

From Debt-Driven Pressure to Equity-Driven Development: Urban Regeneration and the Production of Space Beyond Dependence on Land Finance

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Abstract

As China's urbanization slows and the land-finance model becomes increasingly unsustainable, urban regeneration has become a strategic lever for transforming the mode of urban spatial production. From the perspective of supply-side structural reform, this paper shows that the traditional land-finance model, driven by the pressure of debt, has produced a dual surplus of space and capital. It argues that urban regeneration can construct a new equity-driven relation of spatial production and thereby restructure the full chain of value production, circulation, and distribution. The study finds that urban regeneration reconstructs the supply of production factors around the participation of rights holders, innovates value-circulation mechanisms through the tertiary land market, and improves resource-allocation efficiency through spatiotemporal coordination. It thus forms a spatial governance pathway that complements land finance rather than merely replacing it. This transition can help resolve urban spatial debt risks, promote multi-actor participation and long-term benefit sharing, and provide a practical route toward sustainable urban development. The paper offers a new interpretive framework for understanding the deeper significance of urban regeneration in China's urban transformation.

Keywords

urban regeneration; land finance; equity-driven development; production of space; sustainable development

Introduction

The 14th Five-Year Plan, issued in 2021, first proposed the strategic requirement to "implement urban regeneration actions". This requirement was subsequently deepened at the 20th National Congress of the Communist Party of China and at the 2025 Central Urban Work Conference. Urban regeneration has therefore become an important lever for guiding the transformation of China's urban spatial development in the new era. Driven by national strategy, many localities have explored urban regeneration projects over the past five years, producing new modes and pathways of urban spatial construction that differ from the traditional approach of large-scale demolition and reconstruction. These include "self-organized regeneration" [1-4], "area-based regeneration" [5-7], "micro-regeneration" [8-11], and "temporary regeneration" [9,12]. In value orientation, these practices have shifted from the pursuit of a single economic value of urban space toward multiple values, including economic, cultural, environmental, and functional value [13]. In implementation, they have moved from government- and developer-led projects toward joint leadership by rights holders, investors, users, and other stakeholders. In spatial form, they have moved from large-scale demolition and rebuilding toward smaller, more refined activation and quality upgrading of existing spaces [10,14-15]. These practices share similarities with established Western urban regeneration, but they also reveal the direction of urban regeneration in China in the new period: they begin to break the inherited model and path of land

finance and show an action orientation that reconstructs relations of value production and realization between "space" and "capital" around diversified urban spatial values and multiple actors.

If China is to promote urban regeneration widely and continuously, it must address a core difficulty: how can urban development in the new period escape path dependence on land finance? For a relatively long period, Chinese local governments supplied industrial land in large quantities and at low prices to attract investment and tax revenue, while supplying commercial and residential land in limited quantities and at high prices to monopolize land rent. This created a "national buyer's market" for industrial land and "localized seller's markets" for commercial and residential land [16]. The resulting land finance has been regarded as a key to China's rapid socioeconomic and urban growth [17-20]. Yet in 2021, revenue from urban land conveyance in China reached an inflection point for the first time and then shrank rapidly. The unsustainability of land finance became an unavoidable fact, and the former "growth miracle" of Chinese cities quickly entered a predicament of insufficient momentum. The urban regeneration actions that followed led many observers to connect the two phenomena directly, assuming that urban regeneration was intended to generate new momentum for urban development through another round of large-scale investment and construction. However, many urban regeneration projects have shown that this assumption is untenable: most projects do not effectively create fiscal revenue and often require substantial capital input, increasing rather than reducing pressure on government. What development predicament, then, is urban regeneration meant to resolve? How can China's urban regeneration continue after land finance has become unsustainable? These are the core questions addressed in this paper.

1 Urban Spatial Production: Structural Reconstruction from "Debt" to "Equity"

In the early period of reform and opening-up, persistent fiscal deficits and capital shortages in urban construction, together with the 1994 tax-sharing reform, forced local governments to explore a land-finance-driven model of urban spatial development and construction [18-19]. Through the gradual construction of three main channels - land conveyance fees, taxes related to land and real estate use, and land mortgages plus urban investment bonds (Note 1) - land finance could capture capital value throughout the production, circulation, and distribution of land. Since the 2003 reform of the land conveyance system, land finance has long maintained an aggregate ratio of roughly 1:1 with local general budget revenue excluding land-related taxes; between 2018 and 2021, it even exceeded the latter (Fig. 1). Land finance was therefore the main source of discretionary funds that local governments could invest in rolling urban development during this period.

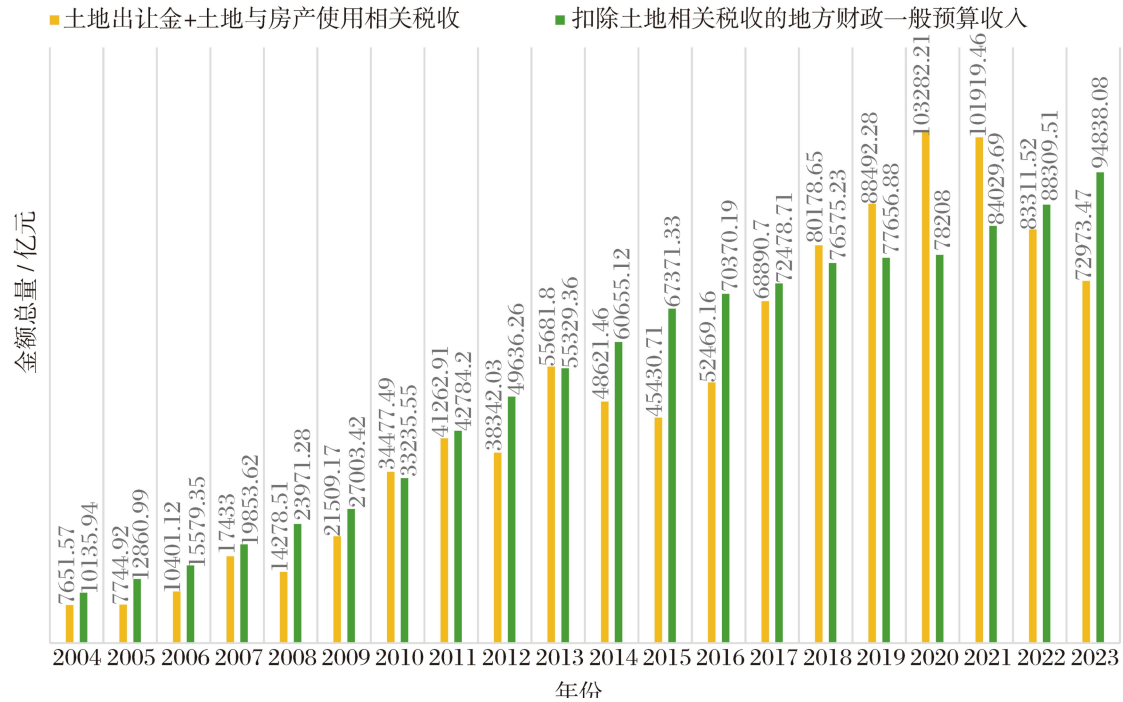


Figure 1. Aggregate statistics for land-finance revenue and local-government general budget revenue in China, 2004-2023. Data source: land conveyance fee data from the China Land and Resources Bulletin of the Ministry of Natural Resources; local-government general budget revenue from the National Bureau of Statistics.

1.1 Debt-driven pressure traps urban development in a dual surplus

In response to the severe external-demand shortfall caused by the 2008 financial crisis, China launched a sustained cycle of domestic-demand stimulus represented by the four-trillion-yuan package. Because urban development had formed path dependence on land finance, massive investment remained concentrated on the expansion and transformation of urban physical space. Large amounts of financial capital entered the land-finance model, pushing urban development into a new round of spatial expansion. Policy projects such as shantytown redevelopment and new towns and new districts accelerated at scale [21-24]. Within the four-trillion-yuan package, 1.15 trillion yuan of fiscal input for affordable housing construction leveraged about 25 trillion yuan of local urban construction funds [16]. From 2008 to 2018, China added 1.85 billion square meters of newly started real estate floor area. If calculated according to the current average urban-rural housing area of 42 square meters per person, and after deducting the increase of about 240 million permanent urban residents over those ten years (Note 2), this roughly equals housing space for an additional 140 million people.

Local governments' dependence on land finance produced large-scale spatial construction in a short period, causing Chinese urban development to fall into a debt trap of dual "space-capital" surplus under conditions of insufficient internal and external demand. First, there was a surplus of spatial factors. China's urbanization growth rate began to decline in 2015, while large-scale expansion during this period further intensified the surplus of urban space (Note 3). Second, there was a resulting surplus of capital factors. Large quantities of surplus spatial factors were bound to increasingly heavy financial debt. Under path dependence on land finance, urban spatial construction had to maintain the aggregate

balance of investment returns by raising land and housing prices. The average conveyance price of state-owned construction land rose rapidly from about 6 million yuan per hectare in 2008 to about 25.5 million yuan per hectare in 2020, an increase of more than three times (Note 4). The result was high urban debt. In 2023, the average loan-to-deposit ratio across all Chinese provinces exceeded the 75% warning line, and some provinces even exceeded 100% [25]. At the same time, the leverage ratios of the household sector and the real economy also rose rapidly (Note 5) and entered a high-level stalemate. In fact, Chinese cities have approached the limit of aggregate debt [26].

Since the 2008 global financial crisis, China's urban land finance has evolved into "land finance" in the narrower financialized sense of "debt financing - land expropriation and conveyance - value appreciation and debt repayment" [27-28]. Because most revenue comes from land conveyance fees for state-owned construction land, urban spatial production has become deeply bound to financial debt (Fig. 2). This also created two key policy levers for China's macroeconomic regulation: the "land lever" and the "credit lever". In an ideal investment environment with stable demand and a reasonable structure, when urban development momentum is insufficient, easing the land lever by increasing land supply, or easing the credit lever by lowering down-payment ratios and mortgage interest rates, can effectively stimulate the economy and generate new development momentum [29]. Yet the earlier overreliance on debt-driven land finance broke this ideal investment environment. When land and credit tools were again used to regulate urban development, they lost effectiveness; instead, "debt-driven pressure" pushed Chinese urban development rapidly into a dual surplus of space and capital.

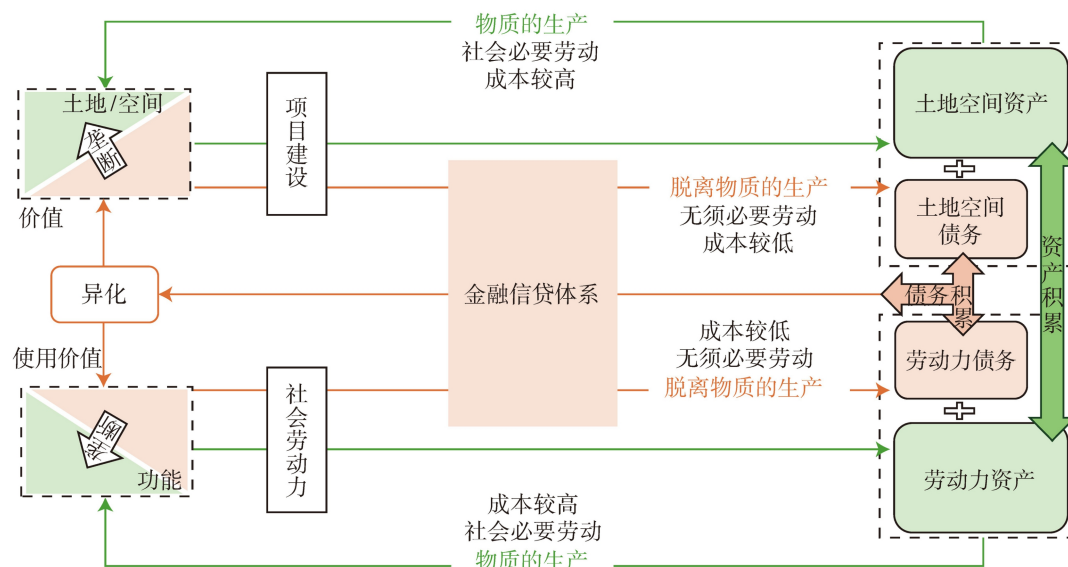


Figure 2. The path of urban spatial production driven by financial debt under the land-finance model.

1.2 Exploring an equity model of urban spatial production through urban regeneration

China's land finance drove ultra-rapid, ultra-large-scale urban spatial production. It was a "space-capital" production structure constructed around the attribute of debt. To serve the rapid return of land-finance funds and drive rapid urban spatial expansion, it formed a high-speed rolling development model [30]. Yet under slower economic growth, weaker urbanization momentum, and insufficient domestic demand,

the land-finance model built on debt logic inevitably tends toward surplus space and surplus capital [31], weakening urban development momentum.

At present, when economic and urbanization growth are slowing, spatial and capital factors are severely over-supplied, and urban development lacks momentum, the rationale for urban regeneration should be understood within the broader context of supply-side structural reform that China has promoted over the past decade. Its core is to explore an "equity model" of urban spatial production through urban regeneration, reconstruct the production relations of "space-capital" factors, and escape the debt-path dependence of urban development on land finance. Through spatial supply-side structural reform summarized as "reducing capacity, reducing inventory, deleveraging, lowering costs, and strengthening weak links", urban regeneration responds to the dual surplus described above. First, it reduces capacity in urban spatial production by preventing large-scale demolition and reconstruction and encouraging rights-holder participation, thereby strictly controlling the creation of large quantities of idle space for the sake of debt. Second, it reduces urban spatial inventory by consolidating property rights in old districts and communities, enabling moderate population redistribution and absorbing part of the surplus spatial stock. Third, it deleverages spatial construction actors by combining debt swaps, such as issuing long-term bonds, special coordination of fiscal funds, and social-capital participation by rights holders, operators, builders, and others, thereby addressing high leverage among local governments, developers, and other spatial construction actors while avoiding further leverage caused by insufficient capital. Fourth, it lowers the costs of spatial construction projects by encouraging original rights holders to regenerate their own properties and by innovating land-supply institutions, reducing the large upfront costs of land expropriation, demolition compensation, and land conveyance. Fifth, it strengthens weak links in urban development: spatial transformation and functional improvement address spatial deficiencies left by rapid urbanization; activation of existing assets and remediation of inefficient land address capital deficiencies caused by overdependence on land conveyance fees and insufficient operating tax revenue; and joint participation by local governments, state-owned enterprises, society, and the market addresses policy and institutional deficiencies in the supply-side structural transformation of urban space.

From the supply-side perspective, spatial production under the traditional land-finance model overdepends on debt logic, whereas urban regeneration in the new development environment reconstructs relations between urban space and capital through equity logic (Fig. 3). On one hand, the equity approach enlarges and strengthens the value of the asset side, diluting and resolving excessive financial risk on the liability side caused by surplus space and capital. On the other hand, the equity approach explores a new mechanism of urban spatial production, thereby escaping the dual space-capital surplus that inevitably results from path dependence on land finance.

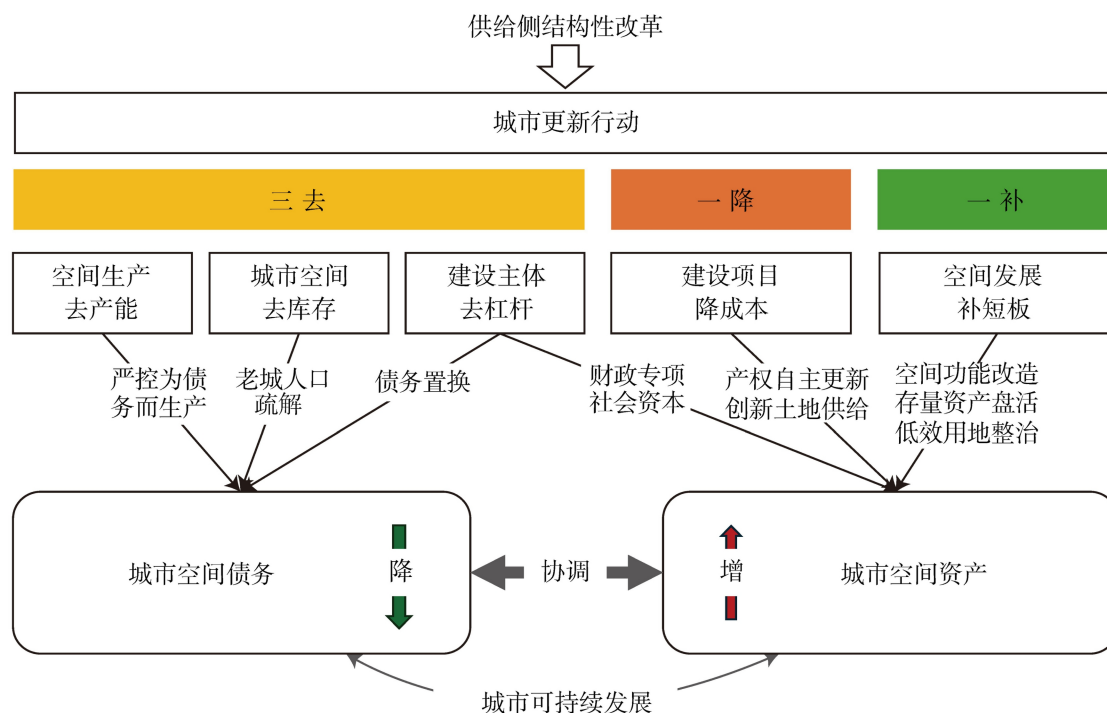


Figure 3. Mechanism through which the equity model of urban regeneration addresses space-capital surplus from a supply-side perspective.

2 New Paths of Urban Regeneration Spatial Production Based on the Equity Model

Urban regeneration carried out under equity logic differs greatly from that under debt logic. At the most basic level, equity logic is a logic of ownership: it emphasizes joint investment, dividend sharing, and risk sharing. Debt logic is a logic of creditors: it emphasizes scheduled lending, principal and interest repayment, and risk avoidance [32]. These two logics lead to many differences in spatial production behavior and regulatory institutions in urban regeneration. Under debt logic, creditors do not participate in project development, but their orientation toward risk avoidance produces lending requirements for relatively simple development actors, relatively short project cycles, and stable project returns. This encourages urban regeneration to follow paths of large-scale demolition, reconstruction, and rapid rolling development. Under equity logic, however, investors begin to participate in the development and construction of specific projects. The needs of development actors become more complex and diverse; returns shift from debt repayment to dividends; project cycles lengthen; project returns become less stable; and new requirements are placed on the underlying assets and equity structure of development and operation. In short, equity-based urban regeneration reconstructs the mode of urban spatial production in value production, circulation, and distribution (Table 1).

Table 1. Comparison of urban spatial production pathways under land finance and urban regeneration models

Comparison item	Land-finance model based on debt logic	Urban-regeneration model based on equity logic
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Core logic	Creditor thinking: scheduled lending, repayment of principal and interest, risk avoidance	Equity-holder thinking: joint investment, dividend sharing, risk sharing
Participating actors	Government, developers as single "rights holders", and banks	Multiple rights holders, including owners, developers, operators, government, and social capital
Value production	Supply mode: clean-land conveyance for developers, unified standards, rigid rules. Implementation path: government tender/auction/listing, developer leadership, large-scale demolition and reconstruction, rapid rolling development	Supply mode: transformation of "uncleared land" for multiple rights holders, multiple standards, flexible rules. Implementation path: in-depth urban diagnosis, multi-actor cooperation through acquisition or equity participation, gradual regeneration
Value circulation	Core market: reliance on primary and secondary land markets. Circulation features: government monopolizes the primary market to obtain land conveyance fees; developers monopolize the secondary market to obtain development gains; rapid circulation through linkage with financial-credit markets	Core market: reliance on the tertiary land market, including existing-housing transactions and leasing. Circulation features: rights acquisition before projects and asset operation after projects both occur in the tertiary market; targeted policies such as transaction taxes and rent subsidies are required to broaden circulation
Value distribution	Distribution mechanism: "space for time". Future returns are advanced into current construction to achieve rapid growth, stimulate related industries, and increase government revenue. Predicament: after resource surplus emerges, spatiotemporal coordination is lost	Distribution mechanism: spatiotemporal coordination. Spatial coordination balances incremental and existing assets and operating and non-operating projects; temporal coordination combines long- and short-cycle projects to balance cash flow; spatiotemporal coordination builds long-term and sustainable asset-equity distribution through industrial funds, REITs, and government tax and fee adjustment
Ultimate goal	Rapid expansion of urban space and rapid return of land-finance funds	Appreciation of rights holders' interests and long-term, high-quality, sustainable urban operation

2.1 Value production: reconstructing factor supply around rights holders

Under the land-finance model, urban spatial development adopts clean-land conveyance, meaning that original rights holders are removed. Developers acquire land-use rights through tender, auction, and listing, becoming the sole "rights holder" in the development process. In this mode of spatial production, urban governments regulate construction projects through total quotas, unified standards, and rigid rules. Developers often start with little of their own capital: they borrow principal from banks, borrow indicators from governments, and borrow property rights from the people. This top-down production of urban space, based on debt logic and implemented according to planning drawings, supplies resource factors according to developers' needs, serves the rapid return of land finance, and actively drives rapid expansion of urban space.

In current explorations of urban regeneration, urban spatial production can no longer rely on developers' single action; relevant rights holders must participate in the regeneration and transformation of existing space. Urban spatial production shifts from clean-land development to the transformation of "uncleared land". Regeneration sites contain not only existing buildings but also original property-rights relations. Therefore, resource-factor supply must be reconstructed around the real needs of multiple rights holders. Through bottom-line delineation and flexible rule design, more "shareholders" can participate in the regeneration and transformation of urban space.

2.2 Value circulation: broadening factor flows through the tertiary market

Under the land-finance model, the circulation of urban spatial value relies on primary and secondary land markets. Government monopolizes the primary land market to obtain land conveyance fees, and developers occupy the secondary land market to obtain development profits. Driven by the strong demographic dividend of urbanization, linkage among primary and secondary land markets and the financial-credit market leveraged large amounts of capital into urban spatial production, producing continuous appreciation of spatial value and rapid flow of resource factors. Yet under the current predicament of severe spatial and capital surplus in urban development, saturation of the primary and secondary land markets, that is, saturation of debt, cannot support the sustained large-scale implementation of urban regeneration.

Many current urban regeneration practices still focus on the production of spatial value. Many seemingly impressive cases cannot support the sustainability and replicability of urban regeneration paths. The core reason is that urban regeneration spatial production has not yet formed a market-oriented path adapted to its equity model, namely market creation and rulemaking for the circulation of spatial value. In local urban regeneration practice, industrial-park regeneration has begun to encourage rights-holder-led regeneration. For residential regeneration, however, relatively rigid requirements remain for the return of original rights holders, demolition-construction ratios, and related issues, so localities no longer rely on large-scale expropriation and compensation. For those property rights that do not have regeneration demand and obstruct regeneration projects, government, state-owned construction platforms, or market developers may buy them back at market price through transactions, transfers, or asset restructuring, rather than as demolition compensation, and then participate with other rights holders in subsequent regeneration.

Therefore, urban regeneration spatial production does not involve primary and secondary land markets on a large scale. Whether in the consolidation and arrangement of property rights before project launch or in asset operation after project completion, including transaction, leasing, and operation, it is oriented toward the tertiary land market. Yet effective linkage between urban regeneration and the

tertiary land market remains insufficient. One aspect is the linkage between urban regeneration and the second-hand housing market. Compared with old second-hand housing on the market, regenerated commodity housing has a "near-new" quality advantage; compared with new housing, it has a cost and price advantage. Targeted second-hand housing transaction rules should therefore be redesigned around the comparative advantages of regenerated housing, for example by adjusting transaction-age limits for regenerated second-hand housing, setting differentiated transaction taxes and fees before, during, and after regeneration, and moderately lowering mortgage interest rates for regenerated second-hand housing. Another aspect is the linkage between urban regeneration and the rental market. Preferential leasing policies for regenerated urban space should likewise be formulated around the comparative advantages of regenerated housing, such as granting operating tax and fee reductions for a certain period to operating rights holders who implement regeneration, and establishing phased, differentiated rent subsidies to raise the overall occupancy rate of regenerated assets. In short, policies should focus on the tertiary land market toward which urban regeneration spatial production is directed. More proactive stimulus policies are needed to broaden and accelerate the flow of urban regeneration resource factors, thereby forming market-based momentum for spatial production.

2.3 Value distribution: coordinating resource-factor allocation across time and space

During the period of rapid urban expansion, land finance was not only an important pathway for producing and circulating urban spatial value; it was also the main tool by which cities reallocated land and other resource factors. Through land expropriation and conveyance, commodity housing construction and transactions, and related mechanisms, the land-finance model advanced social production capital from decades into the future, rapidly stimulating urban real estate, manufacturing, consumption, and other sectors, and significantly increasing urban government fiscal revenue. In this sense, land finance introduced a debt mechanism and created a rapid-growth model of "exchanging space for time". Yet when space and other resource factors are no longer abundant, and when debt expansion can no longer drive rapid economic growth, the land-finance model loses its role in distributing the value of resource factors for urban development.

The current rights-holder-led mode of urban spatial production in urban regeneration escapes the path of land finance from the source. A new mechanism of spatiotemporal coordination and balance must therefore be explored, one adapted to the input-output characteristics of its resource factors. Urban regeneration captures spatial value through long-term investment and equity dividends. On one hand, because land conveyance and real estate transactions decline, investment in urban regeneration projects cannot generate large short-term returns; residential and public projects may even produce "zero" returns, making many projects difficult to implement. On the other hand, rights holders and other shareholder-like actors participate extensively in project investment and construction, so potential investment returns must flow back more substantially to rights holders. From the perspective of redistributing spatial value in urban regeneration, government or state-owned enterprises must "enter the field" as rights holders or investors and anchor asset "shares" that generate long-term sustainable returns for the city. On this basis, spatiotemporal coordination and redistribution of value in urban spatial production can gradually be built.

First is spatial coordination of spatial value. Through urban diagnosis and the preparation of urban regeneration action plans, cities should coordinate the mutually supportive and complementary relations among incremental and existing assets, livelihood-oriented and development-oriented projects,

and operating and non-operating spaces. Second is temporal coordination of spatial value. Given the long-term returns and gradual implementation of urban regeneration projects, the implementation schedules of multiple projects must be coordinated, for example by combining projects with long investment-recovery cycles and projects with short cycles, or projects in mature revenue stages and projects in early construction stages. Finally comes spatiotemporal coordination of spatial value. First, on the basis of temporal and spatial coordination, urban regeneration needs to identify key areas and phased implementation plans for large-scale advancement. Second, large-scale urban regeneration projects need a more reasonable underlying asset structure, further building industrialized and marketized distribution models for urban asset rights, such as urban regeneration industrial investment funds (IIFs) and real estate investment trusts (REITs), to achieve multilevel operation and sustainable returns from urban assets. Third, China's institutional advantages in urban spatial governance should be used to apply more efficient fiscal and tax coordination mechanisms to regulate urban regeneration projects. For example, central fiscal subsidies for local urban regeneration, or preferential local tax and fee reductions for enterprises or asset owners entering operating-space regeneration projects, use fiscal and tax funds to leverage market and social capital and more strongly enable government coordination and distribution of urban spatial value across time and space.

3 Reconsidering the Relationship Between Sustainable Urban Regeneration and Land Finance

In the new development context, the urban spatial production represented by urban regeneration differs fundamentally from the land-finance model throughout the processes of spatial value production, circulation, and distribution. Through structural adjustment on the spatial supply side, namely the shift from debt to equity, it seeks to resolve the debt-based surplus of space and capital caused by path dependence on land finance and thereby anchor sustainable urban development. Current discussions of urban regeneration have therefore moved far beyond the urban regeneration embedded in the land-finance model. In essence, they attempt to escape path dependence on debt logic under land finance and to explore a balanced structure in which the debt and equity pathways of Chinese urban spatial production support each other and advance in parallel.

3.1 Asset-liability coordination as the underlying logic of urban sustainability

Since the Industrial Revolution, urban space has changed from a container of primitive production accumulation into an object of social production [33]. The production of urban space has become an important process for realizing capital circulation and accumulation. In *The Limits to Capital*, published in 1982, David Harvey [34] proposed the classic theory of capital circulation, arguing that capital, to maintain the liquidity of its own circulation, constantly pursues surplus value from social production. When surplus value from industrial capital in agriculture, industry, manufacturing, and other sectors tends toward saturation (the first circuit), capital turns surplus capital toward the construction of space such as the urban built environment and fixed assets (the second circuit). When the second circuit also tends toward saturation, capital turns to investment in and reconstruction of social-control domains such as the institutional environment, labor, and education (the third circuit), thereby providing new liquidity for capital circulation. In fact, since the 1980s, Western cities had already encountered a surplus crisis in the second circuit of capital [35]. The outbreak of the 2008 subprime mortgage crisis in the United States was, in essence, the result of the failure to resolve the surplus predicament of the second circuit in Western social production. In *The New Imperialism*, published in 2001, Harvey [36] further

revealed two paths of capital's "time-space fix": scalar jumps through spatial expansion and debt restructuring through temporal delay. Through the financial-credit system, crisis transfer became the main means of absorbing surplus capital in Western society, opening the way for neoliberalism and financial globalization.

After the 2008 international financial crisis, scholars increasingly focused on new contradictions between value production and realization under financialization. Returning to the political-economic theory of social production, Marx's [37] account in *Capital* of the relation between industrial capital and interest-bearing capital reveals the essence of this contradiction and its possible response. In a social production relation based on limited resources, industrial capital produces surplus value, while interest-bearing capital distributes surplus value; interest-bearing capital is therefore dependent on industrial capital. In brief, whether for enterprise operation or urban development, assets and liabilities must be kept within a certain autonomous and controllable range (Fig. 4). This is also the underlying logic behind Zhao Yanjing and others' argument that sustainable urban development in the stock era requires the establishment of an "urban balance sheet" [38-39]. On this basis, many studies argue that the "time-space fix" used by the West since the 1980s to respond to the crisis of capital surplus merely delayed the outbreak of crisis on the surface through the global monopoly of the financial-credit system (Note 6), without truly resolving the essential contradiction of Western social production's overdependence on debt. In fact, the "capital" Harvey observed in Western society was closer to financial capital than to the capital analyzed by Marx in *Capital*, which also reflects the predicament of transformation after Western society became captured by finance. Under the guidance of neoliberalism, Western society did not in any real sense achieve investment in and reconstruction of social-control domains, the so-called third circuit of capital. The facts show that the capital logic of unlimited debt expansion inevitably produces crisis, and urban development constructed on this logic is unsustainable.

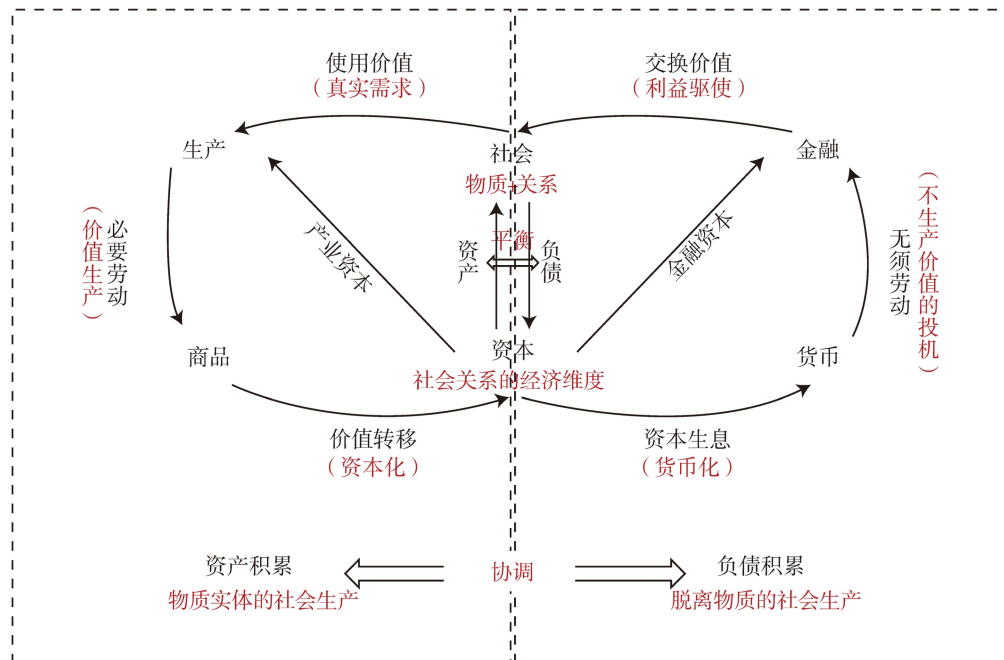


Figure 4. The underlying logic of urban spatial production for sustainable development.

3.2 Urban regeneration as a key lever toward sustainable development

Before 2020, Chinese urban development exhibited a model in which debt-driven pressure pushed land finance. In essence, its path resembled the Western capital "time-space fix" since the 1980s: both exchanged space for time and used financialization to mitigate insufficient domestic demand. Yet in responding to the resulting problem of capital surplus, China has not been constrained by the reverse pressure of financial credit as the West was. Instead, through national strategic adjustment and supply-side structural reform, China has sought to break through the dilemma in which urban spatial construction under land finance depends on financing and debt expansion. Urban regeneration is the key lever in this transformation.

From the perspective of capital structure, urban regeneration seeks to reconstruct the allocation of urban asset rights through equity thinking, with the aim of resolving, reorganizing, and adjusting existing spatial debt. Long-term path dependence on land finance meant that Chinese cities had not fully reserved policy, institutional, and governance conditions for equity-based spatial production. Urban regeneration is not only tasked with the short-term remediation of physical spatial decline; it also carries a long-term mission: through social reproduction involving the whole of society, it seeks to build for Chinese cities a "second path" of spatial production beyond "land finance" (land finance plus debt financing), thereby fundamentally escaping the unsustainable development mode caused by debt-driven pressure. From the perspective of dynamic structure, urban regeneration regulates spatial debt and guides capital, labor, and other factors toward new drivers such as reform, technology, and culture, supporting the high-quality transformation of cities and the nation. Under the land-finance model, spatial production pushed up urban debt, forcing cities to rely on rising land and housing prices to repay debt. Large amounts of resources were deposited in real estate, squeezing room for technological innovation, industrial upgrading, and consumption improvement. Current urban regeneration projects of various types, including industrial, residential, and public-facility projects, are therefore exploring equity-oriented regeneration paths guided by sustainable asset operation. These replace the traditional logic of "financing - debt repayment" and encourage factor resources to concentrate in fields of production and reproduction that truly lead high-quality development. From the perspective of governance structure, urban regeneration is essentially a restructuring of the ownership of urban spatial liabilities and assets. It helps local governments anchor more operable assets and reverse the governance predicament of revenue-expenditure fiscal management [40]. Since the 1994 tax-sharing reform, local governments have gradually formed a governance logic of "exchanging space for time and debt for development" in response to fiscal imbalance. But as land and population dividends peak, this model has become unsustainable. Urban regeneration reallocates rights between local state-owned enterprises and social capital, reconstructs an asset base for sustainable urban operation [41], and promotes a gradual shift in local finance from an "asset revenue-expenditure" model dependent on short-term conveyance income toward a sustainable "asset operation" model.

3.3 Leveraging the push-pull effects of urban regeneration and land finance

In fact, this equity-driven mode of urban development already existed widely in southern Jiangsu and other eastern coastal areas at the beginning of reform and opening-up [42-43]. To develop local economies rapidly, township governments in southern Jiangsu often cooperated with local enterprises by contributing land as equity, integrating allocation and supply. After enterprises began production, they paid a specified share of returns to township governments. These returns included not only state-

mandated corporate taxes but also dividends from township land contributed as equity. The advantage of this model was that, under relatively low levels of economic development, it could accelerate the growth of enterprises and local economies. Yet after the 1990s, the contribution of this equity-based "southern Jiangsu model" to local economic growth and spatial expansion began to decline. Urban development gradually built a path centered on land finance, along with a full set of regulatory institutions for urban spatial production. In the current stage of weakened urbanization momentum and insufficient internal demand, reexamining the land-finance model that supported China's ultra-rapid urban development reveals that the advantage of debt-expansion-driven accumulation in enlarging urban spatial production has turned into a disadvantage of excessive local economic debt. Urban spatial reproduction therefore has to return to an earlier equity logic and explore a new model of spatial governance for urban regeneration beyond path dependence on land finance.

From the historical evolution of the relation between space and capital in China's urban development, urban regeneration and land finance are not mutually exclusive contradictions. In the past, because Chinese urban spatial production lacked the equity model now emerging in urban regeneration, there was no effective means to regulate urban spatial debt; cities could only be left to "self-repair" through macro-control that tightened or loosened the land and credit levers. Yet through the large-scale exploration of current urban regeneration actions, Chinese cities may establish a more refined mode of urban spatial production based on the different mechanisms through which urban regeneration and land finance affect urban development. At the macro-control level, when social demand is strong and markets are rising, the debt-expansion path of the land-finance model can be used to integrate surplus resources from society and the market more efficiently and activate the pull effect of incremental urban spatial expansion on socioeconomic development. When social demand is insufficient and markets are falling, the equity-restructuring path of the urban-regeneration model can integrate scarce resources from society and the market more precisely and activate the push effect of quality upgrading in existing urban space on socioeconomic development. At the micro-regulatory level, whether in stock regeneration or incremental development, future urban spatial production in China needs to move toward an underlying asset structure in which equity and debt are integrated and mutually constrained. For example, a certain proportion of self-held assets could be explicitly required in newly built commodity housing or industrial parks for operation only, through self-operation or rental income; in stock regeneration, a certain proportion of incremental assets could also be set aside to supplement land finance and coordinate the interests of all parties. In this way, when urban economic development fluctuates upward or downward, the overall macro strategy can be combined with more flexible proportional adjustments to enable urban regeneration and land finance to more effectively support sustainable urban development.

4 Conclusion and Discussion

In the face of the new era and the new development environment, China's urban regeneration actions should be understood at the broader level of urban development transformation. The key task of urban regeneration today is not only to transform existing physical space, but more importantly to explore a new mode of urban spatial production that responds to the dual surplus of "space-capital" and drives Chinese urban development beyond path dependence on land finance, that is, beyond path dependence on debt-driven pressure. Urban regeneration in China is constructing a new equity-driven path of urban

spatial production through three mechanisms: a mode of value production that reconstructs resource-factor supply around rights holders; a mode of value circulation that broadens resource-factor flows through the tertiary market; and a mode of value distribution that allocates resource factors through spatiotemporal coordination. Compared with the already mature land-finance model, exploration of this equity-cooperation-oriented mode of urban spatial production has only just begun. In the future, under the long-term strategies of continuing supply-side structural reform and reforming market-based allocation of factors, more new models and paths of Chinese urban spatial production, including equity-based and equity-debt integrated forms, will merit further attention and discussion in urban studies.

Notes

Note 1. Land mortgages and urban investment bonds constitute the third channel through which local governments obtain funds for urban space and infrastructure construction. In the early stage, localities established land reserve centers and used reserved land as collateral to obtain bank loans. In 2009, the national channel for urban investment bonds was opened; localities then established local financing platforms based on urban investment companies and issued urban investment bonds, greatly accelerating and strengthening the financing capacity of urban construction projects.

Note 2. Data source: National Bureau of Statistics, "Population grew steadily and the level of urbanization rose steadily", January 23, 2019, https://www.stats.gov.cn/sj/sjld/202302/t20230202_1896140.html.

Note 3. Sina Finance reported that in June 2025, China's inventory of commodity housing reached 685 million square meters and the average vacancy rate reached 18.7%.

Note 4. A rough estimate calculated from annual state-owned land conveyance transaction prices and total state-owned land conveyance areas in the China Land and Resources Bulletin of the Ministry of Natural Resources.

Note 5. Leverage-ratio data released by the National Institution for Finance and Development show that macro leverage ratios in all sectors have continued to rise since 2008. In 2024, the household-sector leverage ratio was 64% (17.9% in 2008), and the real-economy-sector leverage ratio was 294.8% (141.2% in 2008).

Note 6. The Bretton Woods system was established in 1944, linking global settlement to the U.S. dollar rather than to gold. After the 1970s, Western capitalist countries launched neoliberal economic globalization through looser monetary stimulus policies, transferring and absorbing domestic surplus social productivity. Financial capital came to dominate the global allocation of production factors through credit, forming monopolistic control over production and value. In Marx's view, money in financial capital has no value in itself; its value realization depends on social production and commodity exchange. Yet the establishment of the financial-credit system enabled money-to-money value capture without passing through production, escaping the dependence of financial-capital accumulation on social production, that is, material production, and accelerating the formation of financial risks caused by idle capital circulation.

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