The Mandarin Model of Growth

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Comments

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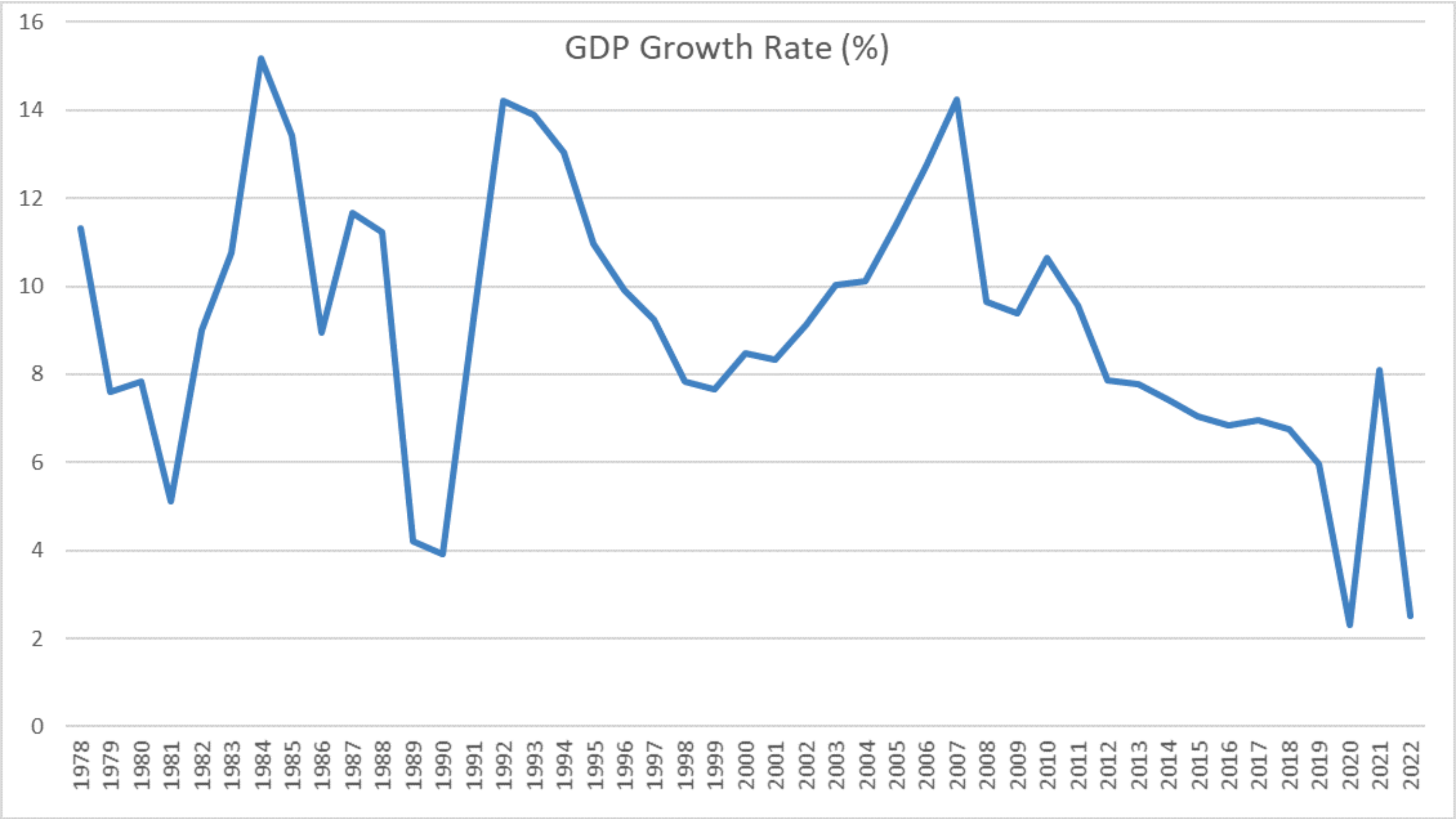
Overview

- Tackles first-order set of issues
- Complicated paper with lots of moving parts
- Provides provocative explanation for economic slowdown that has important policy implications for reigniting growth
- Data, estimation and identification of key parameters are critical issues as often the case with macro development models

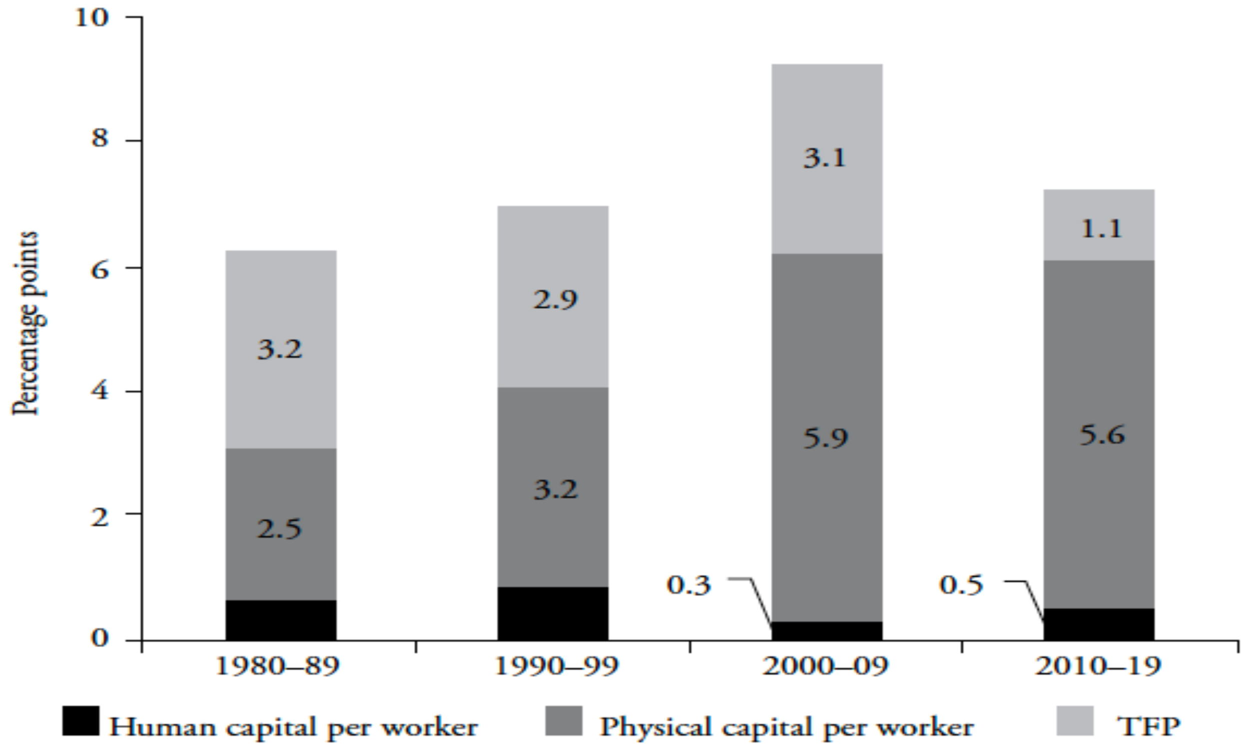
Marked Slowdown after 2007



Source: World Bank Economic Indicators

Paralleled by Fall in TFP

Figure 1. **Decomposition of Annual Average Growth in China's Real Output per Worker**



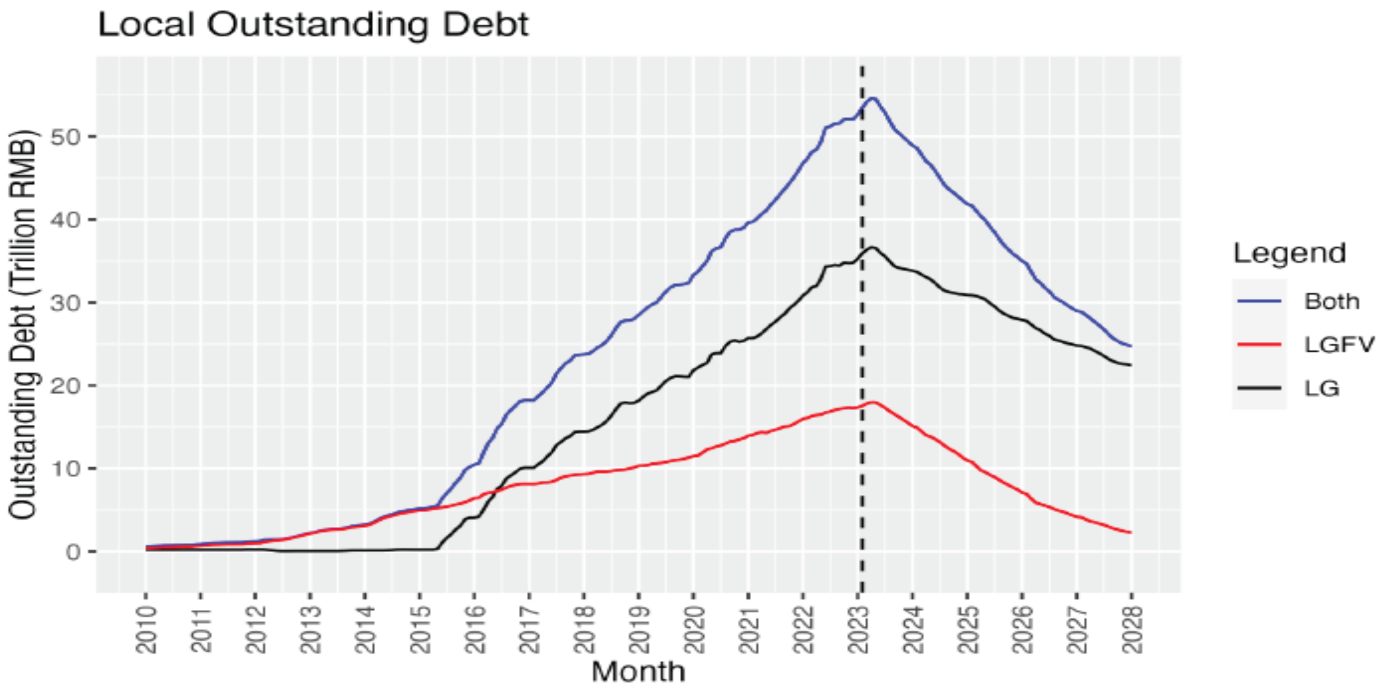


Figure 2: Aggregate Local Outstanding Debt

Source: Shih and Elkobi, 2023.

Alternative Explanations for Falling TFP and Growth

1. Narrowing gap with advanced countries + decline in global TFP trend following GFC
2. Limitations of investment-led growth strategy
   - Efforts to counteract shock of GFC through softer budget constraints and increases in public investment
   - Low returns on much of this investment
   - New problems in property sector and rising local government debt
   - High weight on growth in cadre evaluation seen as source of the problem
3. Shift in policy -- more top down than bottom up; state over the market; less open and more protectionist; priority given to strategic and non-economic objectives and less on growth

Key Conjecture of this paper

- Major reason for the decline in growth - diminished career incentives and relaxation of financial discipline that weaken link between economic performance and career advancement
- Works through incentives to invest in infrastructure, which amplifies returns to private sector investment
- Key links between weight on performance, leader ability, infrastructure investment and local TFP
- Seemingly at odds with claims that more recent problem has been “growth at all costs”, and too large of a weight on growth
- Policy implications: Need to restore career incentives to earlier levels; slightly less important, increase discipline on local government

Important Features of the DGE Model

1. Firms, households, banks, local government and local leaders
2. Output depends on local productivity, firm capital, local infrastructure and labor
3. Local productivity depends **only** on leader's ability
4. Firm's optimal capital choice and output proportional to local infrastructure.
    a. Local government investment can crowd in private investment
    b. But can crowd out through at the aggregate level through the cost of capital
5. Local leader concerned about
    a. Benefits for government workers
    b. Career development
6. Career incentives
    a. Evaluated on basis of local output, which provides signal about leader's ability
    b. Leader can enhance promotion prospects by investing more in infrastructure at the expense of welfare of government workers
    c. Why? Government cannot separate local leaders' ability from infrastructure investment
    d. Stronger career incentives increase expenditure on infrastructure investment at cost of benefits for government workers
    e. Leader decisions also disciplined by career costs of local financial distress

Institutional accounting

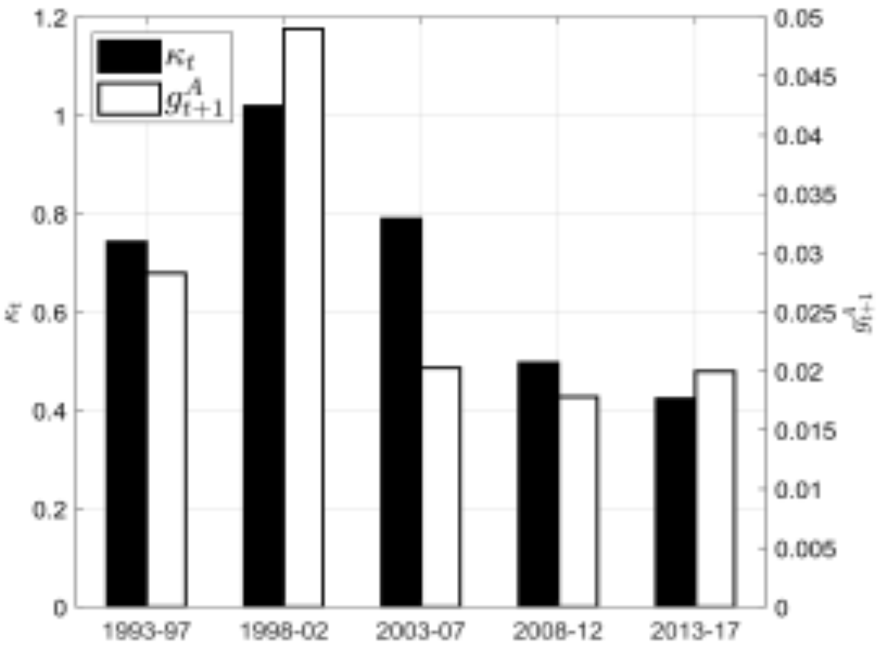
- Two key institutional parameters relating to career incentives and financial discipline that determine optimal allocation between G_{t+1} and C_t^G .
- Objective – use local leader's intertemporal optimality conditions (equations 61 and 62 in text) to back out the two wedges and two key parameters relating to career incentives and discipline

Table 5: Institutional Accounting

t	1 (1993-97)	2 (1998-02)	3 (2003-07)	4 (2008-12)	5 (2013-17)
disciplining wedge	0.83	0.88	0.88	0.81	0.74
investment wedge	0.85	0.89	0.88	0.81	0.75
ω_t	24.53	32.43	11.18	3.46	2.36
κ_t	0.74	1.02	0.79	0.50	0.42

Strong correlation between career incentives and future economic growth

Figure 5: κ and g^A_{t+1}



How important are career incentives tied to growth?

1. Have we put too much weight on these considerations?
2. Local leaders motivated by other factors that often limit dynamism and constrain growth
   a. Loyalty
   b. Rent extraction
   c. Support for the state sector (Brandt, Kambourov and Storesletten, 2023).
3. Frequent leader rotation encourages short-term behavior. Future leaders bear the costs, or at a minimum, makes signal extraction even harder.
4. Fiscal transfers from above since 1994 reforms are non-random, and influence choices and promotion prospects.
5. Measurement error in GDP and investment reduces signal to noise ratio and makes inference on leader's ability difficult.
6. These problems have always existed. But problems in NIA have likely increased over time. Enormous heterogeneity as well.
7. Implication:
   a. Higher ups filter the information in ways we don't know. Implications for interpreting empirical results.
   b. Or too much weight is put on a signal that is easily manipulated. Not the best promoted.

Output as a signal of ability?

“Regional output is the most reliable statistics as it is a key variable for many policy decisions and is thus subject to a great of auditing and verification by the NBS”

“As regional output is mostly generated by private firms …. it is more difficult for a local government to inflate the regional output”

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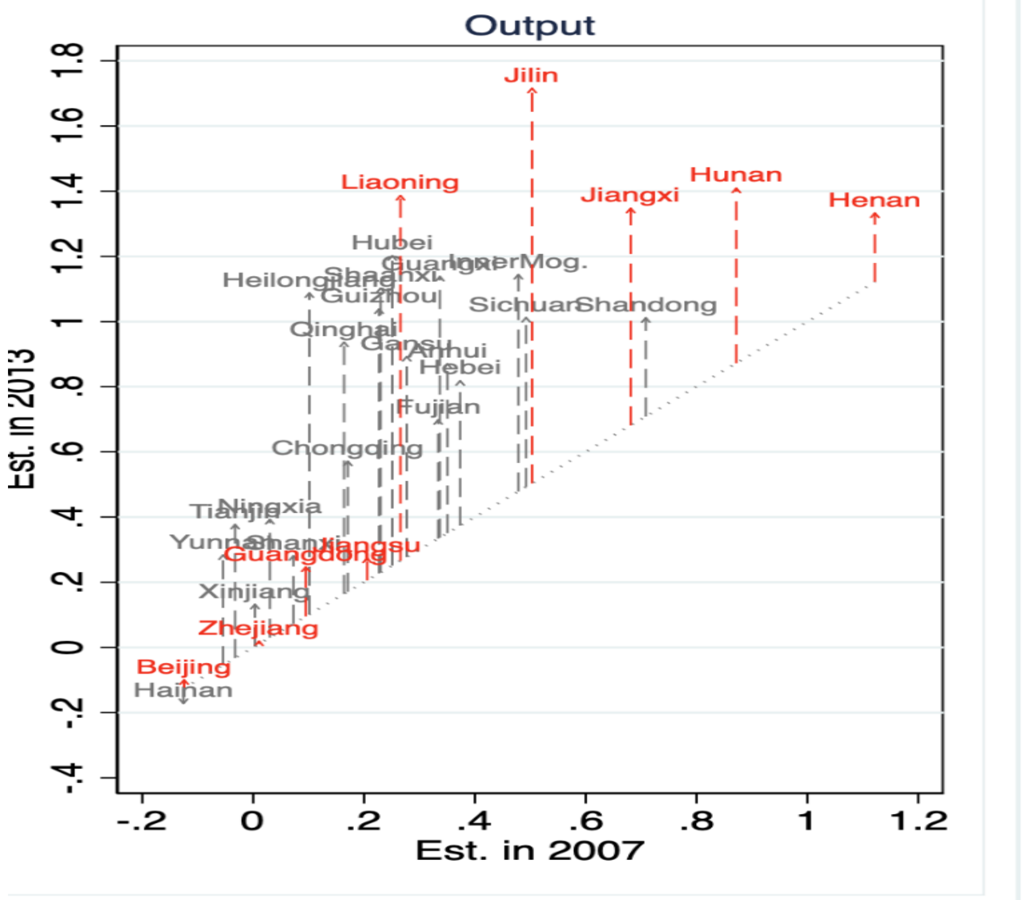
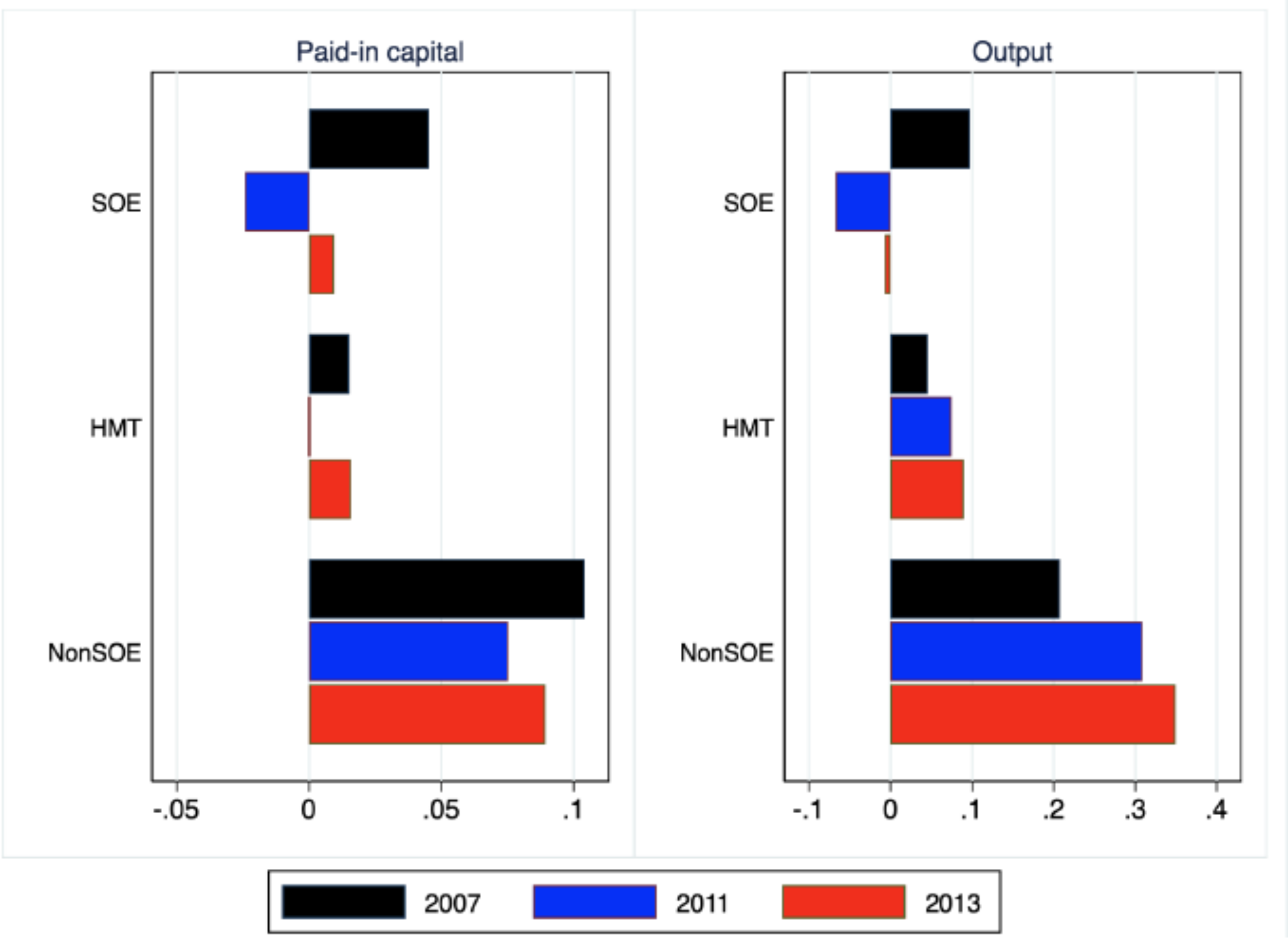
Widening Reporting Gap Overtime



Brandt et. al., 2023.

Reporting Gap by Ownership Type



Source: Brandt et. al., 2023.

Identification of key wedges – levels and changes

1. What is identifying the wedges? Can they be separately identified, i.e., are they affected by a separate set of variables?
2. Changes in *both* largely driven by local government consumption growth. Thus, they behave similarly as do the two key parameters relating to career incentives and financial discipline.
3. Measurement error in output and infrastructure investment may lead to upward bias in both TFP and wedges.
4. Problems of manipulation of key variables? How can we sort out the effect of changes in wedges from the effect of increasing noise?

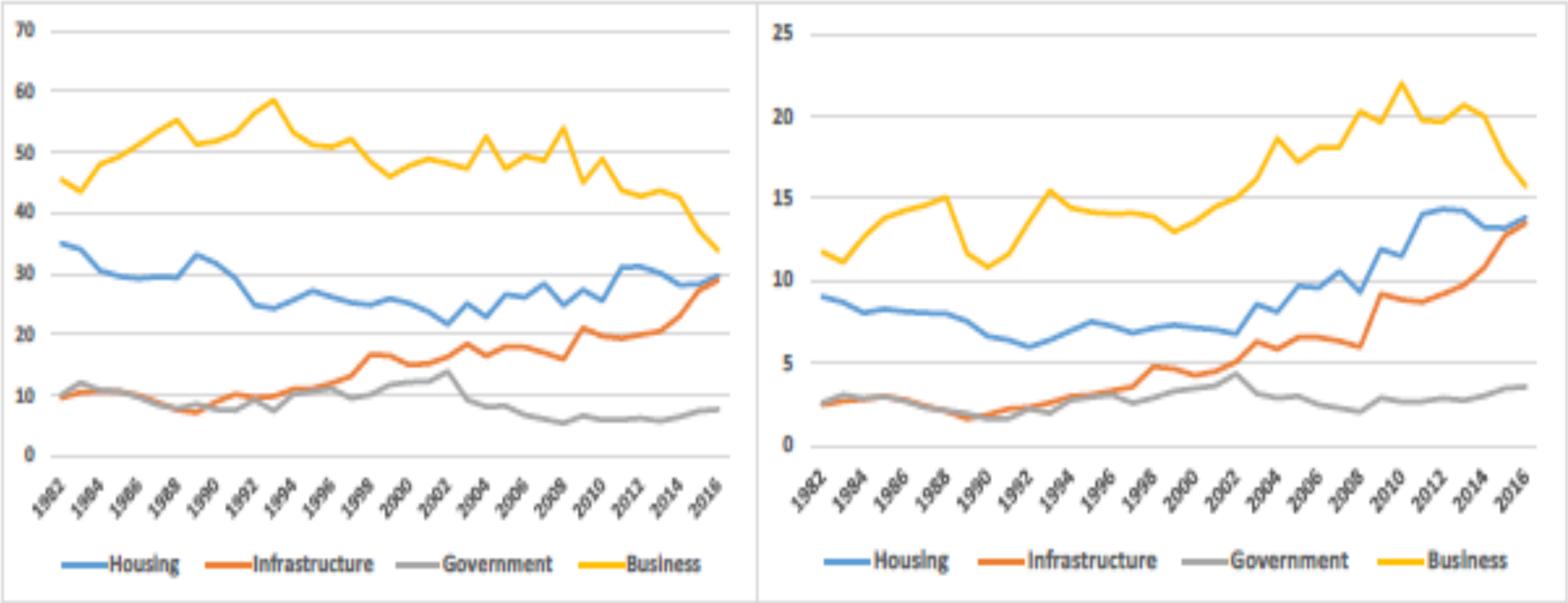
Role of Housing Sector and Investment – Hard to Ignore

- Share of GDCF in housing similar with infrastructure in 2023
- Significant portion of infrastructure investment related to supply of housing, e.g., roads, water, etc., and urban amenities
- Affects land prices and thus government revenue through land sales
- Housing and infrastructure also linked through problems in financial markets
- Distress in local financial markets related to problems emanating from housing/property development sector as well as infrastructure

Figure 6 Share of investment in different sectors

A. Share of total gross fixed capital formation (GFCF) %

B. Sectoral GFCF as share of GDP, constant prices %



Source: Author estimates

Share in Infrastructure + Housing in GFCF similar in 2023.

Source: Herd, 2020.

Problems of Inefficient Investment … Private and Public