public debt accumulation in Brazil has been impacted by political fragmentation.
- Government’s fiscal adjustment strategy can be seen as an attempt to contain the effects of fragmentation by imposing a hard budget constraint.
- Political reform in Brazil (including “Clausula Barreira”) may have a positive effect on fiscal discipline.

More information

Access to the full report www.imf.org/external/country/BRA/

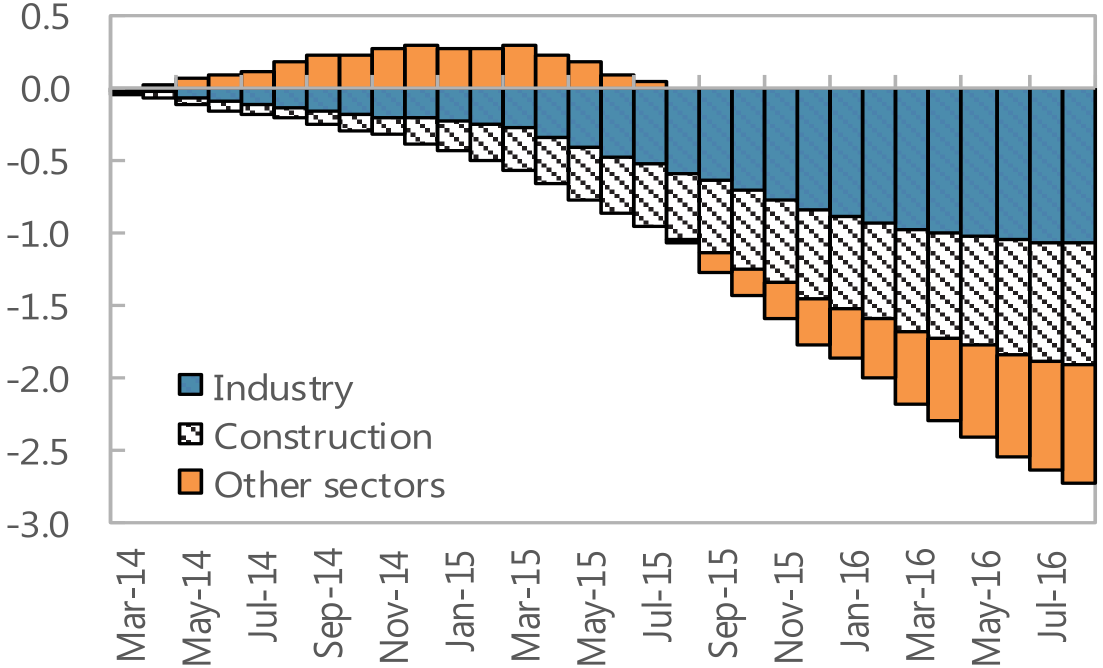
Including papers on:
Financial and Business Cycle in Brazil
Consumption in Brazil: Where to Next?
Fiscal Challenges of an Aging Population in Brazil
Stretching the Limits: The Evolution of Subnational Public Finances
Effectiveness of Intervention in Brazil
Upgrading Brazil’s Inflation Targeting Framework
Assessing Banking Sector Health in the Economic Downturn

EXTRA SLIDES

CONTEXT: The labor market is weak, especially for youth

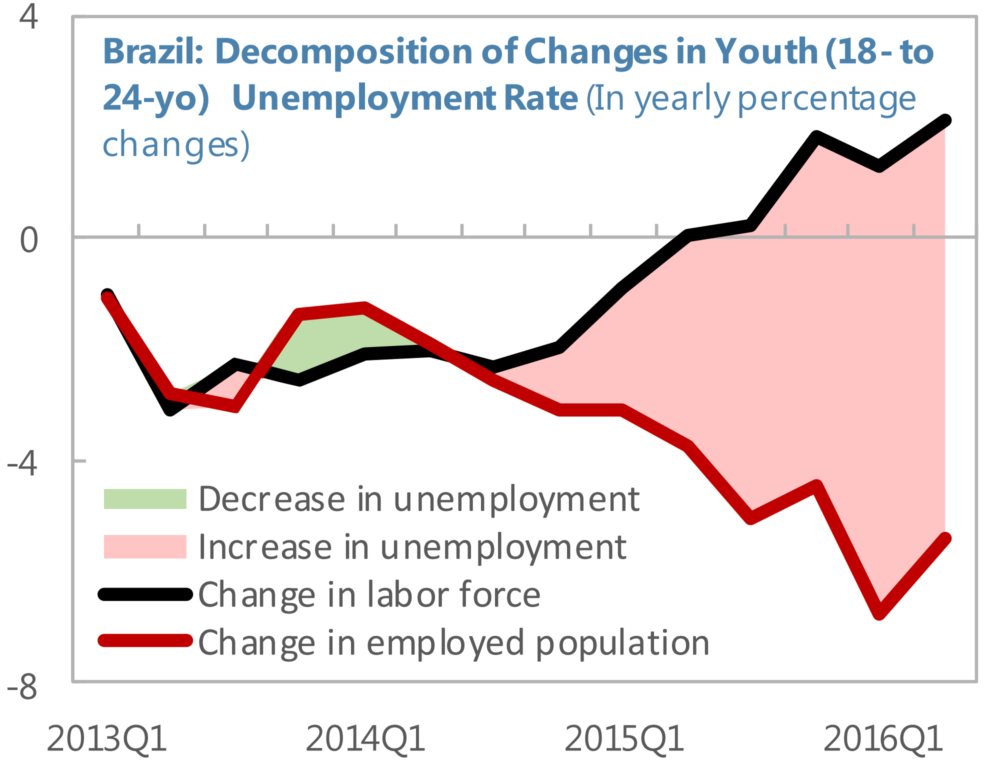
2.7 million formal jobs lost

Brazil: Net Formal Job Creation Since the Recession Began (In million jobs)



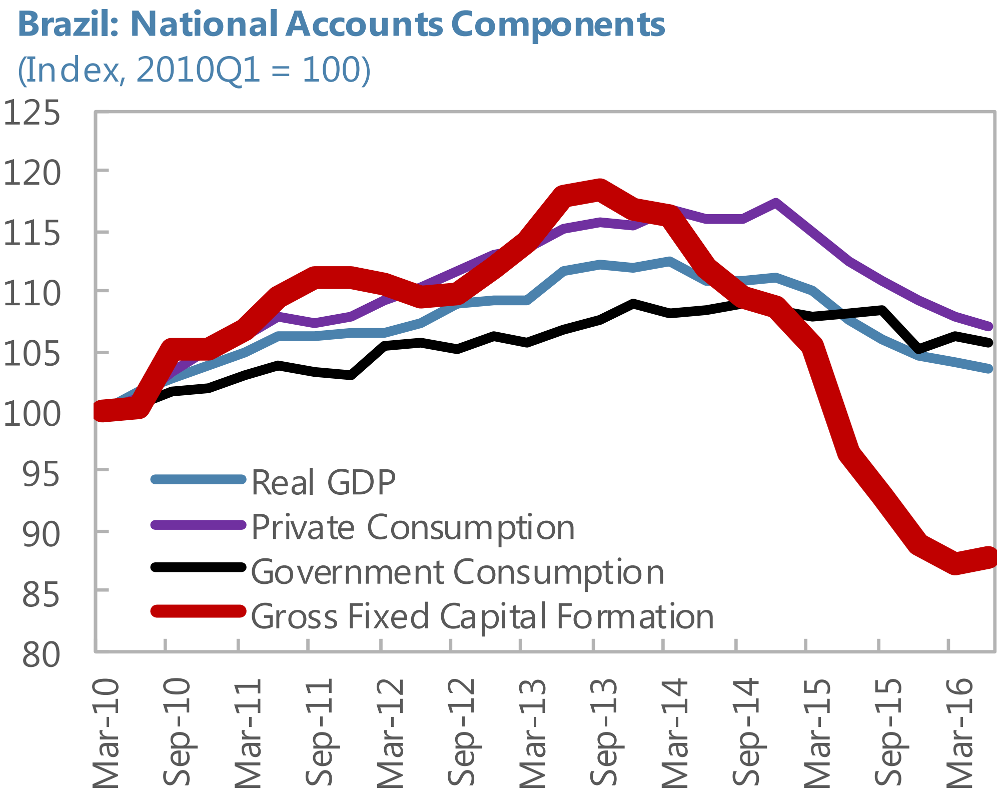
Sources: Brazilian Ministry of Labor.

Youth unemployment



Sources: IBGE and IMF Staff estimates.

CONTEXT: Investment has contracted by a quarter from its recent peak



Sources: Haver Analytics and World Economic Outlook.

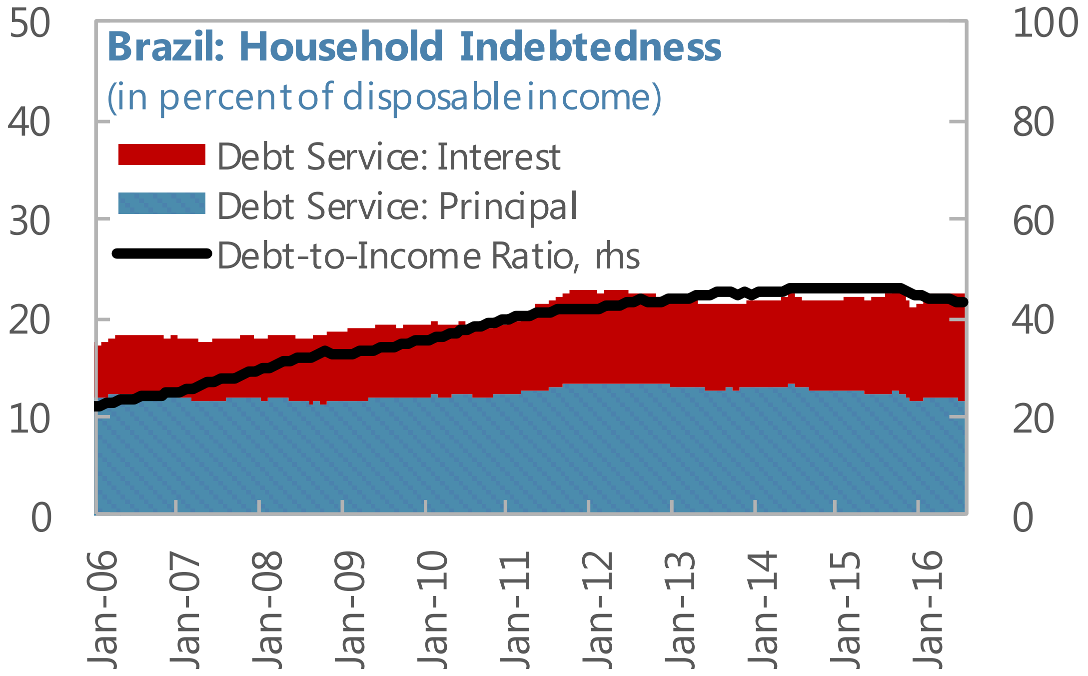
Triggers:

- Realignment of regulated prices
- Terms of trade shock
- Tight financial conditions
- High corporate debt
- Idiosyncratic factors (uncertainty, Car-Wash investigation)

Expectations for medium term growth are around 2 percent.

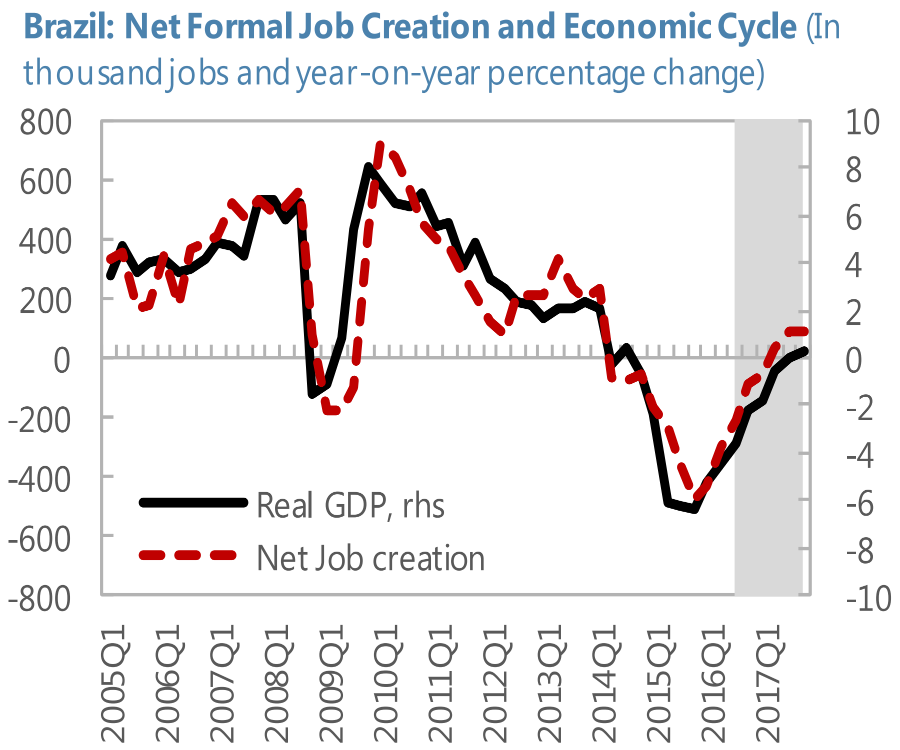
OUTLOOK: Household indebtedness and unemployment are a drag on consumption

Household debt service is high



Source: Central Bank of Brazil.

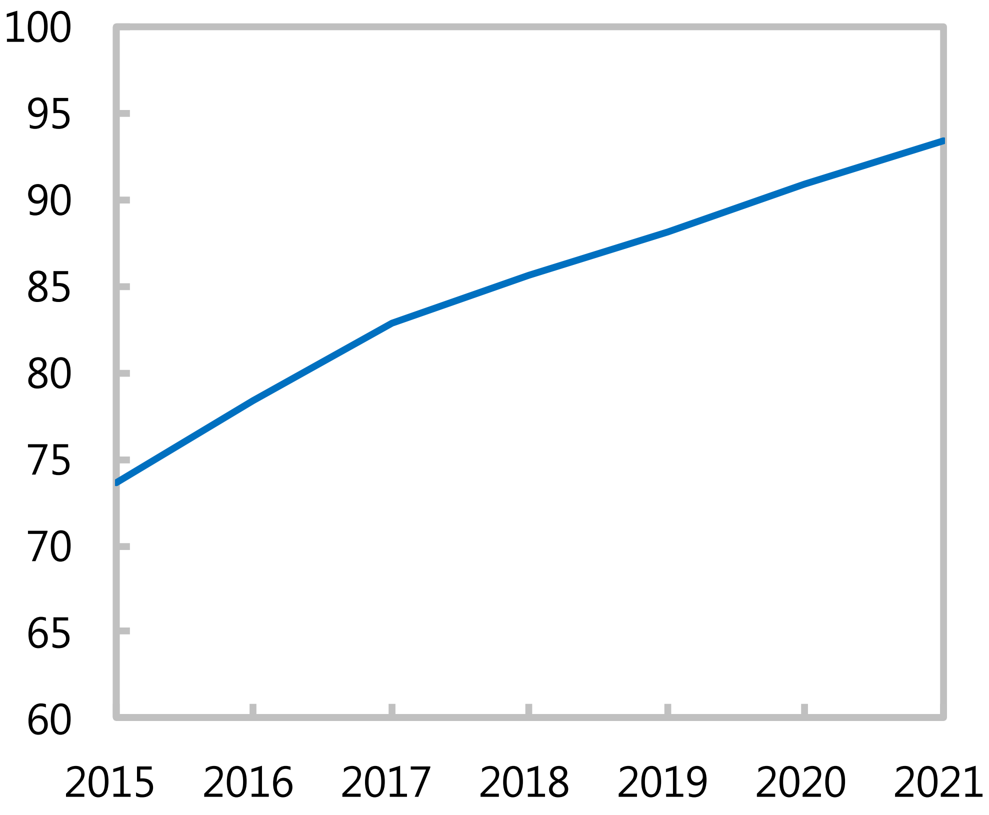
Job creation lags growth



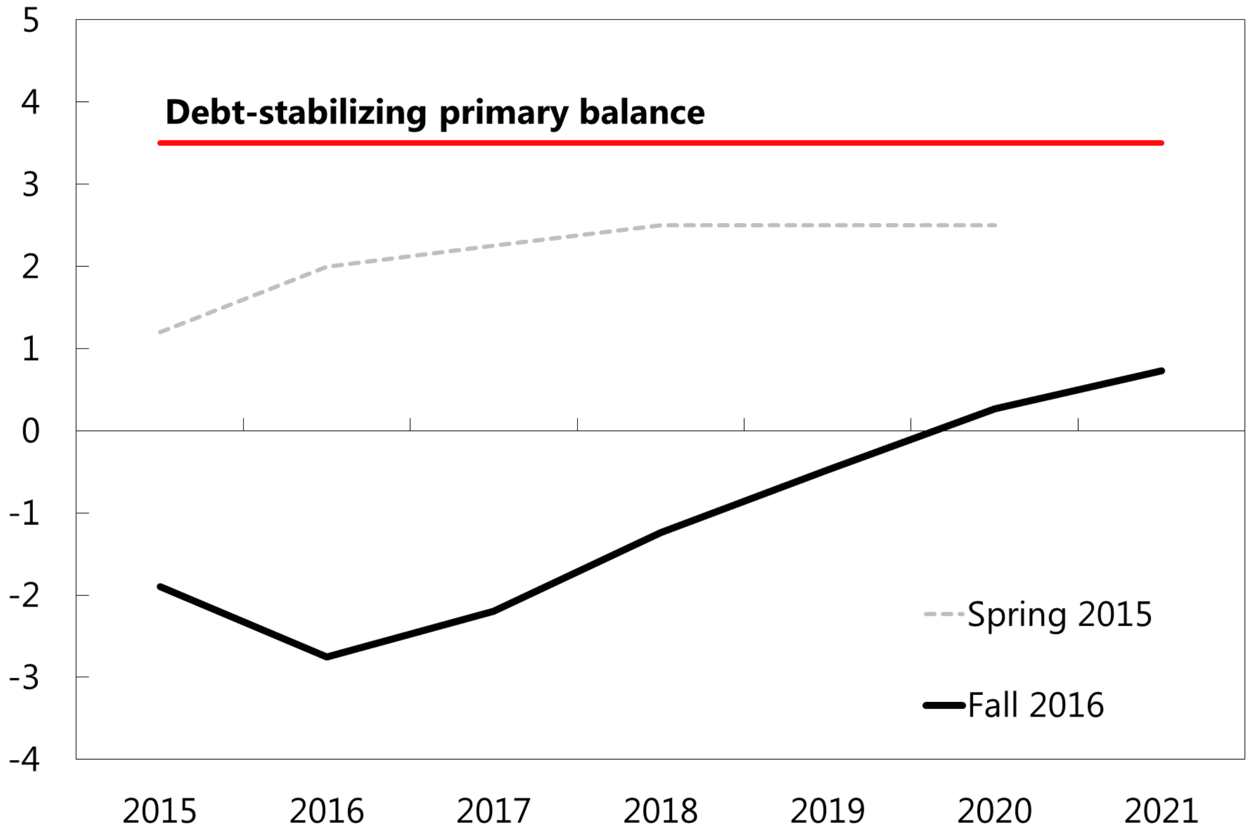
Sources: IBGE, Ministry of Labor, and WEO.

OUTLOOK: Public debt dynamics is challenging

Gross Nominal Public Debt
(Percent of GDP)

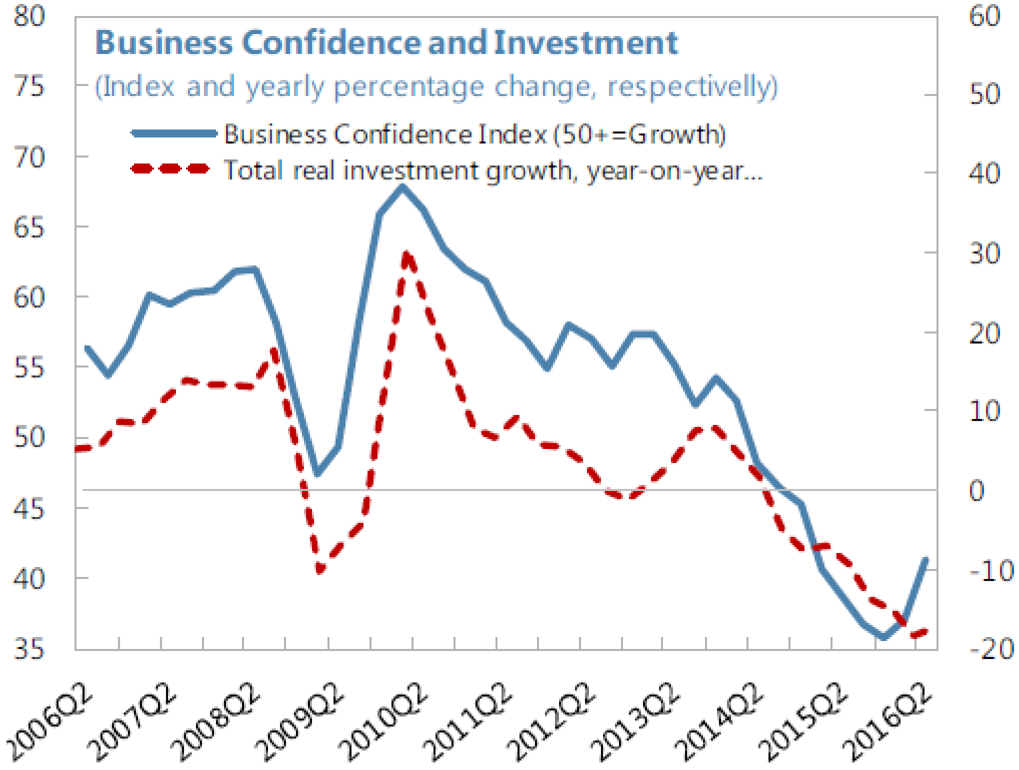


Primary Balance Path
(Percent of fiscal year GDP)



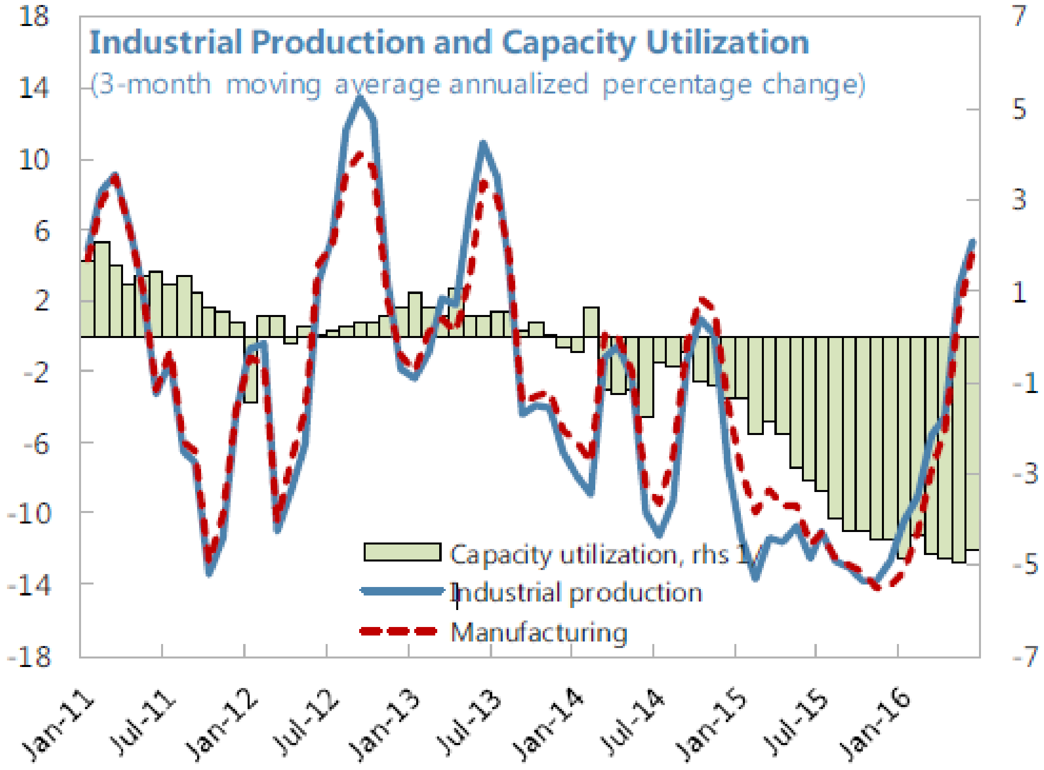
OUTLOOK: Will recovery be investment-driven?

Improved expectations



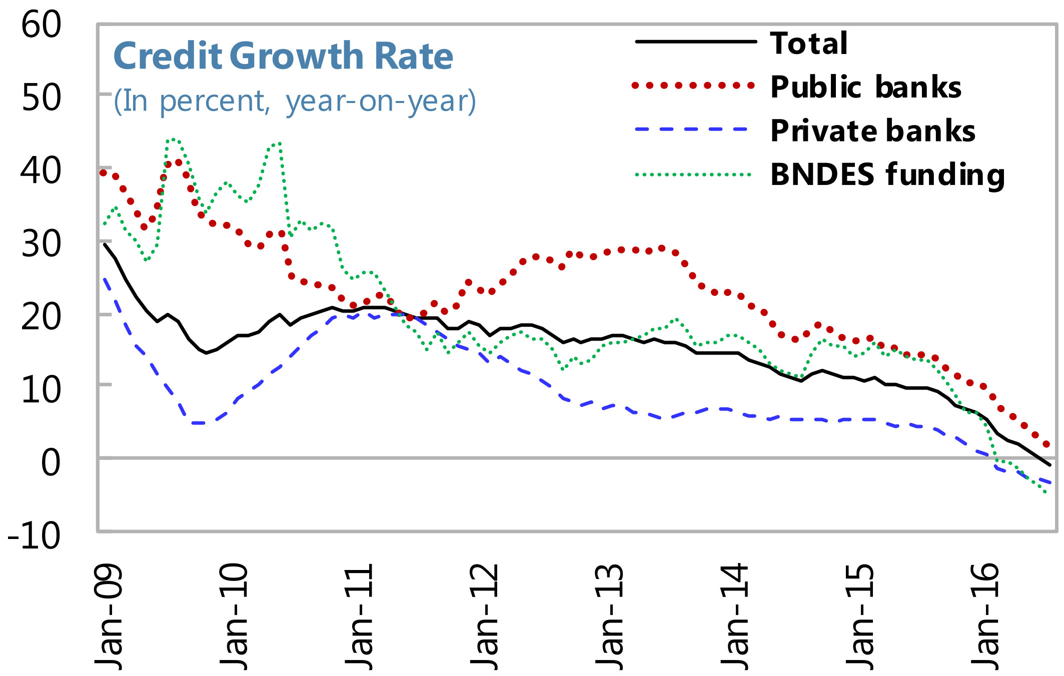
ources: Haver Analytics, IBGE; and Fund Staff estimates.

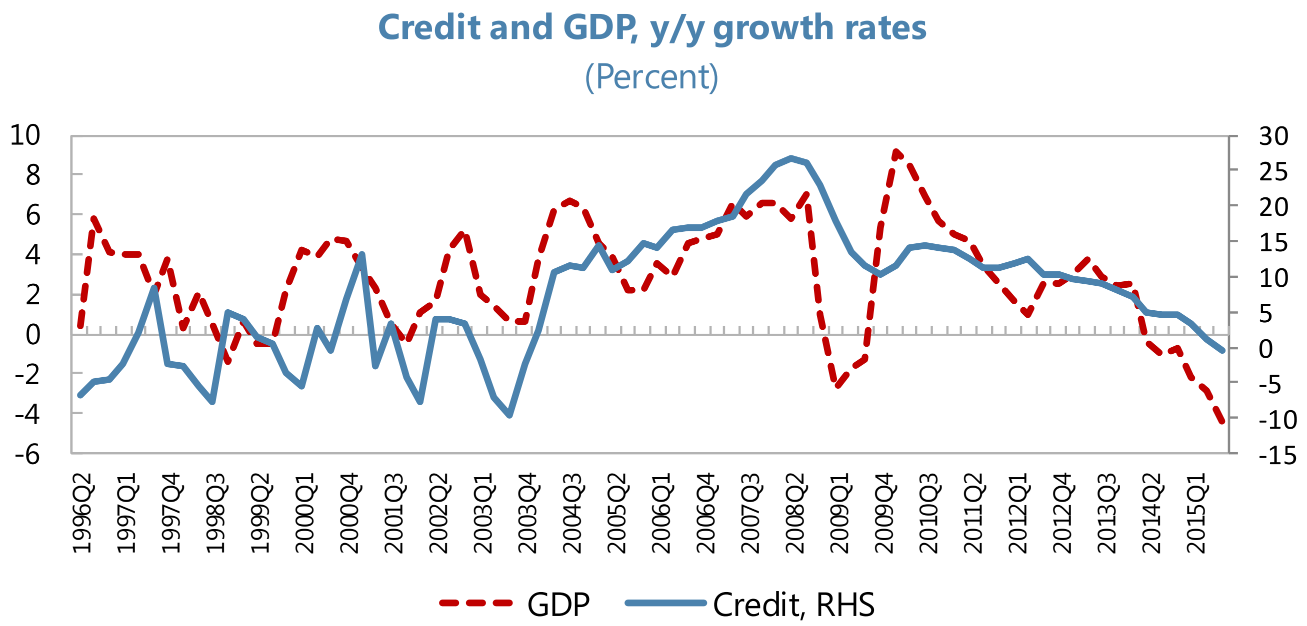
Signs of recovery



OUTLOOK: Credit conditions remain tight

Brazil is in the downturn phase of the credit cycle which highlight risks to the recovery going forward





POLICIES: What does it take to support recovery?

- **Restore Macro Policy Credibility**
  - Regain fiscal sustainability
  - Maintain a tight monetary policy stance

- **Boost Financial Sector Resilience**
  - Strengthen safety nets
  - Re-focus public banks' role
  - Eliminate credit earmarking

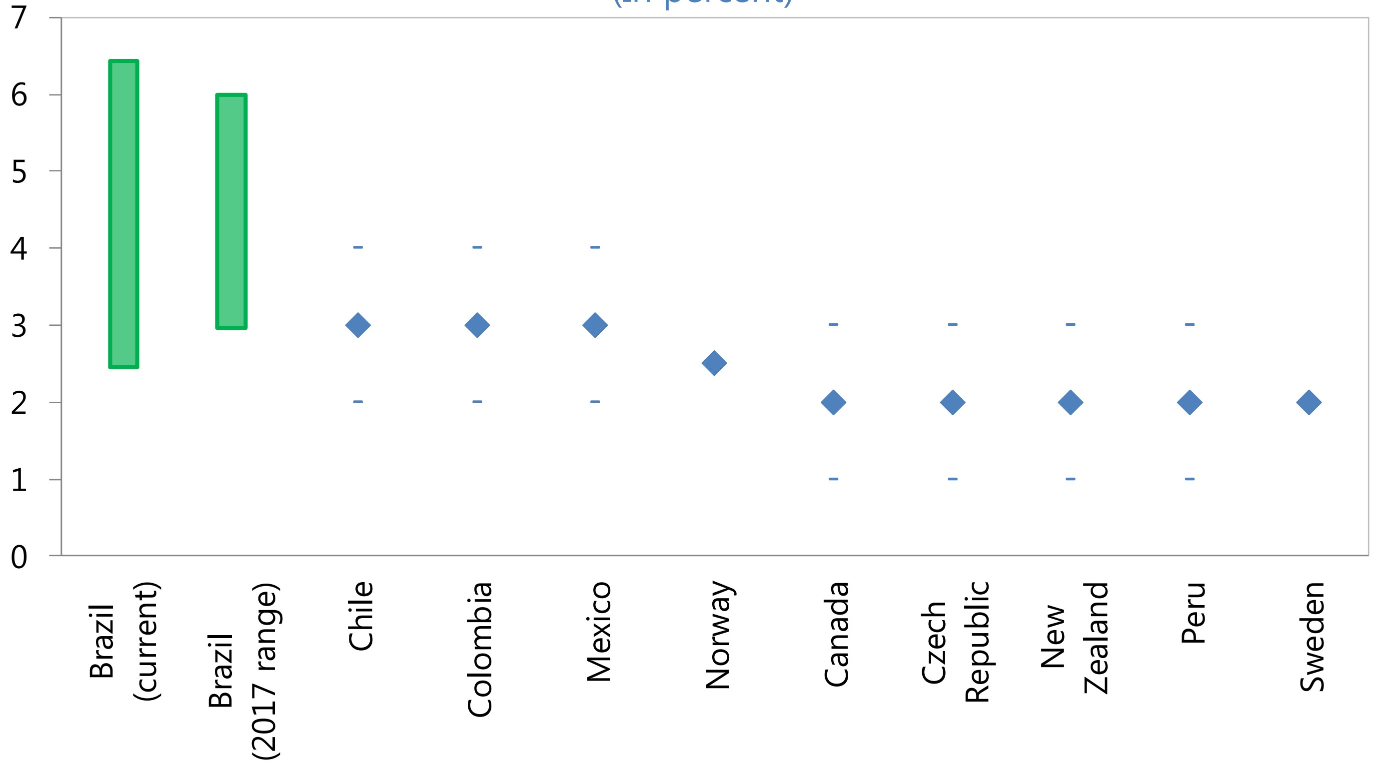
- **Boost Growth Potential**
  - Scale up infrastructure investment
  - Reforms to: open up trade, simplify tax system, make labor market more flexible…

POLICIES: Strengthening the IT framework

Objectives:

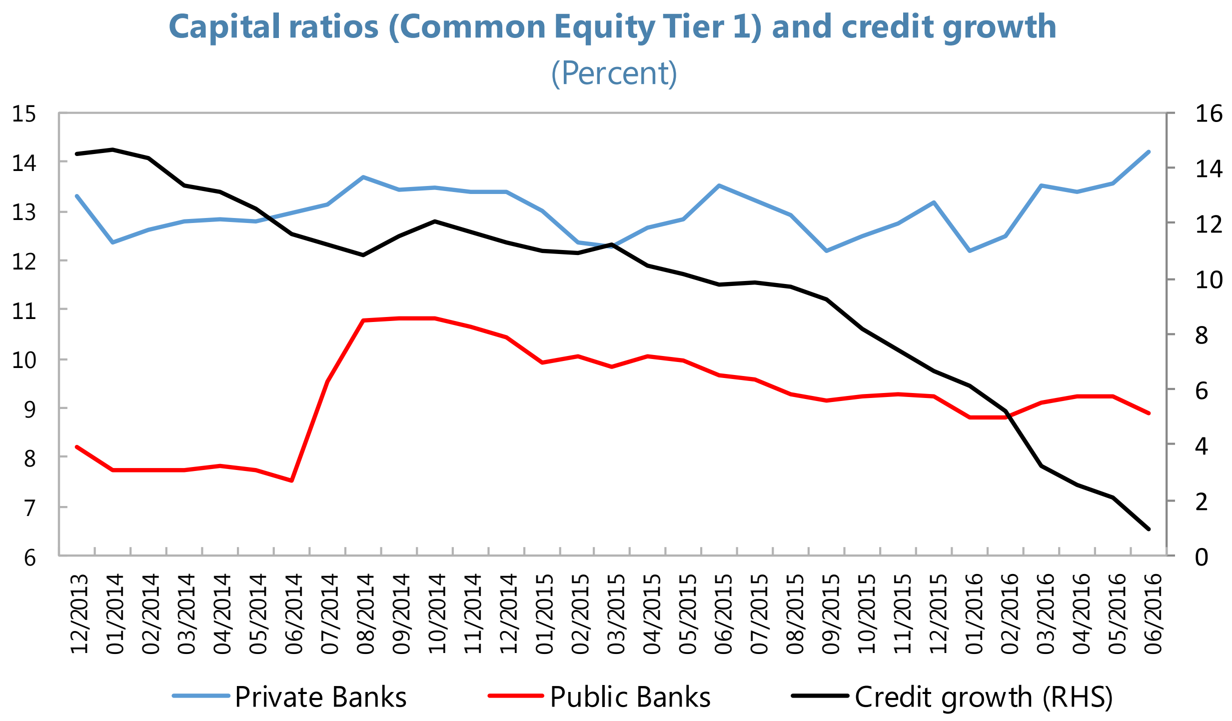
- Grant formal CB independence
- Point target
- Strengthen communication
- Adopt endogenous forecast model
- Governance reforms

Inflation Targets, Cross-Country Comparison[1]
(In percent)



(1) Established IFT central banks and Brazil
Source: Central banks or monetary authorities

POLICIES: Make banking sector more resilient to shocks



Safety nets should be strengthened to shield against future shocks

- Strengthen the procedures for use of the deposit insurance fund
- Enhance the central bank's emergency liquidity assistance
- Modernize the resolution regime
- Set up macroprudential and crisis management frameworks
- Follow through with the plans to strengthen private insolvency frameworks

POLICIES: Increase transparency and fight corruption

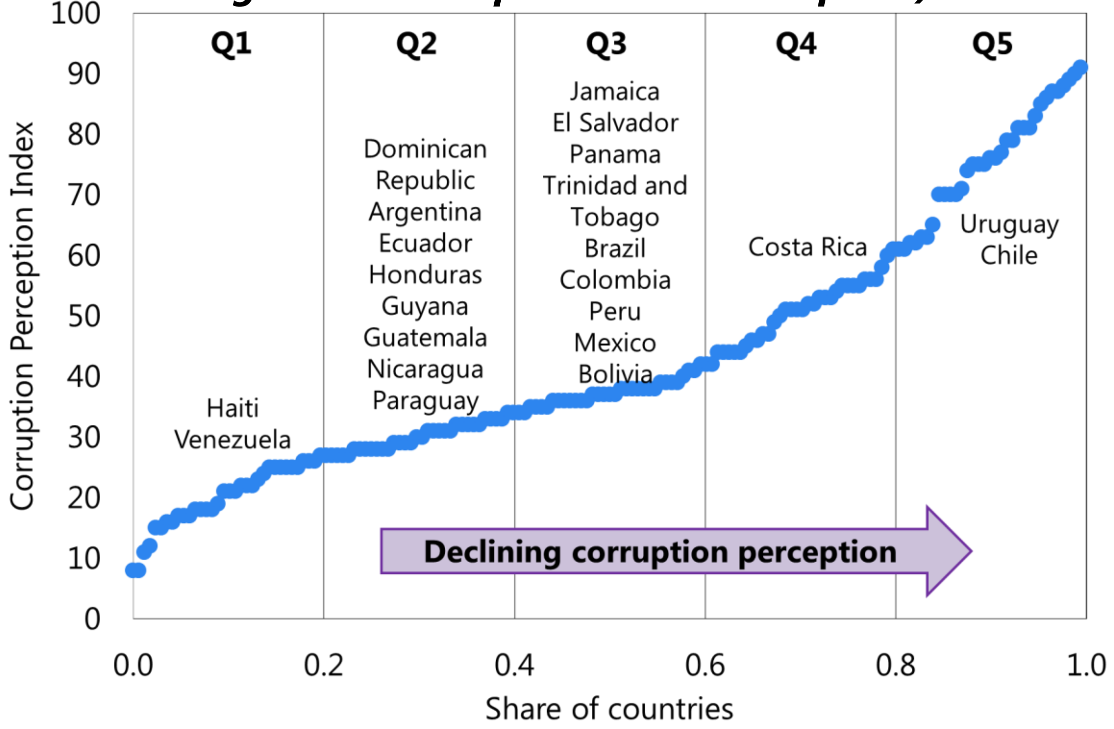
Fiscal Transparency

- Include all state-owned companies in fiscal statistics
- Improve fiscal reporting of States and Municipalities

IMF's *Fiscal Transparency Evaluation*

Fight Corruption

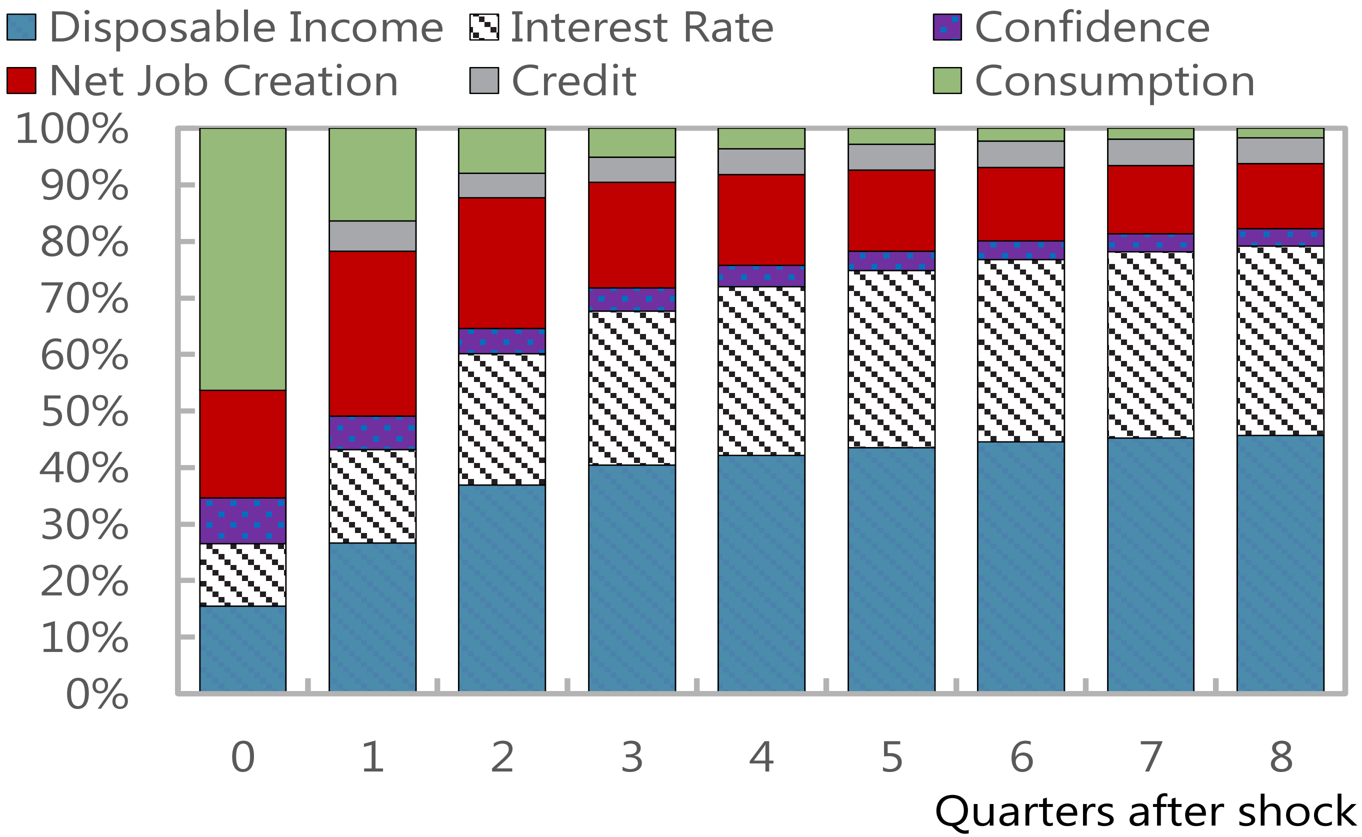
World Distribution of Corruption Perception, 2015
(Corruption Perception Index; higher values represent less corruption)



Sources: Transparency International, Global Corruption Barometer database; and IMF staff calculations.
Note: sample includes 168 countries, of which 22 are from Latin America and the Caribbean.

VECM full results

Figure 5: Explaining Consumption Changes at Different Horizons (In percent of forecast error explained by shocks)



Source: Authors' calculations.

VECM full results

Table 2: VECM Results

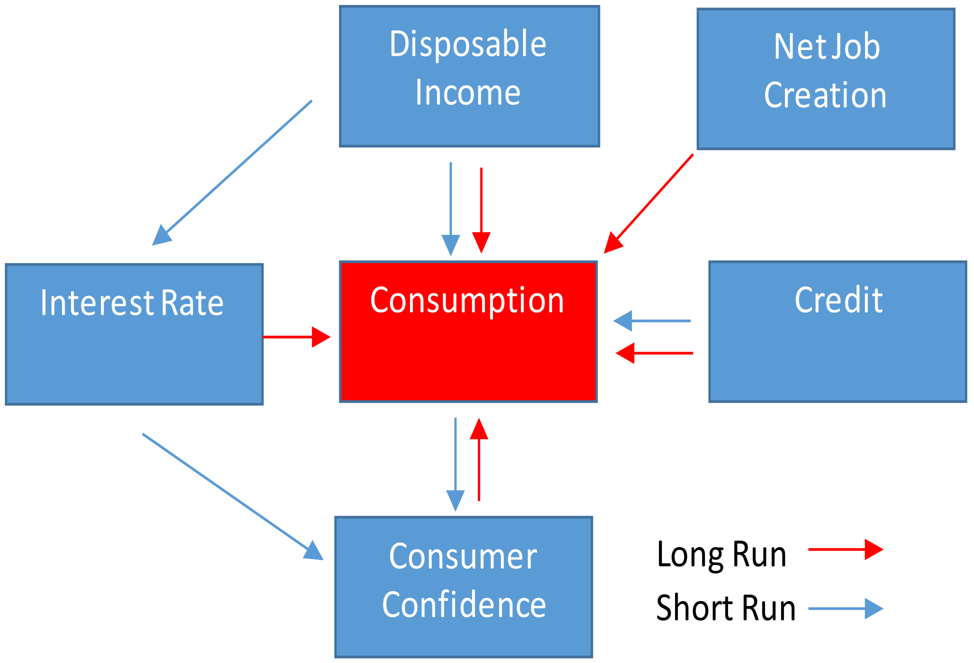
Model				Estimated Parmeters (standard errors in parentheses)					Cointegrating Vectors	
Model		c_t		y_t	r_t	jc_t	cc_t	cr_t	Trace (5%)	p-value
Basic	Long-run Equation	1	=	1.13					1	0.05
				(0.03)						
	ECM	0.11		0.26						
		(0.12)		(0.07)						
2	Long-run Equation	1	=	0.98	-0.61	1.06			1	0.00
				(0.02)	(0.10)	(0.12)				
	ECM	-0.70		0.10	-0.04	0.63				
		-(0.22)		-(0.17)	-(0.12)	-(0.57)				
3	Long-run Equation	1	=	1.00	-0.47	0.82	0.04		1	0.04
				(0.02)	(0.10)	(0.12)	(0.02)			
	ECM	-0.90		0.07	-0.22	0.48	0.19			
		(0.29)		(0.23)	(0.15)	(0.77)	(0.26)			
4	Long-run Equation	1	=	0.96	-0.13	0.62	0.08	0.07	1	0.02
				(0.05)	(0.11)	(0.11)	(0.02)	(0.04)		
	ECM	-1.06		0.13	0.04	-0.11	0.89	0.92		
		(0.27)		(0.24)	(0.17)	(0.27)	(0.80)	(0.45)		
Full	Long-run Equation	1	=	1.01	-0.37	0.75	0.05	0	1	0.02
				(0.02)	(0.10)	(0.12)	(0.02)	(0.00)		
	ECM	-1.20		0	0	0	0			
		(0.19)								

Source: Staff Estimates. .

Note: All VECMs are estimated using the Johansen proceedure with the lag length of the VAR determined by the SBC.

VECM full results

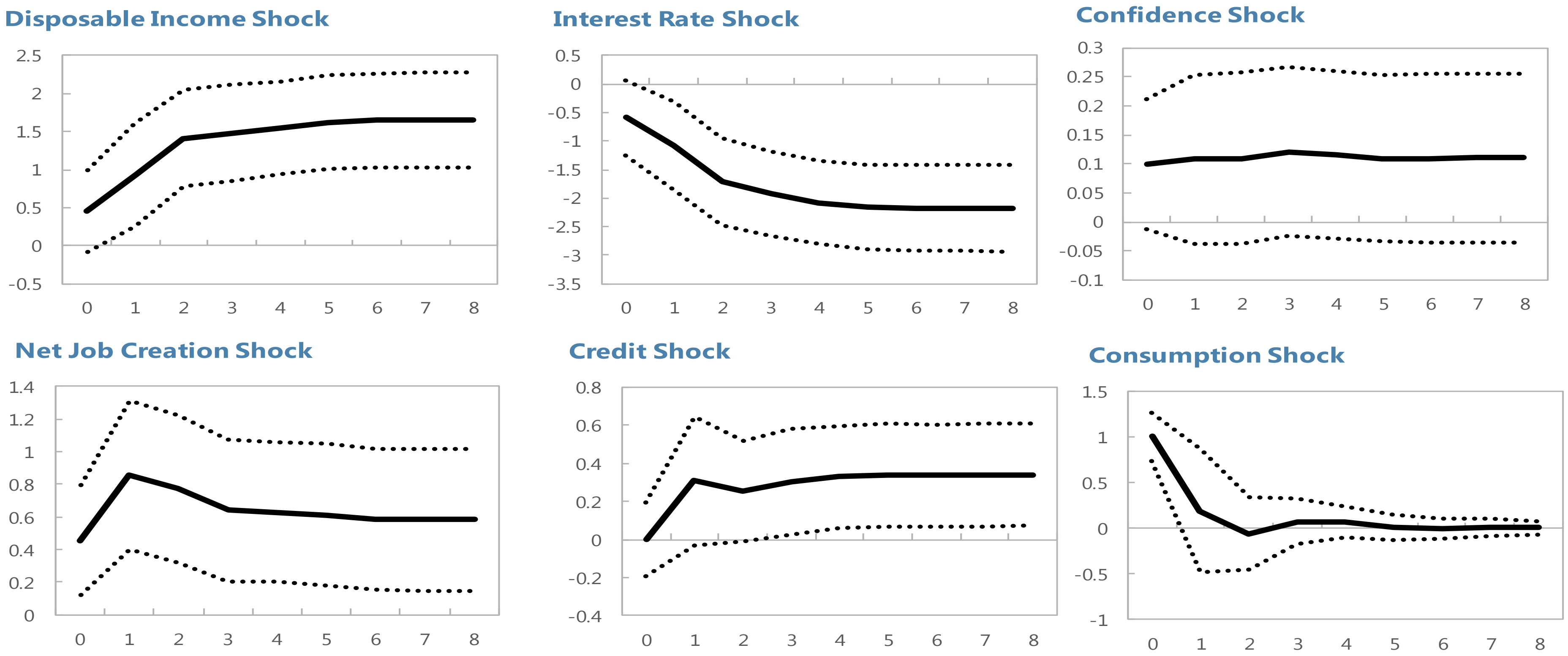
Figure 4: Granger Causality



Source: Staff Estimates

Note: Arrows reflect statistically significant causality at the 10 percent level

Consumption responses to shocks



Benchmarking pension spending

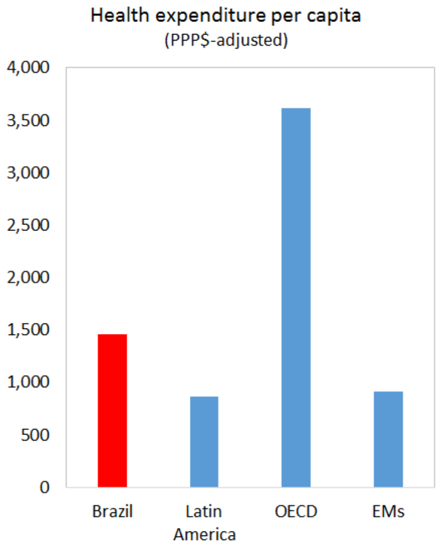
Table 2. Benchmarks of Key Indicators

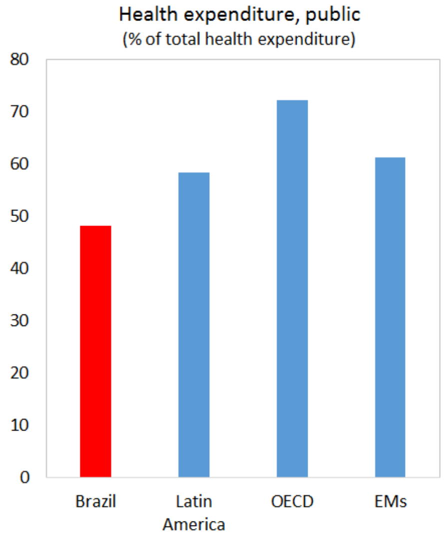
Pension spending (percent of GDP)			
Brazil	11.3		
Advanced Average	8.7		
Emerging Average	5.0		
Developing Average	1.8		
Statutory retirement age - male		**Statutory retirement age - female**	
Brazil	65	Brazil	60
Advanced Average	64	Advanced Average	63
Emerging Average	61	Emerging Average	59
Developing Average	59	Developing Average	58
Old age dependency ratio (pop. 65+/pop. 15-64)		**Avg. spend. per pensioner (% GDP per pop. 15-64)**	
Brazil	12	Brazil	105%
Advanced Average	26	Advanced Average	32%
Emerging Average	11	Emerging Average	57%
Developing Average	6	Developing Average	85%
Contribution Rate, Pensions		**Coverage (Pensioners to pop. 65 and older)**	
Brazil	28%	Brazil	93%
Advanced Average	20%	Advanced Average	106%
Emerging Average	15%	Emerging Average	77%
Developing Average	13%	Developing Average	34%

- High spending-to-GDP
- Young population
- Low (effective) retirement age
- High replacement rates
- High contribution rates (and informality)

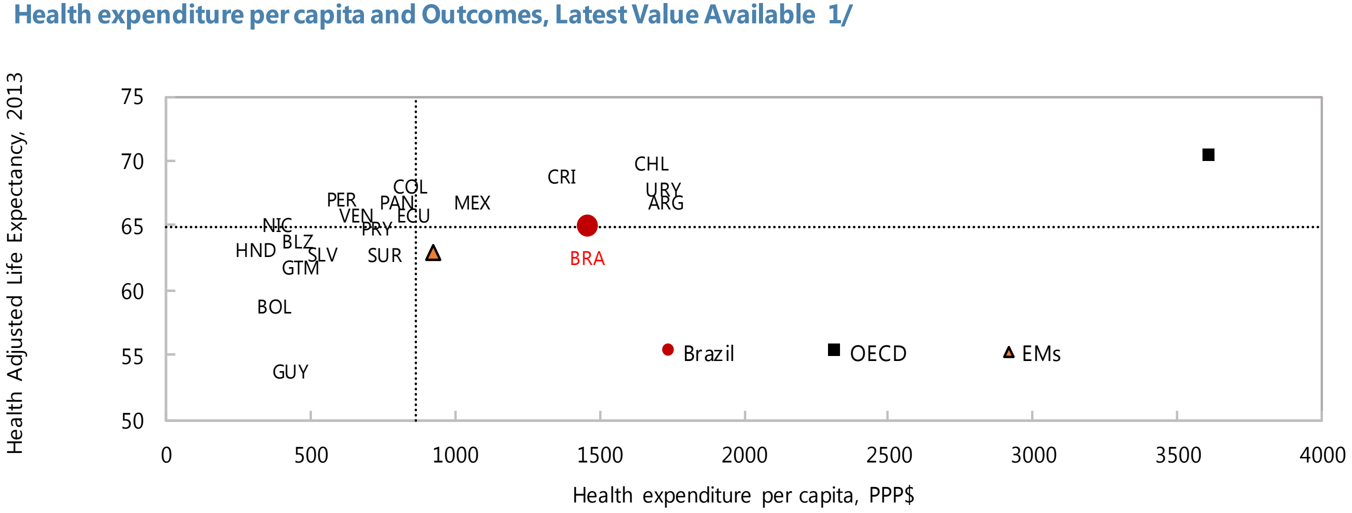
Spending on health

Spending on private programs is higher than in other LAC. Total spending is in line with OECD. Efficiency is low.





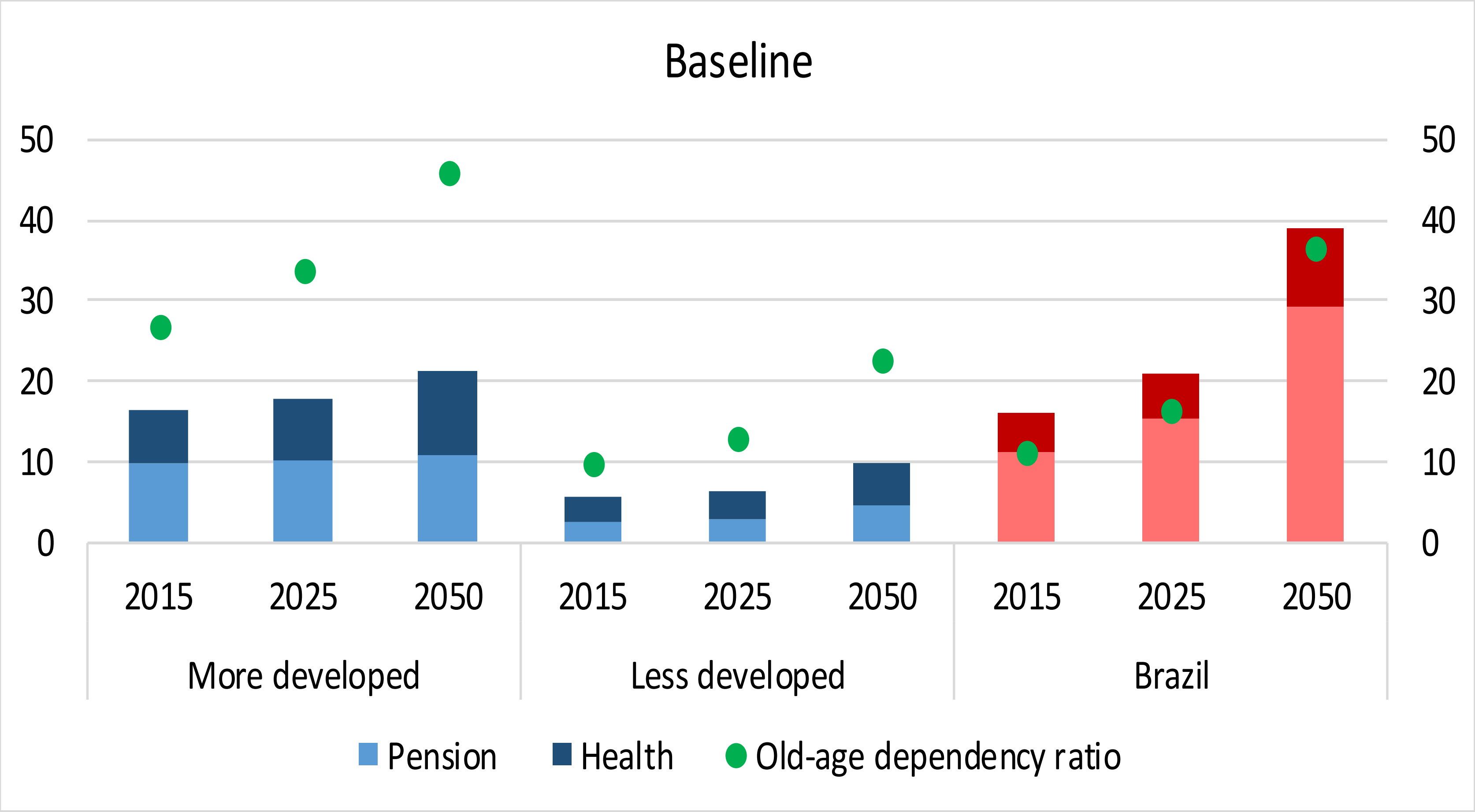
Source: World Bank, WDI.



Sources: World Bank.

1/ Dashline is the average for Latin America

Long-term growth of pensions and health spending



Health reform options

Objective: lower "excess" cost growth

Micro level reforms:

- Health technology assessment
- Abolish tax-deductibility of private insurance contributions
- Clinical guidelines
- Reduce dependency on imported technologies
- Renegotiating pharmaceutical deals
- Introduce global budgets and activity-based

payment mechanisms.