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From Ricardo to Renminbi: how China blends public money and decentralized banking

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ABSTRACT

Embracing the three-legged stool of economics research (theory, history, and econometrics), we attest to China's unparalleled economic rise as a function of the system of *decentralized public banks*. Our analysis of Chinese banking history since the dawn of the post-Mao reforms reveals that local policymakers desegregate inharmonious policy recommendations by Currency (ie public ownership of the money supply) and Banking School (ie decentralized money creation) prophets, stamping the institutionalization of a *social democracy with Chinese characteristics*. These empirical findings support our theoretical and historical narrations.

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1. Introduction

China has emerged from economic backwaters as an economic powerhouse for less than 40 years. Her economic rise is accredited to the structural reforms led by the Architect of Modern China: Deng Xiaoping. Market liberalization policies resulted in a double-digit annual GDP growth rate outshining liberal economies with an apt institutional order (Acemoglu & Robinson, 2012). China's unparalleled growth has lifted more than 850 m people out of poverty. The leaps in economic development raise an unsurmountable challenge for Occident economists to decipher her rise. Washington Consensus economics (particularly privatize and liberalize prices and markets (Ivanov, 2025a, 2025b, 2025c; Weber, 2021), including the bank and credit markets (Lipton & Sachs, 1990)) is impotent to account for the Sino-capitalist success as her 'weak institutions are ill suited to achieve economic development' (Xu, 2011, p. 1077) leaving poverty alleviation and economic growth record unfathomable. Thus, the existence of a 'China puzzle' indicates a gap in the interpretation of the link between 'poor' institutions and economic growth. What are the determinants that have powered China's incomparable economic expansion?

Our study attempts to offer an unconventional answer by desegregating Currency and Banking School theorization through a credit view of money (Lavoie, 2014; Rochon, 2024), validated against the recent Chinese banking history (Duan et al., 2024, 2025) and grounding observations in initial empirical estimates. Thus, our narrative is entrenched in the three-legged stool of economics research—theory,

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history, and econometrics—as was the practice before Methodenstreit (Temin, 2013) in response to calls for pluralistic research principles by heterodox thinkers (Lavoie, 2014; Lawson, 2003, 2006).

2. The theoretical debate: the currency vs the Banking School

The Currency vs Banking School debate re-emerged in the post-GFC world as the origins, and the credit nature, of money returned to the epicenter of policymaking: ‘Inadequate modelling of the financial sector meant they were ill-suited for predicting or responding to a financial crisis’ (see Stiglitz, 2018: 70). The rival camps counsel variegated policies about the reorganization of the banking sector, and thus the cradle(s) of money creation (Bougrine & Seccareccia, 2009; Ivanov, 2025b), to erect stable economies unsusceptible to business cycles dispersing social prosperity and solidarity across and within local, national, and international spaces (De Soto, 2006; Fontana & Sawyer, 2016; Ivanov, 2025d; Jackson & Dyson, 2012). The core schemas of the two schools are discussed below, as this key debate about the transmogrification of the rules of capitalism may lead to a change in the (spatial) distribution of economic activities between (private) debt issuers and (private) debt consumers, a distinctive feature of capitalism (Ioannou & Wójcik, 2023; Rochon, 2024). This view was reaffirmed by the Bundesbank (2017) in a recent publication in their monthly bulletin: ‘... [a] form of currency that is created—and can be reversed—within the private economy’.

2.1. Currency School

A prominent theoretical paper (McLeay et al., 2014) on private money creation was reinforced by empirical findings of a field experiment in a leading European economy, Germany, chronicling the precise bank accounting operations at a small more-than-profit local bank, culminating in the creation of deposits *ex nihilo* (Werner, 2014a, 2014b). This confirms a long-standing tradition in post-Keynesian economic thought that commercial banks are the major producers and suppliers of financial capital in the capitalist economy (Grishchenko et al. 2025; Keynes, 1930; Lavoie, 2014; Robinson, 1952; Rochon, 2024; Rossi, 2024). In combination, these unorthodox academic papers found the credit theory of money incorrigible with more than 90 per cent of the total money supply in advanced economies created by commercial banks, as the former Bank of England governor Mervyn King (2016) also advanced in one of his most recent books. The extremely profitable seigniorage is thus not a public privilege, as currently assumed by the European Central Bank (2024), and their definition of the origins and meaning of the word in the public domain (mis)informs the wider non-specialist reading masses:

On bygone days, it was the ‘seigneur’ or lord who had the right to mint coins—hence the name. Today, in the Euro area, national governments mint coins, and central banks issue banknotes.

European Central Bank, Origins of the Word: Seigniorage, February 6th, 2024

Seigniorage profits, in fact, accumulated in private pockets amounted to approximately 1.25 per cent of British GDP, totaling about £443b for the period 1998–2016, or about £23b per annum (Macfarlane et al., 2017). By contrast, the Bank of England paid a mere £1.2b to the Treasury in 2017. In the shadow of the COVID-19 pandemic when large amounts of public and private debt were monetized by the Bank of England, the seigniorage profits surged to £5b. Yet, the high profitability of private banks by minting money ‘by a tap on a keyboard’ (Ivanov, 2025a, 2025b), in combination with their short-termism, propped modern-day Currency School prolocutors (Jackson & Dyson, 2012) to commend a *true nationalization* of the money supply as earlier thinkers (Ricardo, 1824; Marx and Engels, 1867 [2004]) advanced:

Centralization of credit in the hands of the state by means of a national bank with state capital and an exclusive monopoly.

Karl Marx and Frederick Engels, The Communist Manifesto, 1867: 26

With banks no longer creating money, an independent but accountable public body, known as the Money Creation Committee (MCC), would instead create money. The MCC would only be able to create new money if inflation were low or stable.

Jackson & Dyson, 2012, p. 10

Money supply nationalization will ensure democratic credit creation and allocation exclusively for the real economy, taming the business cycle, as private interest will not obstruct the virtuous credit cycle (Graziani, 1990, 2003; Jackson & Dyson, 2012; Minsky, 1981 with Bezemer, 2010 providing an accounting view of financial crisis). A 100 per cent nationalized money supply, à la Irving Fisher (1935) style, will also eliminate national debt and lessen austerity next to a number of lesser benefits in the eyes of currency schools. A calibrated DSGE model, where credit institutions were modelled as 100% reserve institutions, provides a proof about the validity of the Currency School vision of the future of the banking industry (Benes & Kumhof, 2012).

2.2. Banking School

On the other hand, Banking School antagonists are skeptical about the success of a such centralized, Soviet-style credit allocation system (De Soto, 2006; Liu et al., 2023) with critics highlighting that the 100% reserve banking system ‘is not a progressive solution but a Trojan Horse’ (Etzrodt, 2023). The advent of an inelastic credit supply that reacts to the liquidity needs of the economy is the chief point of trepidation (Goodhart & Jensen, 2015). Free banking prophets acquiesce credit creation as a key link between money and the real economy. Dryly, they divulge that controlling credit allocation is an onerous task (Arnon, 2011). Reflecting upon past regulatory attempts to encapsulate entrepreneurial private bank spirits, Goodhart and Jensen (2015: 4) aside: ‘the Banking School may lose a few battles (as in 1844) but usually wins the war.’ Thus, the key takeaway is unambiguous: allow (private) commercial banks to retain a (non-insignificant) proportion of seigniorage profits, or a new credit channel to leverage the (central bank) money supply will soon emerge (eg stablecoins).

2.3. Summary

The opposing propositions derived by both factions are clear:

1. Currency Schoolers advance a *100 per cent public money supply*.
2. Banking Schoolers reason for a *decentralized system of (private) credit*.

In the next section, we describe the assimilation of these two clashing policy proposals in China. We paint a picture of how lending is organized and channeled to the real economy via window guidance. The ingenuine consolidation of these reformist economic insights greases the unequaled Chinese economic upsurge, including reshaping the international geoeconomic order.

3. The historical prism: the evolution of the Chinese banking system (1960–2018)

The Chinese communist order during the Mao era (1949–1976) embodies the Currency School apparition—a single central bank, the People’s Bank of China (PBoC) which is creating and allocating all credit in the economy. Even less knowledgeable economic historians can easily gauge the cataclysmic results of a volatile Soviet-style institutional system, stamped with innumerable deaths during the Great Famine Forward (1958–1962) (see Figure 1).

Since Deng Xiaoping took over in 1978, the economy has undergone major structural reform (Xu, 2011). The new charismatic leader along his aides at the Chinese Communist Party aimed to reimagine a discredited centrally planned economy closer to the championing liberal market economies (Weber, 2021). In short, the first-rank local reformers intended to slither the capitalist framework to a *social democracy with Chinese characteristics* as later defined by President Xi Jinping. The transition to a *freer* market economy, in contrast to the Sachsian-style shock therapy in Russia and Eastern Europe (Ivanov, 2025b), was gradual, disallowing private (foreign) advisors to profit from their strategic positioning during periods of great economic liberalization (Warsh, 2018). At the same time, as Weber (2021) explains, the Chinese state played and continues to play a key role in tailoring and facilitating this transition, with her case studies on agricultural and industrial reforms showcased through price control mechanisms among other fiscal and monetary policy instruments utilized by the CCP.

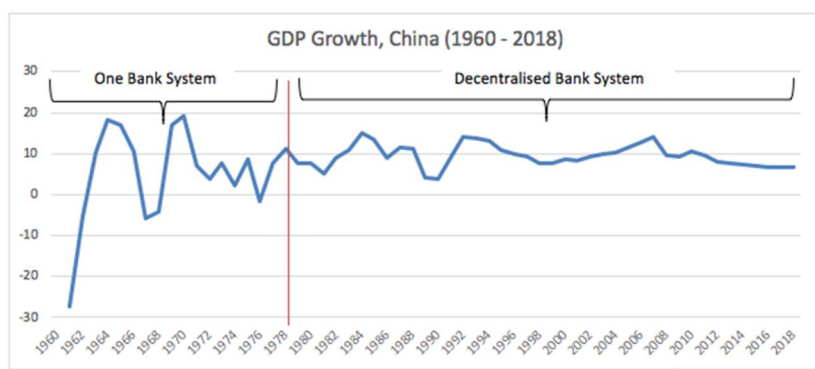


Figure 1. GDP growth, China (1960–2018).

Source: World Bank Open Database.

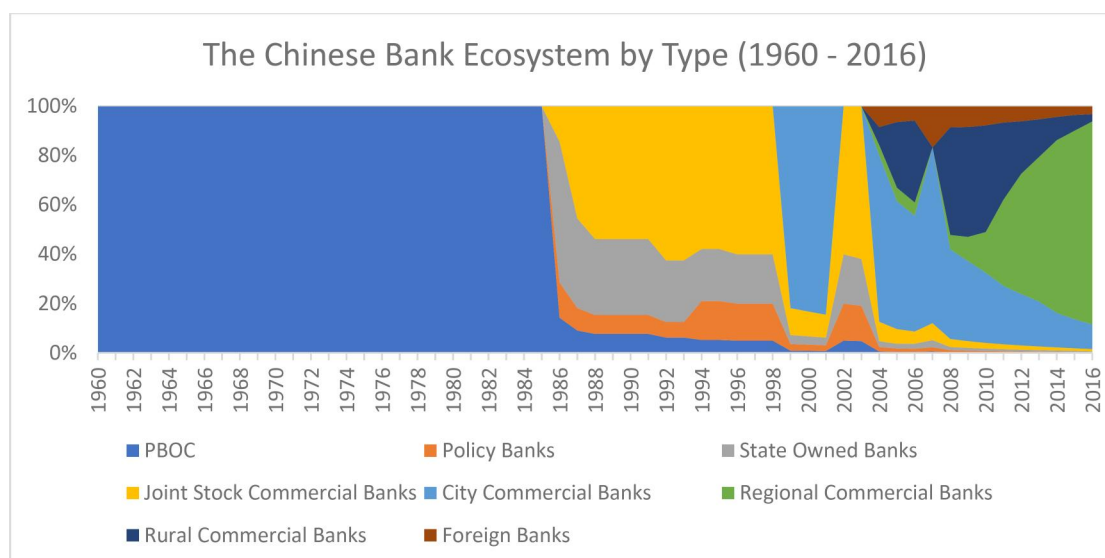


Figure 2. The Chinese Bank Ecosystem (1960–2016).

Source: Zhu (2018).

Another such example is the Chinese credit market (Duan et al., 2024, 2025). Contrary to widespread institutional theory (eg North & Weingast, 1989) and the literature on the finance–growth nexus (eg King & Levine, 1993; Popov, 2017), the Chinese banking market is still not privatized, as Currency Schoolers would advocate, in contrast to other less successful transition economies, as in Eastern Europe or Central Asia (Ivanov, 2025a, Bougrine & Seccareccia, 2009). In parallel, a spatial decentralization process (as the ongoing decentralization process in Chinese higher educational institutions (Liu et al., 2023; Karaangova & Ivanov, 2025)), as Banking School endorses, has materialized with the founding of four colossal, highly specialized policy banks (PBs) (Berger & DeYong, 2000; Duan et al., 2025).

Their monopolistic position in idiosyncratic credit markets yielded all but high levels of non-performing loans (as high as 30 per cent), next to expensive credit, due to the lack of genuine market competition (Liberti & Petersen, 2019). This early policy mistake was remedied by cleaning the PBs' balance sheets, allowing their rebirth as true competitors once their mandates were widened (Ivanov, 2025a; Werner, 2014c). The ensuing wave of bank decentralization since the 1990s was instigated by the founding of hundreds of city and rural commercial banks along a few new PBs (Zhu, 2018) (see Figure 2). The exponential growth of public banks, in terms of both numbers and balance sheets, bars the expansion of foreign banks in local markets (He & Wei, 2022) but equally promotes more intensive

way[s] [the Chinese public and private banks] collect, process, and communicate information, [as] it changes the structure of markets, design of financial intermediaries, and the incentives to use or misuse [hard and soft] information

Table 1. Correlation matrix.

Variable name	GDP per capita	Bank number/share	Inflation	Exchange rate	FDI
GDP per capita	1.0000	–	–	–	–
Bank Number/Share	0.8404	1.0000	–	–	–
Inflation	–0.4958	–0.3254	1.0000	–	–
Exchange Rate	0.3772	–0.0359	–0.2941	1.0000	–
FDI	–0.4143	–0.5346	0.3478	–0.1339	1.0000

about credit counterparties in the real economy. Nonetheless, this decentralization process ensures the spatial dispersion of both bank head-quarters and branches across the mainland (Sun et al., 2023). Yet, the track record of founding a constellation of new credit firms in the Middle Kingdom, to a large degree, runs counter to the developments of credit markets and institutions in the Occident over the last 40 years. There a widespread consolidation process is unfolding due to the growth of international banking practices in the private sector as a direct consequence of the Big Bank Reforms in the US and the UK, which requires international coordination by supervisors (Ivanov, 2025a, 2025b; Liberti & Petersen, 2019; Petersen & Rajan, 2002).

In China, these newly-founded publicly owned *tabula rasas* fuel the real economy with local currency lending to liberated small-scale private entrepreneurs and enlivened state-owned enterprises (Karaangova & Ivanov, 2025).¹ Notwithstanding the increased sophistication of credit underwriting techniques to gather both soft and hard information about credit counter-parties (Berger & Udell, 1995; Petersen & Rajan, 2002), free market principles continue to play a second fiddle to window guidance for priority industries foisted by the PBoC (Gang, 2018; Werner, 2005). This capable but well-forgotten monetary policy tool, at least by some Occident-trained economists (Lupi, 2022), settles a key concern of, paradoxically, free bank theorists - the channeling of the money supply to productive purposes (Arnon, 2011).

Thus, the decentralized expansion (ie Banking School) of public banks (ie Currency School) with window guidance steering lending to the real economy (ie both schools) plays a key role in China's unprecedented sustained economic growth, as information asymmetry, and distance, between credit underwriters and credit counterparties was reduced (Ivanov, 2025a, 2025b; Liberti & Petersen, 2019; Mkhiaiber & Werner, 2021; Petersen & Rajan, 2002). A quantitative public bank easing (with Chinese characteristics) fueled the Phoenician rise of 850 million economic agents out of extreme poverty. Is our theoretical and historical reading empirically supported?

4. The empirical evidence: Data, Methodology and initial empirical estimations

4.1. Data, methodology and empirical model

To test our hypothesis that the establishment of a decentralized public bank system positively affects GDP per capita in China, we sourced data from the World Bank's database for all our control variables, except the number of China-based banks. The latter was obtained from Zhu (2018), who collected primary data from annual almanacs in the Chinese banking sector. Our dataset covers 32 years (1986–2018), allowing us to measure the impact of our main explanatory variable (the number of (public) banks (BANK)) on GDP per capita. The correlation coefficients in Table 1 confirm that the independent variables are uncorrelated. Therefore, our regression analysis was not distorted by multicollinearity (see Table 1).

To test our hypothesis, we built a specific-to-general ordinary least squares (OLS) regression model, as demonstrated in the following final equation:

$$GDPC_t = \beta_0 + \beta_1 BankN_t + \beta_2 CPI_t + \beta_3 EXR_t + \beta_4 FDI_t + \varepsilon_t$$

where t and ε represent year and error terms, respectively. The dependent variable was $GDPC$ which is the Gross Domestic Product per capita. $BankN$ is the number of banks per million inhabitants and is the main explanatory variable of interest. Thus, we deploy a new measure of geographical outreach by public banks in the local community by dividing the total number of banks by the total population in China. To a certain extent, this is a variation of a standard measure of financial inclusion in geographical and spatial terms used for bank branches per 100,000 inhabitants (similar to Sun et al., 2023).

Table 2. Descriptive statistics.

Variables	Description	Mean	St. Dev.	Min	Max	Median
GDP per capita	Gross Domestic Product per capita	22,687.35	17,249.35	4450.896	59,811.6	15,902.03
Bank Number/Share	Number of banks per 1 million people	0.198158	0.269232	0.006562	0.980659	0.087808
Inflation	Consumer Price Index (CPI)	5.151515	6.325204	−1.4	24.1	2.8
Exchange Rate	Exchange Rate (USD to YUAN)	6.765099	1.574635	3.452792	8.618743	6.770269
FDI	Growth rate of Foreign Direct Investment	0.195181	0.818888	−1.666852	2.85088	0.114761

Note: GDP per capita variable in this table is displayed in thousands and converted to logarithms when included in the regressions.

Table 3. OLS regressions for the impact of bank number on GDP per capita between 1986 and 2018.

Variables	Model 1	Model 2	Model 3	Model 4
Bank Number per 1 million	2.441958*** (8.35)	2.206878*** (7.78)	2.365326*** (11.63)	2.603433*** (12.01)
Inflation (CPI)	—	−0.0300457** (−2.55)	−0.0147282* (−1.67)	−0.0179531** (−2.15)
Exchange Rate	—	—	0.1782783*** (5.35)	0.1867638 (5.97)
FDI Growth	—	—	—	0.2182882** (2.26)
Constant	9.157914*** (94.67)	9.365677*** (77.71)	8.045144*** (30.81)	7.702508*** (26.87)
No. Observations	31	31	31	31
Prob > F	0.0000	0.0000	0.0000	0.0000
R-squared	0.7062	0.7615	0.8843	0.9033
Adjusted R-squared	0.6961	0.7445	0.8714	0.8884

Note: This table reports the results of the OLS estimations of the effects of bank number on GDP per capita. The dependent variable is the logarithm of GDP per capita. The key independent variable was the number of banks per 1 million persons. The regression models contained results for the period 1986–2018. T-statistics are in parentheses. Symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

The rest of the explanatory variables are control variables to account for macroeconomic indicators (ie CPI is the Consumer Price Index, EXR is the Exchange Rate, and FDI is the growth rate of Foreign Direct Investment) that have been found in economic literature to affect (Chinese) macroeconomic performance (Bermejo-Carbonell & Werner, 2018; Werner, 2003, 2005).

We employ the specific-to-general methodology in particular to avoid multicollinearity issues and follow the principles of parsimony, as advanced by William of Ockham and later endorsed by Popper (1972), amongst other notable figures in methodology in the social sciences (eg Bermejo-Carbonell & Werner, 2018; Lawson, 2006).

Table 2 presents the summary statistics for all the variables. A comparison between the minimum and maximum values of Bank Number/Share (ie 0.006562 and 0.980659, respectively) and GDP per capita (ie 4450.896 and 59,811.6, respectively) points to major development in the banking system and the overall economy in China throughout the years from 1986 to 2018.

4.2. Empirical estimates

The simplest OLS regression model we built, Model 1, as shown in Table 3, examines the impact of the decentralization of the Chinese banking system, as hypothesized in Section 2, on GDP per capita.

The subsequent four augmented models included the addition of a single control variable at each step. Thus, in Models 2, 3, and 4, we include consumer price index (CPI) to account for inflation, exchange rate, and foreign direct investment (FDI), respectively. With the addition of each control variable, it is important to highlight that both R-squared and adjusted R-squared values increase across the models. In other words, the variation in the dependent variable (ie GDP per capita) is better explained when an additional control variable is included in the regression. It is worth noting that any OLS regression must be used with caution due to exogeneity concerns and confounders (ie omitted variables). Nonetheless, our three-legged theoretico-cliometric study provides a first glimpse into the positive role of quantitative public bank easing in fostering economic growth (thereby also contributing to the literature on the finance-growth nexus (eg King & Levine, 1993; Popov, 2017; Petersen & Rajan, 2002; Liberti & Petersen, 2019)).

In other words, in all four regression models, we find a strong positive relationship between public bank decentralization (Marshall & Rochon, 2019, 2022; Popov, 2017) and GDP per capita in China. In simple terms, the increase in the number of public-owned banks in the local economy, which make autonomous decisions based on soft and hard information (Liberti & Petersen, 2019; Petersen & Rajan, 2002; Popov, 2017) (within the restraints of window guidance quotas (Gang, 2018; Werner, 2003), stimulates the positive growth of GDP per capita in the Chinese economy over the examined period.

In a similar vein, Mkhair and Werner (2018, 2021) found that smaller decentralized banks have higher propensity to lend to SMEs, the innovative backbone of developing, emerging and development markets, in contrast to bigger banks, which prefer lending to larger, more mature counterparties. This view is consistent with the nuanced view about the interrelationship between the growth of the finance sector and economic growth, as Popov (2017) warns.

In addition, albeit indirectly, this paper lends support for the view that increased information production by the public bank sector, even within the (de)merits of window guidance (Lupi, 2022), can lead to positive outcomes for aggregate output (Petersen & Rajan, 2002; Werner, 2005). Our control variables—inflation, exchange rate, and FDI—also show the expected signs of their impacts on GDP per capita.

Thus, our empirical findings based on a parsimonious specific-to-general OLS four-step model, following Ockham's Razor (Bermejo-Carbonell & Werner, 2018; Lawson, 2003, 2006), lends support to our hypothesis that a spatially decentralized system (the chief Banking School argument) of publicly spirited banks (the chief Currency School argument) acts as an engine of growth in China (Marshall & Rochon, 2019, 2022).

However, our findings can be interpreted as backtracking some conventional wisdom that to achieve economic growth, all markets at all times must be in private hands to optimize the allocation of (scarce) resources (Acemoglu & Robinson, 2012; Xu, 2011). In the case of money and credit, as these are fictitious capitals produced in the process of bank lending to the real (and financial) economy (Haberly & Wojcik, 2022; King, 2016; Lavoie, 1984, 2014; Rochon, 2024; Werner, 2014a), these can be selectively directed into priority industrial sectors, aligned with the national development goals (Weber, 2021). Thus, it could be advisable for other emerging economies to employ similar development strategies to establish spatially distributed public bank systems lending to the real economy to achieve higher than average economic growth, but only upon sound principles of credit underwriting (Liberti & Petersen, 2019; Petersen & Rajan, 2002; Popov, 2017).

A word of caution is in order, as in the present study, we have failed to disaggregate the total quantity of credit in the economy (Ivanov, 2025b; Popov, 2017; Werner, 2005), which is yet another fundamental dimension in the deciphering of the Chinese economic miracle and its susceptibility to financial crises, as Minsky (1981) highlighted in the post-Keynesian tradition (Bougrine & Seccareccia, 2009; Graziani, 1990).

5. Conclusion

Our study demonstrates the benefits of quantitative public bank easing rooted in the masterful integration of a sovereign money supply (ie Currency School) and a synchronized decentralized bank system (ie Banking School) (Duan et al., 2025; Marshall & Rochon, 2019, 2022). The growth in the sheer number of public banks, through a post-Keynesian lens, allowed for the elevation of Chinese society from economic backwaters to the global frontier as the information gathering role of public credit institutions significantly improved (Lavoie, 2014; Petersen & Rajan, 2002; Popov, 2017), although the journey of recalibrating global financial centers is far from over (Haberly & Wojcik, 2022).

Our empirical estimates can be enhanced by scrutinizing the evolution of the balance sheet structure of the decentralized public bank system, whereby disaggregating lending to the real economy and financial transactions will (in)validate the effectiveness of window guidance (Gang, 2018; Minsky, 1981; Werner, 2005).

Note

1. Chinese banks are owned by the Treasury and the China Investment Corporation.

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Authors contributions

CRedit: **Plamen Ivanov**: Conceptualization, Data curation, Formal analysis, Funding acquisition, Methodology, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing; **Achraf Mkhiaiber**: Formal analysis, Methodology, Software, Validation, Visualization, Writing – original draft, Writing – review & editing.

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Achraf Mkhiaiber is an economist specialising in banking, finance, and economic development. He is Visiting Faculty at United Arab Emirates University and has also worked as a senior consultant in the UK and the Middle East. He completed his PhD at the University of Southampton, and his research has examined the relationship between bank size, SME lending, and local economic performance. His publications include work with Richard A. Werner in the *Journal of International Money and Finance*.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, PI, upon reasonable request.

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