Taming Cycles: China's Growth Targets and Macroeconomic Management

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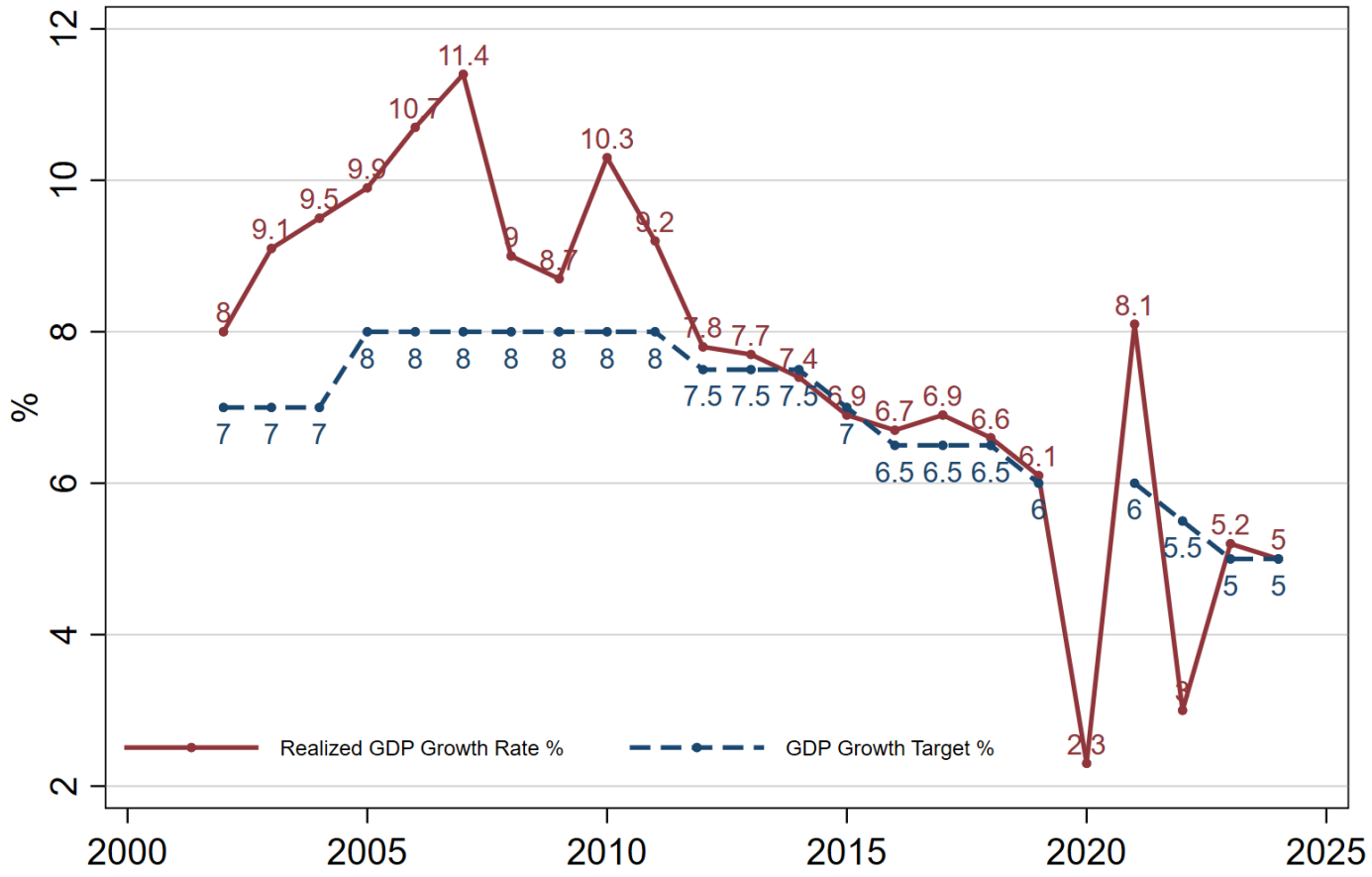
China's GDP Growth and Growth Targets



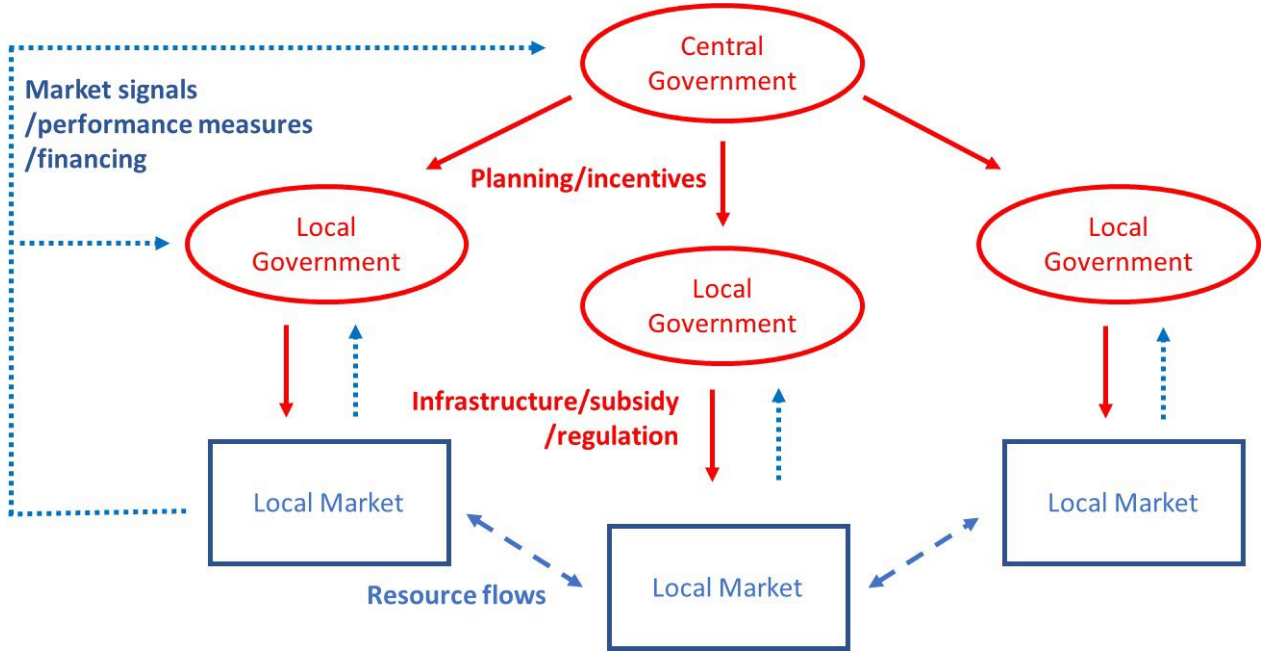
- The targets have been consistently achieved
- Is it a work of Bureau of Statistics?
- How are these targets met?
- What are the associated trade-offs?

Meeting the Target in 2024

- Politburo Meeting: September 26, 2024
  - Prompted by the urgency to meet the 2024 growth target of 5%
  - New stimulus programs by Ministry of Finance, PBC, and NDRC, featuring substantial fiscal and monetary supports
- Politburo Meeting: December 9, 2024
  - Renewed optimism about meeting the 2024 growth target
  - Setting a 2025 growth target of 5%, accompanied by projections of unconventional macroeconomic intervention measures
- State Council's Annual Routine in March
  - Presenting work reports to the National People's Congress
  - Reviewing macroeconomic interventions used to achieve the previous year's growth target
  - Announcing the growth target for the current year

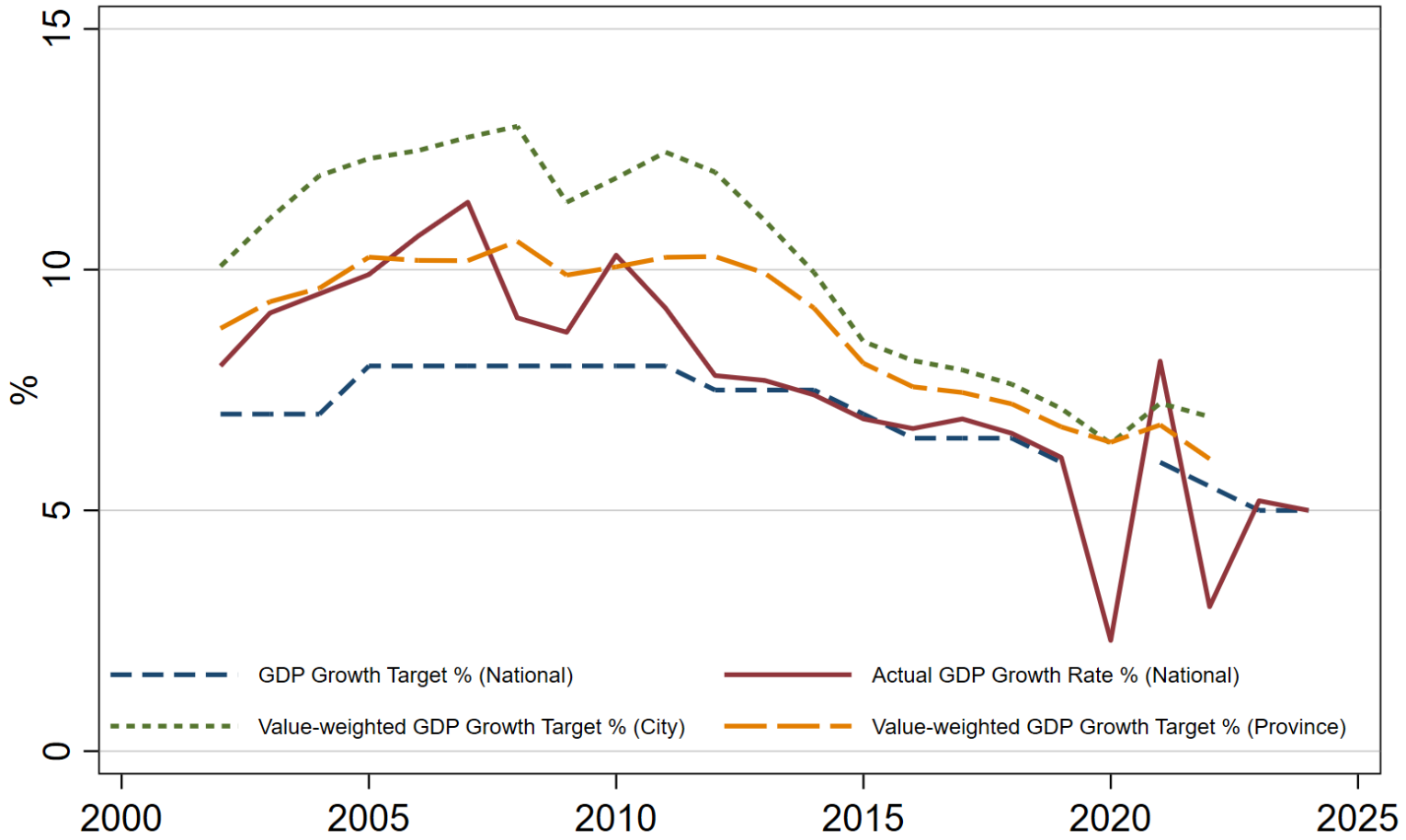
China's Hybrid Economy

- Economic planning + market forces
- Central government continues to use economic planning to set overall priority and goals for the economy
  - Using a top-down approach to direct and motivate local governments
  - Local governments use incentives, regulations and administrative orders to guide firms
- Market mechanisms operate at the peripheral
  - better incentives for individuals and firms
  - provide taxes, market signals, performance measures to the state system



- This machinery turned a shortage economy into an industrial powerhouse
- It also induces various distortions, e.g., Song and Xiong (2024) "The Mandarin Model of Growth"

“Top-Down Amplification"



- Growth targets are delivered by local governments
- The national growth target is broken down into regional targets
- Regional governments choose targets higher than their mandates, e.g., Zhou et al. (2015)
  - To ensure meeting expectations of superiors
  - To coordinate efforts and motivate subordinates to exceed expectations

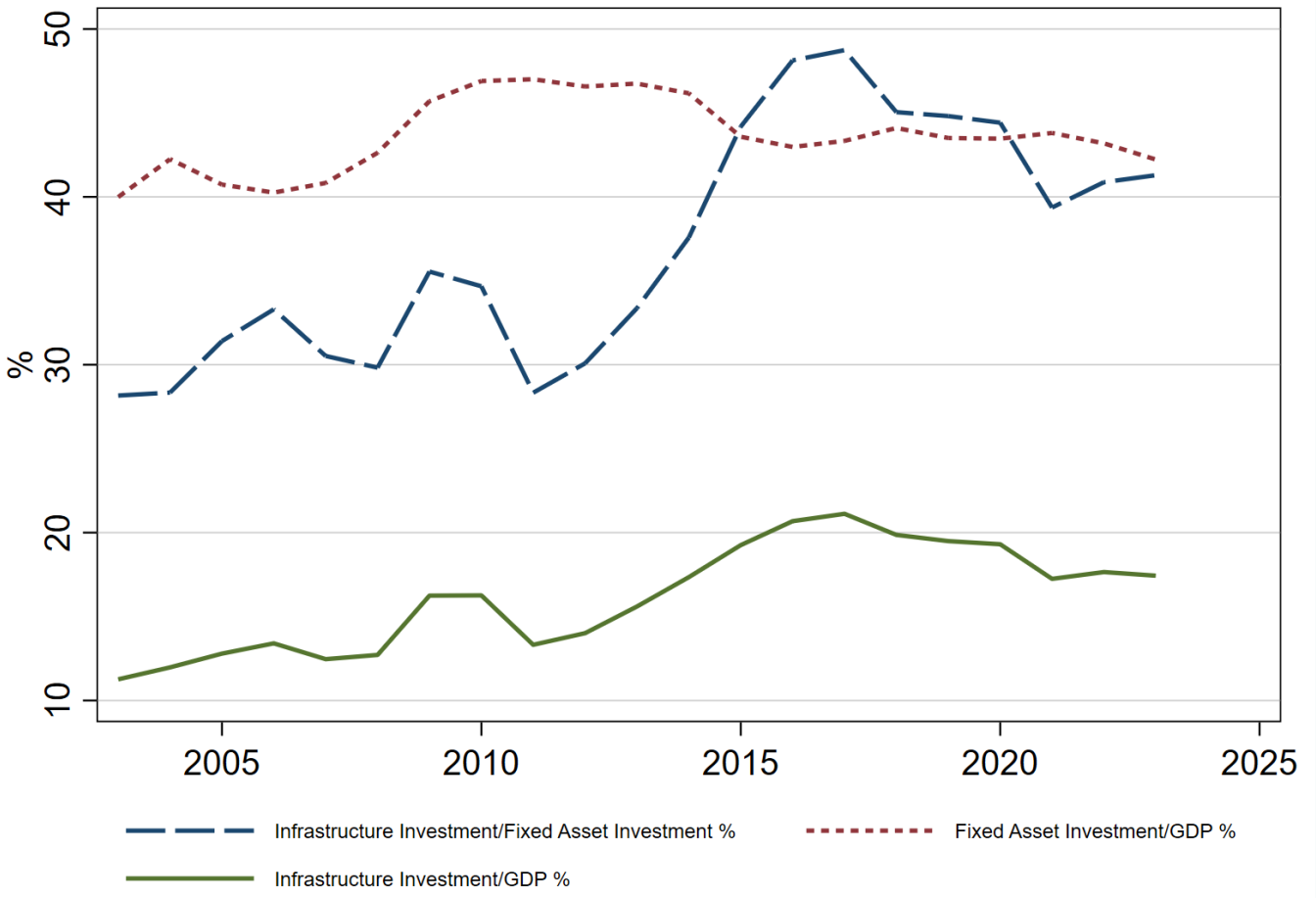
China's Macroeconomic Management

- Extensive use of national measures, through monetary, fiscal, and industrial policies, to assist local governments in achieving their targets
  - Local governments carried out over 80% of fiscal spending in China
- When facing shortfalls in meeting targets, infrastructure investment serves as a common intervention tool
  - with or without national policy supports
- Financing regional interventions
  - Regular fiscal budgets, funded by tax revenue and central government transfers
  - Off-budget government funds, with over 90% financed by land sales
  - Off-balance sheet debt financing, through Local Government Financial Vehicles (LGFVs)

Are Growth Targets a Side Show?

- Central hypothesis: ambitious growth targets compel local governments to implement more intensive interventions
  - $GDP\ Gap_{i,t} = Growth_{i,t} - Target_{i,t}$
- When faced with larger negative GDP gaps, local governments tend to:
  - Undertake additional state-led infrastructure projects
  - Increase land sales
  - Rely more heavily on debt financing

China’s Infrastructure Investment



GDP Gap and Infrastructure Investment

- Provincial level data in 2004-2022
- A 1% GDP gap is associated with a 0.4% increase in infrastructure investment as a share of GDP
  - This estimate does not include the base effect

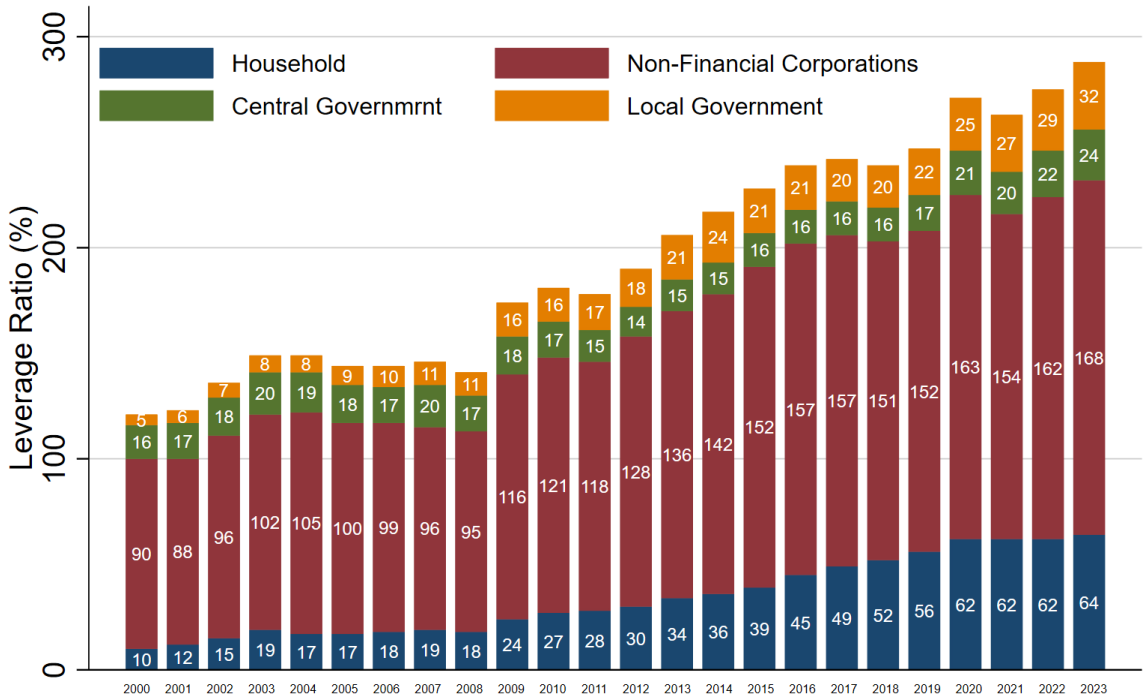
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Normalized Infrastructure Change $_{i,t}$ (%)						
			2004-2022			2004-2008	2009-2022
$Gap_{i,t}$ (%)	-0.535***	-0.404**	-0.407**	-0.409**		-0.358	-0.449*
	(-3.55)	(-2.19)	(-2.20)	(-2.19)		(-1.36)	(-1.89)
$D[Gap_{i,t} = 0]$			1.254**	1.247**			
			(2.59)	(2.66)			
$D[Gap_{i,t} = -0.1]$				-1.057			
				(-1.24)			
$D[Gap_{i,t} = 0.1]$				0.337			
				(0.61)			
GDP Growth $Rate_{i,t-1}$ - $Target_{i,t}$ (%)					-0.692***		
					(-4.14)		
$Ln(Infrastructure_{i,t-1})$	-1.152***	-1.525***	-1.567***	-1.604***	-1.794***	-3.531**	-2.213***
	(-3.88)	(-2.99)	(-3.07)	(-3.07)	(-3.55)	(-2.32)	(-3.07)
GDP Growth $Rate_{i,t}$ (%)	0.676***	0.907***	0.912***	0.916***		0.787**	0.973***
	(4.56)	(5.05)	(5.14)	(5.16)		(2.26)	(3.90)
GDP Growth $Rate_{i,t-1}$ (%)					0.876***		
					(4.59)		
Ln(GDP per Capita) $_{i,t}$	1.133	-1.522	-1.665	-1.650	-1.561	-11.220**	0.024
	(1.63)	(-0.96)	(-1.03)	(-1.02)	(-0.97)	(-2.68)	(0.01)
Secondary $Sector_{i,t}$ (%)	0.018	0.079	0.073	0.076	0.082	-0.051	0.006
	(0.19)	(0.90)	(0.84)	(0.88)	(0.89)	(-0.21)	(0.03)
Third $Sector_{i,t}$ (%)	0.066	0.146	0.134	0.138	0.126	-0.017	0.181
	(0.59)	(1.13)	(1.06)	(1.09)	(0.95)	(-0.07)	(1.00)
$Inflation_{i,t}$ (%)	-0.513***	0.091	0.090	0.081	0.074	-0.073	0.443*
	(-8.59)	(0.60)	(0.58)	(0.53)	(0.45)	(-0.56)	(1.93)
Constant	-9.141	11.437	13.933	13.788	15.020	128.611***	1.872
	(-1.16)	(0.67)	(0.81)	(0.80)	(0.86)	(2.87)	(0.06)
Province FE	YES	YES	YES	YES	YES	YES	YES
Year FE	NO	YES	YES	YES	YES	YES	YES
Observations	588	588	588	588	588	155	433
Adj. R-squared	0.218	0.369	0.372	0.372	0.216	0.312	0.392

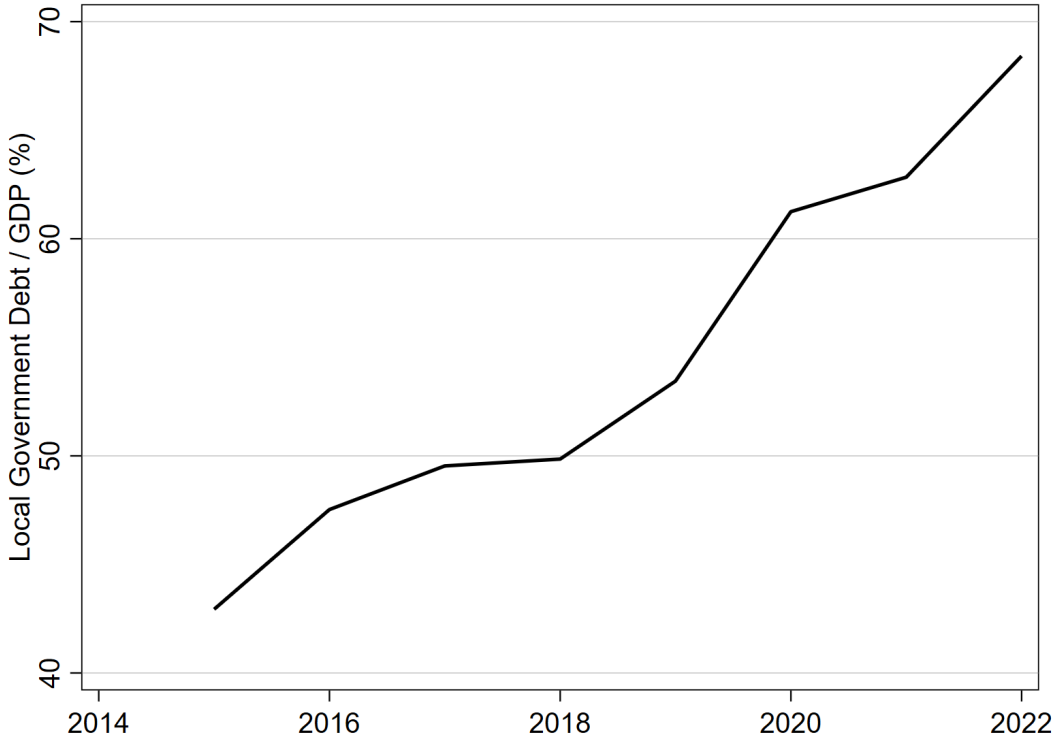
GDP Gap and Land Sales

- Local governments monopolize land supply
  - Land costs account for approximately 50% of housing prices
- City level data in 2004-2022
- A 1% GDP gap is associated with an increase in land sales equivalent to 0.07% of GDP

	(1)	(2)	(3)	(4)
	Normalized Land Transaction Change $_{i,t}$ (%)			
$Gap_{i,t}$ (%)	-0.069**	-0.069**	-0.069**	
	(-2.15)	(-2.16)	(-2.18)	
$D[Gap_{i,t} = 0]$		0.419**	0.400**	
		(2.14)	(2.04)	
$D[Gap_{i,t} = -0.1]$			-0.145	
			(-0.47)	
$D[Gap_{i,t} = 0.1]$			-0.319	
			(-1.32)	
GDP Growth $Rate_{i,t-1}$ - $Target_{i,t}$ (%)				-0.063*
				(-1.89)
Ln(Land Transaction $Value_{i,t-1}$)	-1.425***	-1.423***	-1.422***	-1.376***
	(-13.49)	(-13.40)	(-13.39)	(-12.95)
GDP Growth $Rate_{i,t}$ (%)	0.135***	0.133***	0.135***	
	(4.90)	(4.86)	(4.90)	
GDP Growth $Rate_{i,t-1}$ (%)				0.124***
				(4.43)
Ln(GDP per Capita) $_{i,t}$	0.205	0.205	0.197	0.144
	(0.71)	(0.72)	(0.69)	(0.48)
Secondary $Sector_{i,t}$ (%)	0.016	0.016	0.016	0.009
	(0.91)	(0.91)	(0.95)	(0.49)
Third $Sector_{i,t}$ (%)	0.003	0.002	0.004	-0.002
	(0.12)	(0.11)	(0.17)	(-0.07)
$Inflation_{i,t}$ (%)	0.060	0.058	0.058	0.060
	(0.82)	(0.79)	(0.79)	(0.78)
Constant	14.098***	14.086***	14.080***	14.672***
	(5.12)	(5.16)	(5.15)	(5.08)
City FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	3,754	3,754	3,754	3,658
Adj. R-squared	0.230	0.231	0.231	0.219

China's Macro Leverage





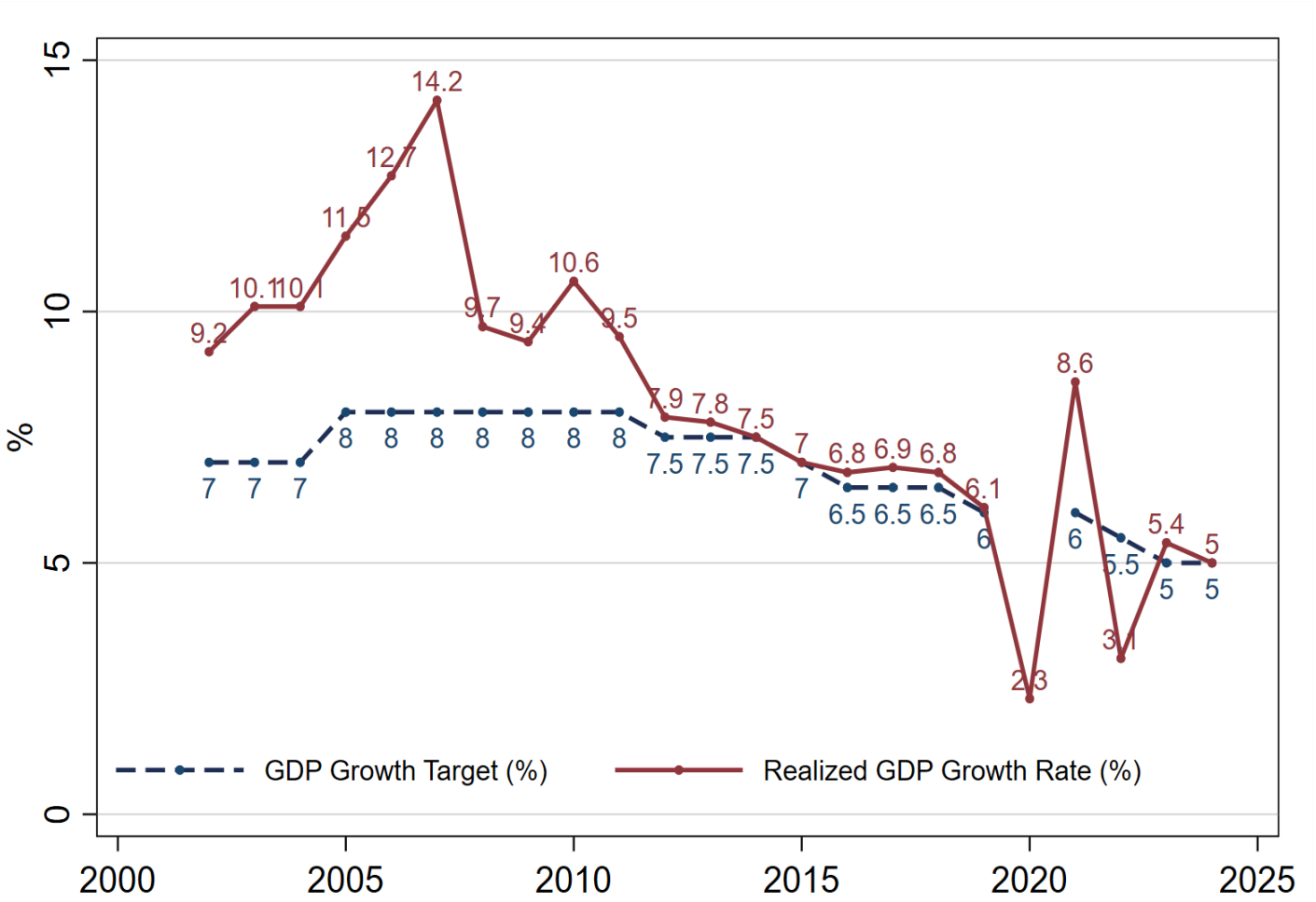
- Official classification of local government debt does not include debt through LGFVs

Local Government Debt

- City level data in 2015-2022
- A 1% GDP gap is associated with an increase in local government debt equivalent to 0.763% of GDP
  - This does not account for debt increases in cities that met their growth targets

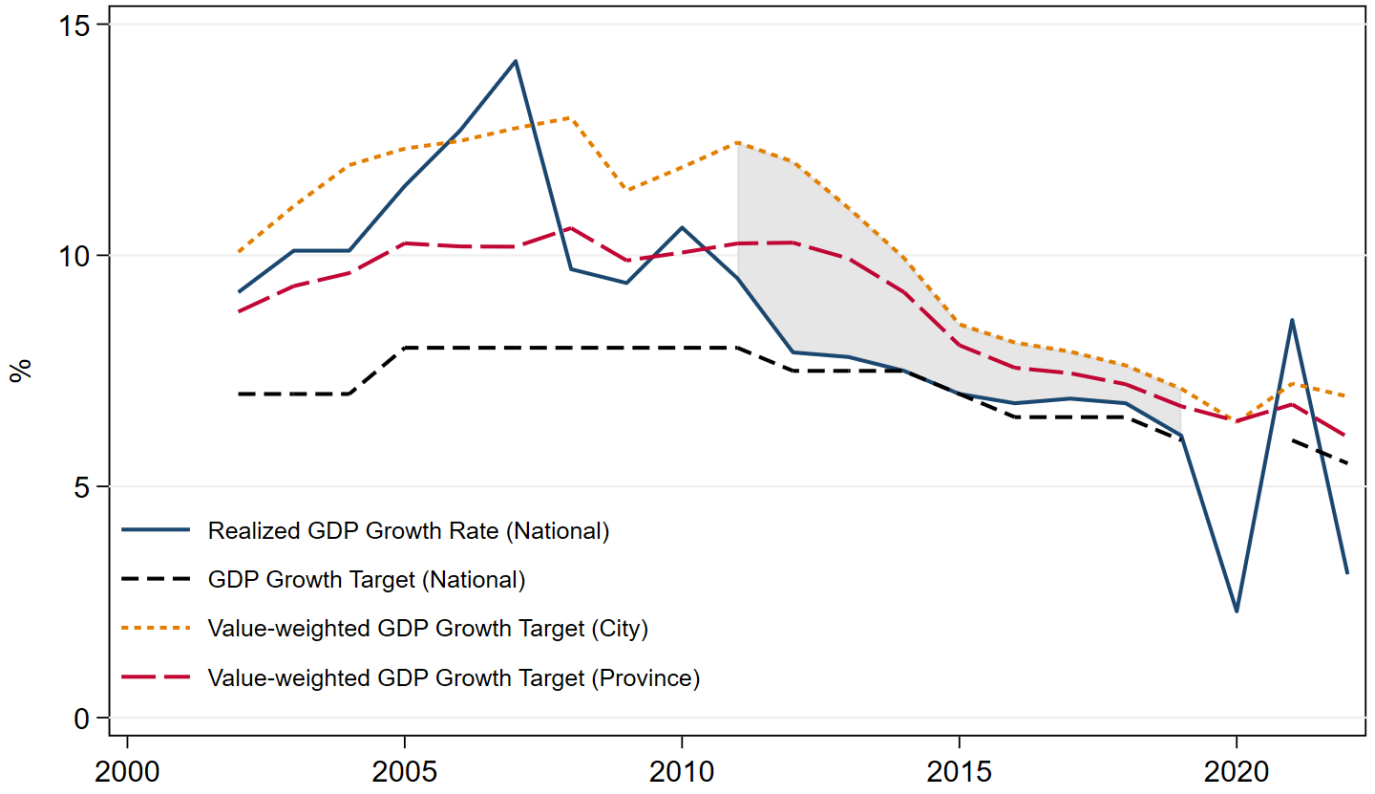
	(1) LG Bond $_{i,t}$	(2) LGFV Debt $_{i,t}$	(3) LG Bond $_{i,t}$ + LGFV Debt $_{i,t}$	(4)
$Gap_{i,t}$ (%)	-0.137	-0.631**	-0.763**	
	(-0.57)	(-1.99)	(-2.11)	
$D[Gap_{i,t} = 0]$	0.602	-0.522	0.081	
	(0.75)	(-0.67)	(0.07)	
$D[Gap_{i,t} = -0.1]$	0.061	0.833	0.894	
	(0.06)	(0.59)	(0.63)	
$D[Gap_{i,t} = 0.1]$	0.924	-1.680	-0.757	
	(1.15)	(-1.36)	(-0.46)	
GDP Growth $Rate_{i,t-1}$ - $Target_{i,t}$				-0.717*
				(-1.86)
GDP Growth $Rate_{i,t}$ (%)	0.118	0.056	0.169	
	(0.53)	(0.18)	(0.47)	
GDP Growth $Rate_{i,t-1}$ (%)				0.158
				(0.52)
Ln(GDP per Capita) $_{i,t}$	-3.419	-0.899	-4.328	-5.068
	(-1.51)	(-0.32)	(-1.26)	(-1.39)
Secondary $Sector_{i,t}$ (%)	-0.219	0.522***	0.302	0.552**
	(-1.18)	(2.82)	(1.22)	(1.97)
Third $Sector_{i,t}$ (%)	-0.063	0.584***	0.518*	0.805**
	(-0.31)	(2.92)	(1.82)	(2.51)
$Inflation_{i,t}$ (%)	-0.480	-0.866	-1.346*	-0.820
	(-1.05)	(-1.56)	(-1.79)	(-1.09)
Constant	71.634***	-15.404	56.547	39.494
	(2.72)	(-0.55)	(1.41)	(0.94)
City FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	1,374	1,374	1,374	1,290
Adj. R-squared	0.777	0.895	0.874	0.879

The Stable Period (2011-2019)



- Missing cyclical fluctuations mask significant economic challenges
- Overcapacity after post-crisis stimulus
  - Steel, aluminum, coal, cement, glass
  - Negative PPI during 2011-2016
- Monetary policies
  - Interest rates were cut 6 times
  - RRR was reduced 7 times
- Fiscal policies
  - Large-scale infrastructure projects
  - Shantytown redevelopment initiatives
- Supply side structural reforms
  - Enforced capacity reductions
  - Closure of inefficient factories

Debt Increase to Finance GDP Gaps (2011-2019)



- Cumulative GDP gaps at city level amounted to 18.4%
- An increase in Local government debt by
  - $18.4\% \times 0.763 = 14.0\%$ of GDP
  - Likely downward-biased

GDP Growth as an Indicator of Economic Prosperity

	(1)	(2)
	Consumption Growth Rate$_{i,t}$	
	2002-2008	2011-2019
GDP Growth Rate$_{i,t}$	0.895**	0.060
	(2.28)	(0.18)
Consumption Growth Rate $_{i,t-1}$	-0.121**	-0.639***
	(-2.55)	(-3.13)
Ln(GDP per Capita) $_{i,t}$	-0.017	0.651***
	(-0.22)	(8.73)
Secondary Sector$_{i,t}$ (%)	0.006**	0.002
	(2.65)	(0.37)
Third Sector$_{i,t}$ (%)	0.006**	0.008
	(2.32)	(1.53)
Inflation$_{i,t}$ (%)	0.006	-0.020**
	(1.08)	(-2.08)
Constant	-0.305	-7.245***
	(-0.47)	(-9.40)
Year FE	YES	YES
Province FE	YES	YES
Observations	217	279
Adj. R-squared	0.619	0.602

- Substantial doubts about GDP reporting
  - Nakamura, Steinsson & Liu (2016), Lv et al. (2018), Chen et al. (2019), and Gong, Shen & Chen (2025)
  - Over-reporting by Liaoning, Inner Mongolia, and Tianjin in 2017–2018
- There are even more fundamental mechanisms at work
- The provincial-level correlation diminished in 2011-2019
- Similar patterns in correlations with firm revenue growth and TFP gains

The Ratchet Effect in Setting Regional Targets

- Increase rapidly during economic booms but decline gradually during slowdowns
- When the upper government raises its target, the lower governments become more rigid in adjusting their targets

	(1)	(2)	(3)	(4)	(5)	(6)
			$D[Target_{i,t+1} > Target_{i,t}]$			
	Province		City			
	OLS	Logit	OLS		Logit	
$Gap_{i,t}$ (%)	0.047	0.252	0.041***	0.054***	0.337***	0.558***
	(1.68)	(1.01)	(5.77)	(7.34)	(4.04)	(5.37)
$D[Gap_{i,t} \geq 0]$	0.035	2.587***	0.119***	0.113***	1.405***	1.311***
	(1.14)	(2.68)	(6.66)	(5.98)	(7.43)	(6.51)
$Gap_{i,t} * D[Gap_{i,t} \geq 0]$	0.125***	1.523***	0.061***	0.062***	0.402***	0.375***
	(3.98)	(5.24)	(7.36)	(7.59)	(5.62)	(4.76)
$D[Target_{p,t+1} > Target_{p,t}]$				0.080***		0.415**
				(3.03)		(2.18)
$D[Target_{p,t+1} > Target_{p,t}] * Gap_{i,t}$				-0.024***		-0.244***
				(-4.05)		(-4.57)
$Target_{p,t+1}$				0.071***		0.701***
				(7.60)		(6.94)
GDP Growth $Rate_{i,t}$ (%)	-0.063***	-0.676***	-0.047***	-0.060***	-0.378***	-0.544***
	(-4.38)	(-2.86)	(-9.24)	(-10.96)	(-7.19)	(-8.39)
Ln(GDP per Capita) $_{i,t}$	0.024	-0.039	-0.124**	-0.104**	-0.906**	-0.868**
	(0.14)	(-0.02)	(-2.59)	(-2.19)	(-2.39)	(-2.27)
Secondary $Sector_{i,t}$ (%)	0.005	0.033	-0.003	-0.004	-0.009	-0.021
	(0.68)	(0.39)	(-1.00)	(-1.46)	(-0.46)	(-0.99)
Third $Sector_{i,t}$ (%)	0.006	0.009	0.000	-0.001	0.003	0.001
	(0.69)	(0.09)	(0.00)	(-0.28)	(0.11)	(0.04)
$Inflation_{i,t}$ (%)	0.025	0.226	-0.014	-0.009	-0.154	-0.066
	(0.85)	(0.69)	(-1.11)	(-0.74)	(-1.48)	(-0.61)
Constant	-0.243	-1.702	2.104***	1.496***	11.226***	5.814*
	(-0.14)	(-0.09)	(4.57)	(3.25)	(3.04)	(1.68)
Year FE	YES	YES	YES	YES	YES	YES
Province FE	YES	YES	NO	NO	NO	NO
City FE	NO	NO	YES	YES	YES	YES
Observations	587	392	3,687	3,616	3,611	3,558
Adj./Pesudo R-squared	0.341	0.441	0.322	0.346	0.377	0.404

Trade-offs of Central Targets

Benefits of setting a high target:

- A safeguard again rising unemployment
- A mechanism to discipline local officials “lying flat”

Costs of setting a high target:

- Accumulation of local government debt
- The targets became more binding after 2012
  - A decline in local policy experimentation, Wang & Yang (2024)
  - A broader trend of policy centralization, Fang, Li & Lu (2025)
  - Diminishing role of market forces in information discovery and resource allocation, Brunnermeier, Sockin, & Xiong (2022)
- Overweighting of real estate and construction sectors in the economy, Rogoff & Yang (2024); Huang et al. (2024)

China's Managed Growth

- A new growth model with sharply different dynamics
- Smooth growth trajectory by consistently meeting national growth targets
  - At the cost of accumulating substantial local debt
  - Meeting GDP targets may not necessarily create broader prosperity in household demands, firm profits and TFP gains