Evolution of China's Central-Local Fiscal Relations: A Theoretical Framework

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Abstract: *China's path to modernization, which embodies a unique developmental model characterized by high-quality development, common prosperity, harmony with nature, and peaceful coexistence, is a multifaceted process that advances progress on multiple fronts. This paper applies two analytical lenses to the study of intergovernmental fiscal relations: multi-level governance, where different levels of government interact, and multi-objective decision-making, where multiple goals are pursued simultaneously. From this perspective, it puts forward three core propositions. First, the evolution of fiscal relations is shaped primarily by the central government's need to balance incentivization, coordination, and control. Second, these relations are constrained by objective factors such as the output elasticity of loacl government actions, cost coefficients, externalities, and uncertainty. Third, the effectiveness of both central and local governments depends on the design of fiscal relations, as well as on their objectives, the output elasticity of actions, and costs. In essence, effective intergovernmental fiscal relations require a balance between centralized leadership and local initiative. Using this framework, the paper examines how changes in China's fiscal system have influenced modernization across different historical periods, offering a theoretical model tailored to China's national context.*

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1. Introduction

Intergovernmental fiscal relations refer to the distribution of authority between the central government and local governments, as well as among different levels of local governments, arising from the delegation of power in China's fiscal domain. This arrangement—which includes the division of responsibilities, allocation of fiscal authority, and intergovernmental transfers—is commonly referred to in China as the "fiscal system". As a core institutional mechanism for mobilizing the initiative of governments at all levels, it profoundly shapes government behavior, defines the relationship between the government and the market, and influences the provision of public goods, economic development, balanced regional development, and even political stability (Liu et al., 2022).

Globally, intergovernmental fiscal relations are an essential component of any country's political

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and economic system. However, due to China's unique institutional and structural characteristics, few countries face the same scale or complexity in managing these relationships. As Chairman Mao Zedong stated in his essay, *On the Ten Major Relationships*, "Our country is so vast, our population so large, and our circumstances so complex that having both central and local initiatives is far better than relying on just one". In designing and adjusting intergovernmental fiscal relations, the central government must not only uphold institutional cohesion and central authority but also balance three competing demands: accommodating regionally differentiated institutional needs, supporting the functional requirements of different levels of government, and achieving multiple political and economic objectives. Balancing these goals—often framed as "mobilizing both central and local initiative"—represents a highly complex political and economic challenge.

Because of their distinctive structure and far-reaching impact, China's intergovernmental fiscal relations have long been a focal point of academic research, both domestically and internationally. Over the past three decades, a vast body of empirical literature has examined their influence on various aspects of the economy, including growth, macroeconomic fluctuations, industrial structure, environmental protection, and the provision of local public goods. Yet, most of this research focuses on isolated dimensions or effects, and relatively few studies offer a comprehensive theoretical or institutional explanation of the system as a whole. In fact, China's millennia-long exploration of central-local governance, its expansive and populous territory, the ongoing evolution of fiscal arrangements since the founding of the People's Republic of China in 1949, and the strategic emphasis on "dual initiative" provide a solid foundation for developing a more systematic and theoretically grounded understanding of China's intergovernmental fiscal relations.

This paper develops a theoretical framework for understanding China's intergovernmental fiscal relations, grounded in the country's institutional context of information asymmetry and multi-objective governance. It applies this framework to analyze the logic of institutional evolution and the broader historical role of fiscal relations. The study argues that along the Chinese path to modernization, intergovernmental fiscal relations have evolved through continuous adjustments to match shifting government objectives and changing conditions. These adjustments help mobilize the initiative of governments at all levels, enabling modernization efforts tailored to specific times and local contexts. When the central government seeks to stimulate local economic dynamism, it tends to delegate fiscal authority and responsibilities to subnational governments. However, while such decentralization can effectively activate local initiative in the short term, it may also lead to longer-term challenges—such as regional disparities, fragmentation of the unified national market, weakened central fiscal control, and excessive local emphasis on economic growth at the expense of social welfare. These emerging issues, in turn, generate pressures for further reform of intergovernmental fiscal arrangements.

This process of adaptation and rebalancing occurs not only in central-local fiscal relations but also within the intergovernmental hierarchy below the provincial level. To maintain analytical clarity, this paper focuses on the central-local fiscal relationship, though the theoretical framework is broadly applicable to intergovernmental fiscal dynamics at all levels in China. Overall, within the institutional framework of "centralized leadership and tiered local administration", China's intergovernmental fiscal system has demonstrated the capacity to adapt to local variation and temporal change, meeting both participation and incentive constraints across different tiers of government. This institutional flexibility constitutes a crucial driving force behind the Chinese path to modernization.

2. Literature Review

A market economy's strength lies in its ability to allocate resources efficiently through free competition. And fostering this competition requires fully leveraging the information advantages of market participants. These advantages appear in two main forms. First, firms and individuals can

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act on localized knowledge, provided that product and factor markets work well and price signals guide decision-making. Second, local governments possess an informational edge by being closer to their communities and markets than the central government. To harness this proximity, the central government must grant them greater autonomy. This logic helps explain why, after World War II, many market economies moved toward fiscal decentralization. This trend has driven a surge of research on fiscal decentralization, which has largely replaced earlier, broader theories of intergovernmental fiscal relations.

Broadly speaking, the evolution of fiscal decentralization theory can be divided into two major phases. The first generation, represented by Tiebout (1956) and Oates (1972), posits that local governments seek to maximize the welfare of residents within their jurisdictions. Given regional differences in resource endowments and resident preferences, local governments are better positioned than the central government to provide differentiated public goods efficiently. This implies the need for greater local autonomy over revenue and expenditure decisions.

The second generation, advanced by scholars such as Weingast, Qian, and Roland (Weingast, 1995; Qian & Weingast, 1997; Qian & Roland, 1998), introduces insights from public choice theory and principal-agent models. It emphasizes that local governments may behave as self-interested actors—such as by maximizing their own budgets—and that such behavior can lead to inefficiencies or distortions. To address this, the theory highlights the importance of designing institutional arrangements that enable credible decentralization while fostering competition among local governments. Such competition can enhance responsiveness to local needs and discipline self-interested behavior. Under the right conditions, this framework supports a model known as "market-preserving federalism", in which local governments are incentivized to promote regional economic development while maintaining a unified national market.

"Market-preserving fiscal federalism (MPFF)" offers a theoretical lens for understanding how China's intergovernmental fiscal relations have contributed to economic growth. The theory emphasizes that, compared to transitional economies such as Russia and those in Eastern Europe, China's fiscal system more effectively combines incentives and constraints for local governments. This arrangement encourages them to protect and promote local market development, thereby spurring economic growth. Qian et al argue that China's M-form (multilayered) governmental structure, in contrast to the U-form (unitary) structure of countries like Russia, is more conducive to fostering intense economic competition among local governments (Qian & Xu, 1993; Qian et al., 1999).

Then, what conditions are necessary to sustain a system of MPFF? Parikh and Weingast, in response to critiques by Rodden and Rose-Ackerman, outlined five foundational conditions for such a system (Parikh & Weingast, 1997; Rodden & Rose-Ackerman, 1997). Notably, these conditions closely correspond to the institutional features of China's intergovernmental fiscal arrangements since the reform era since 1978. This parallel has led scholars such as Qian to label China's system a form of "Chinese-style MPFF" (Qian, 2000; Jin et al., 2005) and to explore its theoretical advantages in depth. Nevertheless, whether China's fiscal system truly meets the criteria of MPFF, and the extent to which it produces the expected outcomes, remain subjects of ongoing academic debate (Rodden & Rose-Ackerman, 1997; Sachs et al., 2003; Yang & Nie, 2008).

The profound influence of China's intergovernmental fiscal system has spurred extensive research into its economic effects. Some scholars have utilized theoretical models and simulations to explore how shifts in fiscal arrangements impact the economy—such as Zhu and Xu's analysis of decentralization's role in explaining macroeconomic volatility (Zhu & Xu, 2018), Wang et al.'s finding that fiscal decentralization widens structural imbalances (Wang et al., 2020), and Wang et al.'s investigation into optimizing intergovernmental transferss to boost social welfare in the context of new-type urbanization (Wang et al., 2022). A significant portion of the literature, however, focuses on empirical studies, covering diverse topics: the link between fiscal decentralization and economic growth (Li, 2021), its influence on local government behavior (Tan & Zhang, 2021), effects on local public goods provision (Yin

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& Yang, 2014), impacts on social order (Wu & Heerink, 2016), and environmental consequences (Song et al., 2018). Yet, empirical results often vary widely. Chen and Gao, along with Xu and Qiao, point to differing—and occasionally misused—fiscal decentralization indicators as the primary source of these inconsistencies (Chen & Gao, 2012; Xu & Qiao, 2012). More recently, attention has shifted to elastic revenue-sharing as a critical driver of local government initiative, sparking a growing body of work on intergovernmental tax revenue sharing (Lv, 2009; Fang, 2020; Liu et al., 2021).

Despite the extensive body of research, two fundamental questions regarding China's intergovernmental fiscal relations remain insufficiently explored:

(1) Evolution and Role in China's Modernization: What is the underlying logic and institutional role of intergovernmental fiscal relations in the context of China's modernization since the founding of the People's Republic in 1949? Over the past seven decades, these fiscal relations have undergone several major transitions. The shift from a unified revenue and expenditure system under the planned economy to the fiscal contracting system in the early reform era since 1978 represented a profound institutional break. This was followed by another significant transformation with the introduction of the tax-sharing system in 1994. Within each phase, smaller adjustments have occurred roughly every two to three years. China's modernization is an ambitious and ongoing process characterized by the simultaneous pursuit of multiple development goals across different stages—economic growth, public welfare improvement, regional balance, heavy industrialization, and unified market building. Intergovernmental fiscal arrangements must continuously evolve in response to changing historical conditions to strike a balance between long-term public interests and immediate policy priorities (Gao, 2023). However, much of the existing literature is based on static assumptions, limiting theoretical explanatory power to specific historical periods or institutional contexts. Reconciling theoretical abstraction with the rich institutional dynamics of China's fiscal system over time presents a significant challenge for scholars.

(2) Functioning within a Unique Institutional Framework: How do China's intergovernmental fiscal relations operate within the foundational institutional framework of "centralized leadership and tiered local administration"? This framework, rooted in China's historical and political traditions, contrasts sharply with the federal or autonomous models emphasized in many Western contexts (Lv, 2022). Understanding how intergovernmental fiscal relations function within this structure requires articulating and balancing the objective functions of both central and local governments. These functions must incorporate the preservation of central authority, responsiveness to local public needs, self-interested behavior of governments, and externalities arising from local actions. Neglecting any of these components weakens the explanatory strength of theoretical models, while incorporating all of them increases analytical complexity. The inherently multi-objective nature of decision-making in China's fiscal governance system complicates empirical and theoretical research alike.

Studying China's public finance cannot be isolated from its broader historical and institutional context. Understanding the role of fiscal institutions requires a perspective grounded in the realities of China's unique development path. This paper employs a theoretical model to systematically address the following questions: What drives the evolution of intergovernmental fiscal relations during China's modernization since 1949? How have these institutional changes shaped the behavior of local governments? Through what mechanisms have these fiscal arrangements contributed to economic growth? While these questions are vast and complex—indeed, typically addressed only in fragmented form across existing studies—this paper argues that the core of China's fiscal evolution lies in the central government's effort to leverage local governments' informational advantages across a large, heterogeneous country. This strategy enables the central government to flexibly adjust incentives and align local implementation with evolving national priorities. By focusing on two key theoretical dimensions—information asymmetry and multi-objective government decision-making—this study provides a logically coherent and systemically grounded explanation of China's intergovernmental fiscal transformation. This is the contribution of this paper.

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3. Mechanism of Action: How China's Intergovernmental Fiscal Relations Mobilize Government Initiative

Mobilizing the initiative of individuals or organizations requires two key mechanisms: an incentive mechanism, which enables participants to anticipate potential benefits and thus fosters a willingness to act, and an action mechanism, which provides participants with the means and tools to implement actions. Intergovernmental fiscal relations mobilize government initiative through these same mechanisms. At their core are the allocation of fiscal authority and responsibilities, which we analyze in the context of China's institutional realities.

3.1 Incentive Mechanism: How Fiscal Authority Allocation Influences Government Initiative

Fiscal authority comprise legislative authority, tax administration rights, and revenue entitlements. In China's unitary system, legislative authority is highly centralized at the national level. While administrative rights determine how revenue is collected and managed, the most decisive factor in motivating local governments is the allocation of revenue rights. This stems from two primary considerations. First, local economic and social development—such as attracting investment, advancing urban construction, promoting ecological governance, and maintaining social stability—relies heavily on adequate fiscal resources. Without sufficient revenue, these efforts are difficult to sustain and can negatively impact performance evaluations. Second, fiscal revenue serves as the foundational guarantee for motivating officials at all levels. In most cases, effective incentives depend on the implementation of the principle: "greater rewards for greater contributions, reduced returns for diminished efforts". This, however, is only feasible with a robust fiscal base.

Given its critical role, revenue generation is consistently prioritized in local government agendas. This priority is evident in both performance appraisal mechanisms and local development planning. The emphasis on revenue by higher-level governments naturally leads subordinate governments to place similar importance on it. An analysis of performance evaluation documents from eight provinces reveals that GDP and fiscal revenue consistently receive the highest weighting. Likewise, government work reports from prefecture-level cities across the country consistently identify GDP and fiscal revenue as core objectives.

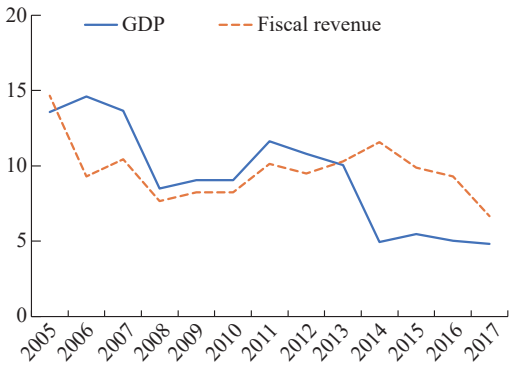

Figure 1: County Performance Evaluation Weights

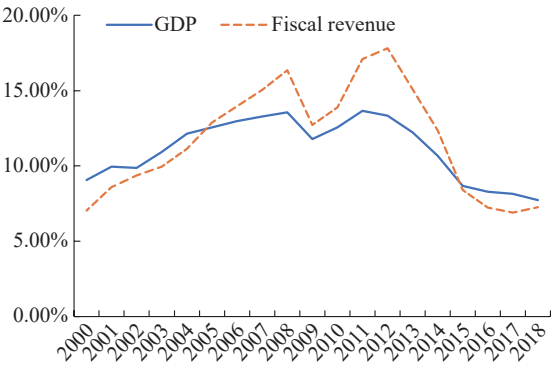

Figure 2: Prefecture City Development Targets

Different revenue allocation arrangements produce varying incentive effects. Local government revenues are mainly tax-based. The behavioral incentives created by taxation depend on two key factors: the nature of the tax base and the method of revenue sharing. If the tax base is derived from enterprise production and revenues are shared according to the origin of production, this will motivate

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local governments to boost industrial output. If the tax base consists primarily of residential property (e.g., property tax), it encourages improvements in local public services. Regarding sharing methods, intergovernmental fiscal revenue can be allocated through several arrangements: revenue-sharing contracts, fixed-quota contracts, and co-ownership agreements (While the term "contract" is used academically, in practice these may be referred to as "methods", "formats", or "rules"). Fixed-quota contracts offer strong but declining incentives over time, as the upper-level government's share may erode. Co-ownership is typically limited to minor taxes, as assigning major taxes entirely to either level would destabilize the central-local revenue balance. Hence, revenue-sharing contracts are most widely used. A close reading of China's fiscal reform documents across central and local levels reveals frequent use of terms such as "total revenue sharing", "growth-based sharing", and "sharing", suggesting the prevalence of tax-sharing mechanisms in managing intergovernmental fiscal relations.

Since the beginning of reform and opening-up in 1978, China's fiscal revenue arrangements have gone through numerous changes but have consistently followed the principles of origin-based tax assignment and elastic sharing mechanisms. During the fiscal contracting period (1980s-1993), local revenues primarily came from enterprise taxes and profits. Under the tax-sharing system (1994-present), they come from value-added tax, business tax, and corporate income tax. While the central government aims to standardize the central-provincial allocation formula (which remains partially inconsistent in practice), the sub-provincial systems vary significantly, resulting in highly uneven local retention rates of shared tax revenues across regions and over time. This has led to the formation of a flexible, elastic tax-sharing incentive structure (Lv, 2022).

3.2 Action Mechanism: How Responsibility Allocation Influences Local Government Initiative

The allocation of intergovernmental responsibilities defines the scope of duties assigned to local governments. More importantly, it determines the range of tools they can use to fulfill those duties. When responsibilities are appropriately allocated, local governments can effectively carry out their functions under the guidance of incentive mechanisms. For example, if a local government lacks authority over infrastructure development, it cannot use infrastructure improvements as a means to promote economic growth—thus weakening its initiative. Conversely, devolving responsibilities in areas such as market regulation, judicial affairs, or environmental protection grants local governments greater capacity to intervene in economic and social affairs. On the other hand, if responsibilities that should be handled locally are misallocated to the central government, frequent central intervention may lead to inefficiencies and discourage local governments from engaging in those duties. Lacking clear responsibility, they may withdraw from these affairs altogether.

A frequently discussed concept in this context is "fiscal responsibility". Following the 1994 tax-sharing reform, government documents often used the broader term "responsibility" when discussing the fiscal system. Since 2016, however, the State Council and fiscal authorities have increasingly adopted the term "fiscal responsibility", which they define as the responsibility of a given level of government to provide basic public services through the use of fiscal funds. Nonetheless, high-level policy documents—such as the 13th (2016-2020) and 14th (2021-2025) Five-Year Plans, as well as the Fourth (2019) and Fifth (2020) Plenary Sessions of the 19th Central Committee—continue to refer simply to "responsibility". This raises important questions: Are "fiscal responsibility" and "responsibility" equivalent? Do they have different implications for local government initiative?

In essence, responsibility refers to the broader set of functions and duties that governments at all levels are expected to perform in public administration and service delivery. Because it touches on the design of the administrative system and the delineation of governmental roles, it is considered an issue that is legally defined and operates at a fundamental, strategic level (Lou, 2018)—one that extends beyond the scope of what fiscal authorities alone can determine. Fiscal responsibility is a subset of responsibility. It refers specifically to those tasks that require fiscal expenditures for their execution.

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Its implementation depends on whether adequate fiscal resources are available. For local governments, these fiscal responsibilities often represent mandates rather than expressions of autonomy. For instance, an increase in local education spending does not necessarily reflect enhanced educational autonomy; more likely, it signals increased obligations imposed by higher-level authorities—such as requirements under the "three systems" policy for education, which mandate standards for funding, teaching staff, and student/teacher rights.

In summary, fiscal responsibility is closely linked to broader responsibility. The configuration of these responsibilities across levels of government shapes the tools available for local action. When matched with corresponding expenditure responsibilities and fiscal capacity, greater authority allows local governments to employ a wider range of policy instruments, thereby enhancing their initiative. Consequently, efforts to improve China's intergovernmental fiscal system must take the structure and implications of responsibility allocation into serious consideration.

3.3 Multi-Objective Balance: The Central Government's Direction in Mobilizing Initiative

Intergovernmental fiscal relations aim to mobilize the initiative of both central and local governments. In a vast country like China, the central government's efforts to do so center on three priorities: incentive, balance, and control. First, the incentive dimension involves designing fiscal relations that effectively stimulate local governments. Local initiative, in turn, can be oriented toward economic growth and public service delivery, with shifting emphasis across developmental phases. Second, once local initiative is activated, uneven regional outcomes often emerge due to differing resource endowments and market environments. This imbalance manifests as economic and public service disparities, requiring the central government to play a corrective role. Third, control is essential. China maintains a "centralized leadership and tiered local administration" system that necessitates robust central authority—both politically and fiscally. This ensures political stability and reduces negative externalities arising from local competition, such as market fragmentation or the spread of local debt risks.

An extensive body of fiscal reform documents in China illustrates the central government's intention to balance multiple objectives. We analyzed central-level fiscal reform documents issued between 1988 and 2022 using keyword frequency analysis. Based on a preliminary interpretation, we associate the terms "incentive" and "initiative" with the goal of encouraging local governments; "unity" and "stability" with the objective of maintaining central control; and "coordination" and "balance" with efforts to address regional disparities. These three themes—incentivization, control, and balance—broadly capture the central government's core intentions in fiscal system reform. This structural logic is also reflected in sub-provincial fiscal reforms. We reviewed 186 fiscal reform documents issued by provincial governments concerning sub-provincial fiscal arrangements between 1994 and 2022. A keyword frequency analysis reveals patterns closely aligned with those found in central-level documents (see Figures 3 and 4).

Additionally, high-frequency terms such as "risk", "common", and "sharing" appear frequently in fiscal reform documents, reflecting the distinctive nature of China's intergovernmental fiscal relations. China is neither a federal system nor a unitary state with strong legal protections for local autonomy, such as the *Local Government Act* in the United Kingdom or the *Local Autonomy Act* in Japan. Instead, China's intergovernmental relations combine hierarchical leadership with operational collaboration, particularly evident in the realm of shared fiscal responsibility—where central and local governments co-institutionalized cooperation directly explains the high-frequency appearance of terms like 'joint' and 'sharing' in fiscal reform documents. Higher-level governments often proactively assume part of the risks faced by lower-level governments—for example, by sharing the burden of fiscal revenue fluctuations. This cooperative element is essential and must be incorporated into any theoretical framework aimed at analyzing China's intergovernmental fiscal system.

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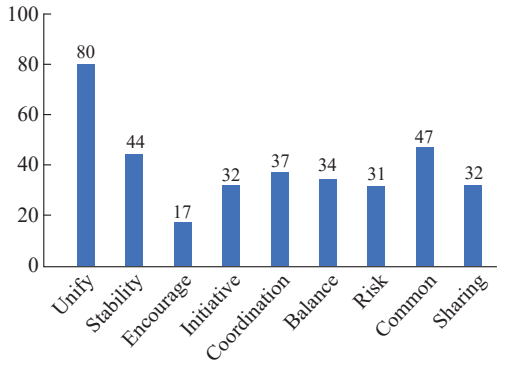

Figure 3: Word Frequency Statistics for Central Fiscal System Reform Documents

Note: The time frame is 1988 to 2022.

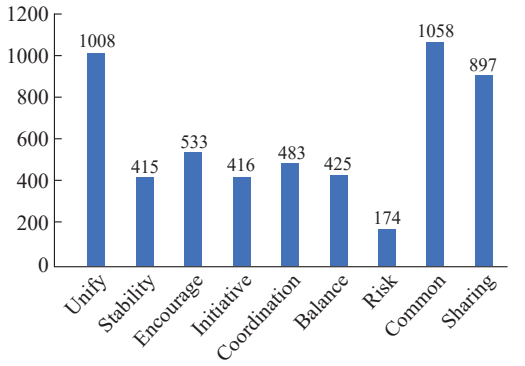

Figure 4: Word Frequency Statistics for Sub-provincial Fiscal System Reform Documents

Note: The time frame is 1994 to 2022.

3.4 Theoretical Refinement: Key Factors in Mobilizing Central and Local Government Initiative

Intergovernmental fiscal relations in China are complex, and effective research must focus on core variables. Based on the preceding analysis, we introduce the following theoretical assumptions into our model. First, regarding fiscal authority, we focus on the crucial role of revenue-sharing arrangements in incentivizing local governments. Given that the general public budget at all levels primarily depends on enterprise-based tax revenues, we define fiscal authority as the share of taxes derived from enterprise output that is allocated to local governments. The tax-sharing ratio is allowed to vary, reflecting the elasticity of the system.

Second, for responsibilities, we consider the wide-ranging influence these have on government initiative. Although fiscal responsibilities are part of the picture, our study focuses on the broader set of tools available to governments. Therefore, we use the scope of feasible government actions to represent the allocation of responsibilities.

Third, both central and local governments are modeled as multi-objective decision-makers. The central government has three main objectives: first, to incentivize local initiative by adjusting intergovernmental fiscal relations; second, to reduce regional disparities through fiscal redistribution; and third, to maintain strong control over local governments. This control is reflected in the central government's sustained share of national fiscal revenue and its ability to influence local policy directions. Local governments also pursue multiple objectives: promoting economic growth, improving public services and welfare, and, in some cases, simply increasing their own fiscal revenues.

Fourth, we consider objective conditions. Intergovernmental fiscal relations are not static—they evolve in response to changing external factors such as the output elasticity of government actions, cost coefficients, and uncertainty or risk, all of which will be further elaborated in the following section.

4. Theoretical Explanation: Determinants of Intergovernmental Fiscal Relations and the Mobilization of Government Initiative

4.1 Basic Framework

4.1.1 Fundamental assumptions

We consider an economy with a single central government and one representative local government. In the context of China, local governments possess substantial responsibilities to influence resource allocation and utilize a variety of tools to promote economic development—such as improving the business environment, facilitating land acquisition for enterprises, streamlining administrative procedures, relaxing environmental regulations, and enhancing enforcement mechanisms. Thus, we

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assume that local economic development is directly influenced by local government actions. Assuming labor input is either fixed or excluded from the analysis, the local economic output function is specified as: $Q = AK^{\alpha}A_L^{\theta}e^{\varepsilon_L}$. Where: Q denotes economic output, A is a constant, K represents private sector capital, α and θ are the respective output elasticities of capital and government action, and A_L captures the intensity of local government action to promote economic growth. The impact of local government actions on economic output varies due to factors like governance capacity and market expectations, introducing a layer of uncertainty. Drawing on Mani & Mukand (2007), we add a parameter to the production function to account for this uncertainty, incorporating an exponential term e^{ε_L}, where e is the base of the natural logarithm and ε_L denotes the stochastic influence of government actions, modeled as $\varepsilon_L \sim N(0, \sigma_L^2)$. Taking the natural logarithm of both sides of the production function and defining $q=\ln Q$, $d=\ln A+\alpha \ln K$, and $a_L=\ln A_L$, the local economic output function can be reformulated as:

$$q = d + \theta a_L + \varepsilon_L \tag{1}$$

Equation (1) highlights the influence of government action. It is grounded in the Holmstrom & Milgrom (1987) principal-agent model, which traditionally analyzes corporate settings. However, since the behavior of governments differs substantially from that of firms, the model is modified to reflect the strategic interactions between central and local governments.

4.1.2 Central and local governments

Incorporating intergovernmental fiscal relations into the model necessitates a joint consideration of fiscal authority, responsibilities and intergovernmental transfers. Fiscal revenue allocation shapes the *incentives* of local governments—e.g., a higher local share of tax revenue motivates efforts to attract investment and increase tax bases. Meanwhile, the distribution of responsibilities defines the *means* of action—e.g., the delegation of environmental regulatory authority allows local governments to adjust regulatory thresholds to either attract or deter pollution-intensive enterprises. We represent the allocation of fiscal authority by the share of local government revenue s in total fiscal revenue. Correspondingly, the scope of responsibility is reflected in the nature and extent of local government actions a_L.

Both central and local governments collect revenue through a proportional tax on output at rate τ[1]. Local government fiscal revenue is denoted as w, and $w=t+s\tau q$, where t represents intergovernmental transfers from the central government. Similar to the cost function introduced in the Holmstrom and Milgrom model, this paper introduces a cost function for local government action: $\phi = ca_L^2/2$, where c is the action cost coefficient. Unlike the rigid budget constraints commonly assumed in government studies, the action cost ϕ also limits the arbitrary expansion of local government action, but this limitation is a *"*soft*"* constraint. This aligns with the reality that Chinese local governments often face less strict budget constraints and can adjust local social resources to achieve specific economic goals when fiscal revenues are insufficient.

The local government's objective function comprises three components: fiscal revenue, economic output, and the cost of government action. Each component is weighted by k_1, k_2, and k_3 respectively, where $k_1>0$, $k_2>0$, $k_3>0$. Increases in fiscal revenue w and output q enhance utility, while higher action costs ϕ reduce it. The objective function is expressed as:

$$u = -e^{-\eta(k_1 w + k_2 q - k_3 \phi)} \tag{2}$$

The objective function used here is a negative exponential objective function, satisfying $u'>0$, $u''<0$. Based on observations of China's institutional reality, we assume that the central government's objective includes the following three components: First, the central government's own fiscal revenue.

[1] Governments can influence the economy by adjusting the intensity of tax enforcement. However, for simplicity, the tax rate is treated as exogenous in the baseline model. In the extended model presented in this paper, we also explain the mechanism through which intergovernmental fiscal relations affect the tax rate τ.

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Second, the central government's leadership over local governments. To exercise strong leadership, the central government needs to increase the relative share of its fiscal revenue compared to that of local governments. This has historically been a focal issue in the management of China's intergovernmental fiscal relations. We represent this using the central government's share of tax revenue. Third, the overall level of economic development. The central government's objective function can thus be written as:

$$C = C_1(\tau q - w) + C_2(1-s) + C_3 q \tag{3}$$

Here, C_1, C_2 and C_3 represent the weights the central government places on each of these objectives, with $C_i \geq 0$ and $i \in \{1,2,3\}$.

The central government also provides intergovernmental transfers to local governments. We assume that when the local government only maintains basic expenditures, its utility is $\overline{w}$. The central government must ensure that its intergovernmental transfers t keep local utility at or above $\overline{w}$. Moreover, the total transfer payment must be less than or equal to the central government's available fiscal resources, i.e., $(1-s)\tau q \geq t$.

4.1.3 Model results

Based on the objective functions and constraints of both local and central governments, the following solutions can be derived:

$$a_L = \theta\left(k_1 s\tau + k_2\right)/k_3 c \tag{4}$$

$$s = \left(C_1\tau^2 k_1\theta^2 - C_1\tau c k_2 k_3 \eta\sigma_L^2 - C_2 c k_3 + C_3\tau k_1\theta^2\right)\Big/\left[C_1\tau^2 k_1\left(\theta^2 + c k_3\eta\sigma_L^2\right)\right] \tag{5}$$

From Equation (4), we can see that the local government's enthusiasm a_L for promoting economic development is positively correlated with the local tax-sharing ratio, the output elasticity of government action, and the weights assigned to fiscal revenue and economic development goals. It is negatively correlated with the action cost coefficient and the weight assigned to cost-related goals. These relationships are relatively intuitive and are not explained further here.

From Equation (5), we obtain the following results: $\partial s/\partial C_2 < 0$; $\partial s/\partial C_3 > 0$; $\partial s/\partial\theta > 0$; $\partial s/\partial d = 0$; $\partial s/\partial\sigma_L < 0$. The first three results indicate: First, the more importance the central government places on its leadership over local governments, the lower the local tax-sharing ratio. Second, the more the central government values stimulating local governments' initiative to develop the economy, the higher the local tax-sharing ratio. Third, given equal input, the better the performance of the local government, the higher the local tax-sharing ratio. The fourth result suggests that, holding other conditions constant, local economic endowments should not affect the intergovernmental tax-sharing ratio. The fifth result shows that as uncertainty regarding the economic outcomes of local government actions increases, the central government will reduce the local tax-sharing ratio. This is consistent with the classic conclusion of Holmstrom and Milgrom's model, which argues that the principal should share risk with the agent, and that the degree of sharing should increase as risk grows.

4.2 Model Extension

The baseline model presents the basic logic underlying intergovernmental fiscal relations under simplified assumptions. However, real-world conditions are more complex. This section extends the baseline model.

4.2.1 Joint influence of central and local governments on local economies

In practice, local economic output is influenced not only by local government actions, but also by actions taken by the central government. For example, large-scale public goods projects led by the central government—such as inter-provincial high-speed rail construction or large river basin

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management—carry significant externalities and can promote regional economic development. We therefore assume that central government actions a_C also affect total output, which can be written as: $q=d+\theta_L a_L+\theta_C a_C+\varepsilon_L$. Here, θ_C is the output elasticity of central government action. Central government actions also entail costs, assumed as $\phi_C = c_C a_C^2/2$. Incorporating this cost, the central government's objective function becomes: $C = C_1(\tau q - w - c_C a_C^2/2) + C_2(1-s) + C_3 q$. We can then solve for:

$$a_C = \theta_C \left[C_1 k_2 + (\tau C_1 + C_3) k_1 \right] / k_1 C_1 c_C \tag{6}$$

From equation (6), we can infer how each variable affects central government action. The central government's initiative is positively related to its focus on economic growth, the output elasticity of its actions, and the local government's attention to economic development. It is negatively related to the cost coefficient of central actions and the local government's focus on fiscal revenue. These conclusions are intuitive and consistent with basic economic principles and do not require further elaboration.

Once central government action is introduced, and if we consider the proportion of local government action in total government action as a representation of responsibilities distribution, then based on the model results, we find that—under the condition that the central government does not constrain responsibilitiess and the fiscal authority configuration is given by s—the resulting responsibilities distribution is $a = a_L/(a_C + a_L)$. From this, we derive that the local tax-sharing ratio is positively correlated with the degree of responsibilities allocation, i.e., $\partial a/\partial s > 0$, suggesting that the allocation of administrative and fiscal authority between governments is closely linked. Thus, the theoretical conclusions apply to both dimensions of fiscal authority. For example, if the responsibilitiess assigned to local governments are smaller than a, then although fiscal incentives may stimulate local initiative, the lack of sufficient instruments for intervention limits how much initiative can actually be exercised. This is precisely why the Fourth Plenary Session of the 19th CPC Central Committee (in 2019) emphasized the need to "establish a stable system in which the responsibilities, expenditure obligations, and fiscal authority of governments at all levels are appropriately aligned".

4.2.2 Uncertainty in central government actions

Central government actions are typically broad in scope, but they also introduce uncertainty from the local perspective. For example, while local governments may be focused on stimulating economic development, the central government may pursue macroeconomic controls to prevent overheating. Suppose the uncertainty associated with central government actions is modeled as $\varepsilon_C \sim N(0, \sigma_C^2)$. Then local economic output becomes: $q=\theta_L a_L+\theta_C a_C+\varepsilon_L+\varepsilon_C$. According to the conclusions from Extension 1, a_L and a_C remain unchanged. Additionally, we derive:

$$s = \left[C_1 \tau^2 k_1 \theta_L^2 - C_1 \tau c_L k_2 k_3 \eta \left(\sigma_L^2 + \sigma_C^2 \right) - C_2 c_L k_3 + C_3 \tau k_1 \theta_L^2 \right] \Big/ C_1 \tau^2 k_1 \left[\theta_L^2 + c_L k_3 \eta \left(\sigma_L^2 + \sigma_C^2 \right) \right] \tag{7}$$

From (7), we obtain $\partial s/\partial \sigma_C < 0$, which indicates that when central government actions introduce additional uncertainty into the economy, the central government should reduce the local government's risk exposure. To manage this systemic uncertainty, the central government must increase its own share of fiscal revenue.

4.2.3 Externalities in local government economic actions

Local government actions often have externalities. Regarding positive externalities, as regional economic specialization and inter-regional trade networks expand, economic development in one area can benefit its neighbors—for instance, the construction of an airport in one city may also stimulate surrounding regions. Regarding negative externalities, excessive economic competition among local governments can undermine the development of a unified national market, lead to risk spillovers, and reduce the quality of economic growth. So how do these inter-regional externalities affect

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intergovernmental fiscal relations?

Assume there are N local governments, and the output of the i-th region is given by $q_i = \sum_{j=1}^{N} \theta_{ij} a_j + \varepsilon_i$, where θ_{ij} denotes the coefficient representing the impact of region j on the output of region i. The central government's objective function is thus rewritten as $C_1 \sum_{i=1}^{N} (\tau q_i - w_i) + C_2(1-s) + \sum_{i=1}^{N} (C_{3i} q_i)$. From further derivation, we get $\partial s/\partial \theta_{ij} > 0$, which shows that the local tax-sharing ratio should be adjusted based on the scale of these externalities. If local government actions have positive externalities, the local tax-sharing ratio should be increased to encourage such behavior. Conversely, if they have negative externalities, the ratio should be reduced. The logic is that positive spillovers support overall economic development and should be incentivized, while negative spillovers require constraint through reduced fiscal incentives.

4.2.4 Central government's focus on regional development balance

The central government in large countries typically pays close attention to balancing economic development across regions. Suppose there are two regions—one affluent and one poor—distinguished by subscripts A and B for their respective variables. In addition to its focus on fiscal revenue, leadership authority, and overall economic growth, the central government also considers the degree of regional development balance. The central government's objective function is expressed as:

$$C_1(1-s)\tau(q_A + q_B) - C_1(t_A + t_B) + C_2(1-s) + C_3(q_A + q_B) - C_4|q_A - \gamma q_B| \qquad (8)$$

Here, γ represents the central government's tolerance for regional economic disparity. In general, the central government allows for a certain level of imbalance, i.e., $\gamma > 1$. In the short run, the output of the less-developed region will not exceed that of the wealthier region. From the model derivation, we obtain $\partial s/\partial C_4 < 0$ and $\partial s/\partial \gamma > 0$. The implication is that when the central government places more emphasis on regional development balance, or when its tolerance for regional disparities decreases, the local tax-sharing ratio will decline. This is because expanding the local government's fiscal authority can indeed stimulate local enthusiasm for economic development and proportionally raise output levels across regions. However, it may also widen absolute inter-regional differences. Therefore, when the central government emphasizes balanced development more strongly, or its tolerance for disparities declines, it will reduce the local tax-sharing ratio in the course of intergovernmental fiscal reform.

4.2.5 Government's focus on public welfare development

Both central and local governments bear responsibility for promoting public welfare development. Assume the local government has one unit of resource, with a_L allocated to economic development and $a_P = 1 - a_L$ to welfare-related efforts. The output from economic development is $q = \theta_q a_L + \varepsilon_q$, $\varepsilon_p \sim N(0, \sigma_q^2)$, and the improvement in public welfare from public welfare investment is $p = \theta_p a_P + \varepsilon_p$, $\varepsilon_p \sim N(0, \sigma_p^2)$. Compared to public welfare development, economic growth often requires additional spending on foundational infrastructure. Therefore, the total cost is an increasing function of a_L, denoted as $\phi = c a_L^2/2$. When public welfare development is incorporated into the government's objective, the local government's utility function becomes: $u = -e^{-\eta(k_1 w + k_2 q - k_3 \phi + k_4 p)}$, where k_4 reflects the local government's concern for public welfare. The central government's overall objective function is expressed as: $C = C_1(1-s)\tau q - C_1 t + C_3 q + C_5 p$.

Through derivation, we obtain $\partial a_L/\partial k_4 < 0$, $\partial a_P/\partial k_4 > 0$, and $\partial a_P/\partial \theta_p > 0$. These results indicate that when resources must be allocated between economic growth and public welfare development, a stronger focus on economic development increases the local government's enthusiasm for growth. Conversely, the more the local government prioritizes public welfare—and the higher the output elasticity of welfare investment—the more resources will be allocated to public welfare. Furthermore, from $\partial s/\partial C_5 < 0$, $\partial s/\partial \theta_p < 0$, we find that when the central government places more weight on local welfare development, it will reduce the local tax-

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sharing ratio. This is because tax revenue is generated from economic activity; a higher local tax-sharing ratio incentivizes local governments to allocate more resources toward economic development, thereby crowding out welfare investments. Reducing the tax-sharing ratio can reverse this dynamic and increase the share of resources allocated to public welfare.

However, from another perspective, lowering the local tax-sharing ratio can reduce the local government's fiscal capacity, which may in turn constrain public welfare efforts. Therefore, the central government must adjust intergovernmental transfers to compensate for the reduced local fiscal capacity. Further derivation shows that when θ_p is small, we obtain $\partial t/\partial k_4 > 0$; and when θ_p is large, we obtain $\partial t/\partial k_4 < 0$. This indicates the following: if the output elasticity of local public welfare investment is low, the central government must increase intergovernmental transfers to incentivize local governments. On the other hand, if the output elasticity is high, and local governments already have a strong focus on public welfare development, then the central government can opportunistically reduce the scale of intergovernmental transfers.

4.2.6 Local government actions and local economic growth

In practice, private enterprise investment is influenced by the behavior of local governments. As a result, changes in intergovernmental fiscal relations can transmit to the market and drive economic growth. By extending the previously discussed model to the relationship between local governments and enterprises, we can analyze how China's intergovernmental fiscal system—represented by the tax-sharing system over the past three decades—has affected the market and contributed to economic growth. This also helps address Cheung's (2009) well-known question: "Why did the unified revenue-sharing system under the tax-sharing reform lead to economic growth?"[2]

We assume that local economic output is jointly determined by the actions of the government and enterprises, i.e., $q = d' + \theta_f a_f + \theta_L a_L + \varepsilon_f + \varepsilon_L$. Let the enterprise and government actions be denoted by a_f and a_L, with output elasticities θ_f and θ_L, and uncertainty effects ε_f and ε_L, $\varepsilon_f \sim N(0, \sigma_f^2)$ and $\varepsilon_L \sim N(0, \sigma_L^2)$. The costs of these actions are $\phi_f = c_f a_f^2/2$ and $\phi_L = c_L a_L^2/2$, respectively.

The utility function of the enterprise owner is solely based on net income, expressed as $u_f = -e^{-\eta(R-\phi_f)}$, where R is revenue, $R=b+(1-\tau)q$, and b is a fixed subsidy (or bounty), which can be negative. In the Chinese context, firms not only pay regular taxes but also often make one-time payments—such as land transfer fees when settling in an industrial zone—or receive financial incentives like tax rebates or performance-based rewards. State-owned enterprises also bear various policy-related costs. Therefore, enterprise income reflects a combination of revenue-sharing contracts (via tax rates) and fixed-quota contracts (via subsidies).

The effective tax rate τ, which reflects the distribution of benefits between the government and enterprises, should be elastic. It is not simply the nominal rate of a single tax type but rather the actual rate after accounting for deductions and exemptions. In a broader sense, this includes all fiscal revenues such as taxes, fees, and land-related income. Local governments aim to optimize both their net fiscal income and local economic output by adjusting subsidies b and tax rates τ. Through theoretical derivation, we obtain complex expressions for $\tau(s)$ and $b(s)$, showing that both tax rates τ and subsidies b must adjust with changes in revenue-sharing arrangements s. This demonstrates that intergovernmental fiscal relations fundamentally shape the dynamics between government and market. We argue that

[2] The tax rate reflects the division of value-added between government and enterprises. Though uniformly applied nationwide, such standardization may lead to efficiency losses in regions with differing economic conditions. Steven Cheung questioned this arrangement: "The value-added tax is a form of revenue-sharing rent, yet a single rate applies nationwide. How can this be efficient? If not, how has China's economy grown so rapidly under it?" (Cheung, 2009). Cheung viewed the VAT rate as a revenue-sharing ratio—a view extendable to other taxes. While tax revenue allocation concerns intergovernmental relations, the tax rate reflects the government-market relationship. Given that both are nationally uniform, Cheung's core question is: why does a tax-sharing system with a uniform rate promote growth?

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Cheung's question can be answered by recognizing the elasticity within both intergovernmental fiscal relations and government-enterprise revenue-sharing mechanisms. These systems are interactive and adaptable, allowing for tailored allocation ratios that satisfy participation and incentive constraints. As a result, they generate positive incentives that drive economic growth.

In fact, VAT distribution is only one component of the broader tax-sharing incentive system, which contains a complex internal contractual structure. These components work together—adaptable over time and space—to motivate and coordinate local governments in promoting economic development. This forms a distinctive Chinese fiscal model. Lv (2009) compared the composition and effectiveness of revenue-sharing contracts across different phases of the fiscal system, further supporting this view.

Historically, the boundary of interest between government and enterprises has evolved with changing circumstances. The total tax burden borne by enterprises includes both fixed-quota and revenue-sharing elements. For the latter, multiple tax types, rebates, and collection practices create elasticity in the distribution of tax benefits. "Subsidies" in fixed-quota contracts can take many forms: land transfer fees, support with resettlement or land development (e.g., converting raw land to buildable plots), and even political privileges. By flexibly negotiating the benefit-sharing ratio with investors, local governments enhance cooperation efficiency and stimulate economic activity. This offers a plausible explanation for the remarkable local economic growth witnessed in China since the start of the reform and opening-up era.

4.3 Summary

Based on the theoretical analysis, we identify the main factors that influence intergovernmental fiscal relations and their impact on the government's motivation to promote economic development. See Table 1.

Table 1: Factors Influencing Intergovernmental Fiscal Relations and Government Incentives for Economic Development

		s-intergovernmental fiscal authority distribution *a*-intergovernmental responsibility distribution	Local initiative	Central initiative
	Local fiscal authority		Increase	
Local objective	Local objective 1: Local fiscal revenue		Increase	Decrease
	Local objective 2: Local economic development		Increase	Increase
	Local objective 3: Local welfare development		Decrease	
Central objective (Incentive, balance, control)	Central objective 1: Local economic development	Increase	Increase	Increase
	Central objective 2: Local welfare development	Decrease	Decrease	
	Central objective 3: Regional balance	Decrease	Decrease	
	Central objective 4: Central fiscal revenue	Uncertain	Uncertain	
	Central objective 5: Central leadership	Decrease	Decrease	N/A
Constraints	Output elasticity of local action	Increase	Increase	N/A
	Uncertainty in the output of local action	Decrease	Decrease	N/A
	Cost of local action	Decrease	Decrease	N/A
	Output elasticity of central action	N/A	N/A	Increase
	Uncertainty in the output of central action	Decrease	Decrease	N/A
	Cost of central action	N/A	N/A	Decrease
	Positive externalities of local action	Increase	Increase	

Note: In the table, "Increase", "Decrease", and "None" represent model-derived outcomes corresponding to positive, negative, and zero derivatives, respectively; blank cells indicate results unobtainable through differentiation. The fourth column reflects the comprehensive effects on local initiative following changes in intergovernmental fiscal relations (third column).

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s represents intergovernmental fiscal authority allocation, and *a* responsibility allocation; as previously noted, $\partial a/\partial s > 0$, indicating their alignment—a natural outcome given that empowering local governments and mobilizing their actions must go hand in hand. From this, three propositions follow:

Proposition 1: Intergovernmental fiscal relations are shaped primarily by central government objectives. The central government will grant more fiscal authority to local authorities if the goal is to promote local economic development, and less if the aim is to strengthen central leadership, advance regional balance, or improve local public welfare. If the objective is to maximize central revenue, whether to increase or decrease local fiscal authority depends on the relative weight placed on economic development versus leadership.

Proposition 2: Intergovernmental fiscal relations are also influenced by objective conditions. Higher output elasticity or stronger positive externalities in local government actions lead to greater local fiscal authority, while rising actio n costs or greater output uncertainty result in reduced local authority.

Proposition 3: Government initiative is shaped by fiscal arrangements and other factors. Local initiative strengthens when fiscal autonomy expands; revenue generation and economic growth are prioritized; or the marginal productivity of government action rises; conversely, it weakens with higher action costs or when public welfare objectives dominate the policy agenda. Central initiative responds similarly to its own objectives and constraints—positively to development goals and output elasticity, and negatively to cost pressures and a focus on local revenue.

Among the three propositions, the central government's revenue goals, leadership objectives, and the elasticity, cost, and uncertainty associated with its actions can all be seen as stemming from its overarching commitment to maintaining unified leadership. Therefore, in more concise terms, the nature and outcomes of intergovernmental fiscal relations depend on the balance between upholding central leadership and stimulating local initiative—or, more simply, on the balance between order and vitality. Here, "order" represents centralized authority, and "vitality" reflects the enthusiasm and initiative of local governments. Strikingly, many fiscal reform documents appear to echo key insights of this theoretical framework. For example, in a Shandong provincial fiscal reform (focused on sub-provincial distribution), the guiding principles explicitly stated "strengthen incentives to promote development" and "share benefits and risks"—which correspond directly to Propositions 3 and 2, respectively.

It is important to note that China's intergovernmental fiscal system possesses distinctly Chinese characteristics. Its effectiveness relies heavily on the country's institutional context—specifically, the government's central role in driving economic growth. This leadership is manifested in two main ways: first, through the rapid expansion of productive public spending, particularly government investment; and second, even in the absence of direct investment, through the government's strong capacity to mobilize resources within its jurisdiction, which exerts a significant influence on markets. These two features are key assumptions underlying this paper's model. Given the various forms of government-led development, the government naturally seeks residual claims that are proportional to its explicit or implicit input. In such a system, rigid, inelastic allocation mechanisms are unlikely to achieve efficiency.

5. Theoretical Application: Institutional Change and the Logic of Modernization

The theoretical analysis in this paper shows that the formation of China's intergovernmental fiscal relations is, in essence, the outcome of a multi-objective decision-making process. When the central government seeks to stimulate local governments' initiative in promoting economic development, it tends to increase their fiscal authority. However, doing so also generates new challenges—such as weakening central macroeconomic control, market fragmentation, and widening regional disparities. Thus, intergovernmental fiscal relations must undergo continuous reform to adapt to changing historical conditions and serve the developmental priorities of different periods. The following sections apply the

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theoretical framework to concrete institutional changes.

5.1 Evolutionary Logic and Impacts of Intergovernmental Fiscal Relations in the Unified Revenue-Expenditure Period (1949-1979)

The logic of intergovernmental fiscal relations during the period of unified revenue and expenditure corresponds to Propositions 1, 2, and 3: the central government's initiative is positively correlated with the output elasticity of its actions; local fiscal authority should decrease when the cost coefficient or output uncertainty of local actions rises; and local government initiative is positively linked to its fiscal authority.

Specifically, during the planned economy era, the central government prioritized large-scale industrial development, believing that concentrating financial resources at the center would be more efficient, given that the output elasticity of central investment significantly exceeded that of local governments. Thus, a centralized fiscal system was deemed appropriate[3]. At the same time, however, the central government recognized in practice that successful economic development still required mobilizing local initiative—necessitating greater local fiscal autonomy. This tension explains the recurring "recentralization-decentralization-recentralization" cycles that characterized China's fiscal system during the unified revenue-expenditure period: the system was centrally designed, but subject to periodic adjustments to balance central control and local dynamism.

After the founding of the People's Republic of China' in 1949, the development of China's intergovernmental fiscal relations was shaped by two key historical conditions: first, the adoption of a heavy industry-first development strategy based on a weak economic foundation; and second, the influence of Soviet economic thinking, which led to a centrally planned economic model. The demands of heavy industry required the central government to centrally allocate resources—leaving little room for decentralized, locally managed funding. At this stage, the output elasticity of central government action exceeded that of local governments. As a result, when China launched its First Five-Year Plan for national economic development in 1953, a highly centralized fiscal model was adopted: the central government directly controlled around 75% of national fiscal revenue to meet the demands of large-scale construction.

However, as the pace of economic construction accelerated, this highly centralized model conflicted with the imperative of localized adaptation, constraining regionally tailored development strategies. The central government soon recognized that decentralizing some fiscal authority could help stimulate local governments' initiative. In 1956, Chairman Mao Zedong explicitly called for the mobilization of "two initiatives" in his essay *On the Ten Major Relationships.* In 1958, in response to prevailing economic conditions and Chairman Mao's instructions, the central government moved to delegate more tax authority to localities, aiming to encourage the formation of complete, self-sufficient local industrial systems.

While this decentralization enhanced local governments' enthusiasm, it also gave rise to a series of problems: uneven distribution of tax powers, inconsistent interpretation of tax laws, widening regional disparities, unchecked expansion of capital projects by local governments, and disruptions to the central government's macro-level economic plans. In response, the central government moved to re-centralize fiscal authority in 1961—reclaiming powers over tax categories, rates, and revenue adjustments. As noted in the theoretical analysis earlier, local fiscal authority should be inversely related to action cost coefficients and outcome uncertainty; the central government's reassertion of control over tax authority

[3] For example, the *First Five-Year Plan for National Economic Development of the PRC (1953-1957)* repeatedly emphasized industrial investment, stating: "The fundamental task of the First Five-Year Plan is to concentrate efforts on industrial construction and lay the foundation for socialist industrialization". It also stressed the need to "mobilize major fiscal and human resources for the construction of the steel industry, to build the foundation of industrialization within a short time".

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can be seen as a practical illustration of this principle. In 1971, in response to a period of economic disruption and declining productivity, the central government once again recognized the need to stimulate local initiative. It implemented a system of "fixed revenue and expenditure, fiscal contracting, guaranteed remittance (or deficit subsidy), surplus retention, and annual adjustments", thereby expanding the fiscal scope available to local governments. Further reforms followed in 1974 and 1976, with a consistent emphasis on reactivating local governments' developmental motivation.

In general, the defining characteristic of intergovernmental fiscal relations during the unified revenue-expenditure period (1949-1979) was the concentration of fiscal authority in the central government. Although certain periods saw fiscal authority temporarily delegated to local governments, these were short-term, situational, and limited adjustments within an overarching centralized framework. The local share of revenue was more closely tied to the scale of mandated expenditures than to actual economic performance. Moreover, fiscal expenditures were largely allocated through vertical lines of central ministries—what is commonly referred to as "*tiao tiao*" management. As a result, local governments had very limited fiscal authority under the planned economy, and their incentives to drive local economic development remained weak.

5.2 Logic and Impact of Intergovernmental Fiscal Relations during the "Eating from Separate Stoves" Era (1980-1993)

During the "eating from separate stoves" era, the logic guiding China's intergovernmental fiscal relations primarily aligns with Proposition 1: when the central government prioritized economic development, it granted more fiscal authority to local governments; when it aimed to strengthen leadership capacity, it reduced such authority. These goals were often in tension, and reconciling them drove three major institutional shifts in this period.

In the early reform era (post-1978), China sought to move beyond the rigidity of the planned economy and to invigorate both local governments and microeconomic actors. At that stage, the central government's main objective was to harness local initiative, with strengthening central authority as a secondary goal. Over time, the relative weight of these goals shifted, prompting successive reforms in the fiscal system.

Under this system, local governments retained and utilized surplus revenue after remitting a fixed quota to the central government, adhering to a self-balancing principle of "more collected, more spent; less collected, less spent". This setup mirrored a form of fiscal "contracting", where the central government effectively entered into fiscal pacts with local authorities. This mechanism played a pivotal role in energizing local initiative, significantly fueling China's sustained economic growth during the early reform period. Yet, the system harbored an inherent flaw. As local economies grew and fiscal revenues rose, the central government's fixed share dwindled proportionally. To counteract this, the central authority could revise remittance quotas; however, this adjustment signaled to local governments that increased efforts would merely escalate their obligations to the central government. Consequently, this fostered opportunistic conduct: local governments might lose drive to boost their economies, relax tax collection efforts, or conceal revenues.

The core conflict between invigorating local initiative and reinforcing central oversight defined the "eating from separate stoves" era, leading to three major shifts: the "divided revenue and expenditure, tiered contracting" system (1980-1984), the "divided tax categories, verified budgets, and tiered contracting" system (1985-1987), and the "six forms of fiscal contracting" system (1988-1993). These shifts differed in their approach, progressing from assigning spending and remittance duties to refining tax base clarity and revenue alignment, and finally to diversifying contracts tailored to local needs. Despite these adaptations, the system remained unstable. The central government repeatedly breached its pledges: for instance, in 1981 and 1989, it secured substantial loans from local governments but later declared non-repayment, opting instead to adjust their expenditure baselines downward. In 1985, it

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promised a five-year stability for the fiscal framework, only to alter it within three years. These breaches undermined trust and diminished the system's reliability.

While the system energized local governments—contributing to an average GDP growth rate of 9.5% between 1980 and 1990—it had two major downsides. First, the so-called "two ratios" fell sharply: by 1993, national fiscal revenue as a share of GDP had dropped to 12.3%, and central government revenue as a share of total fiscal revenue to just 22%. These declines weakened macroeconomic control and central authority, forcing the central government to rely on deficits. With limited sovereign debt infrastructure, many deficits were absorbed by bank credit, leaving central finances—by contemporary accounts—"on the edge of a cliff".

Second, the system entrenched local interests and fragmented national markets. Taxes were allocated based on enterprise affiliation and location, tightly binding fiscal revenue to local governments. This encouraged protectionist behavior, redundant industrial development, and short-term investment strategies. As regions competed for high-return, high-tax industries, industrial structures converged and the formation of a unified national market was hindered. These inefficiencies ultimately weakened central authority and national capacity (Lv & Tai, 2019).

Thus, while the "eating from separate stoves" system effectively mobilized local energy, it also undermined centralized coordination and the construction of a socialist market economy. To address these tensions, China implemented the tax-sharing reform in 1994.

5.3 The Logic of Change and Impact of Intergovernmental Fiscal Relations under the Tax-Sharing System (1994-2011)

The operational logic of China's intergovernmental fiscal relations during the tax-sharing system period (1994-2011) aligns with the theories presented in Propositions 1, 2, and 3: the central government centralizes fiscal authority when seeking to strengthen leadership or achieve regional balance; it devolves fiscal authority to local governments when their actions exhibit high output elasticity; and local enthusiasm for economic development rises in response to greater fiscal authority, fiscal revenue targets, development goals, and high action output elasticity.

The guiding principles of the tax-sharing reform, as outlined in the *Decision of the State Council on Implementing a Tax-Sharing Fiscal Management System* (Guo Fa [1993] No. 85), reflect the central government's multifaceted objectives of incentivizing, balancing, and controlling. These aims were articulated as: "mobilizing local enthusiasm for economic development", "gradually increasing the central government's share of fiscal revenue", "supporting underdeveloped regions", and "maintaining a unified national market". While the 1980s reforms primarily emphasized incentives, the tax-sharing reform addressed multiple goals simultaneously, increasing its complexity and requiring the central government to strategically optimize fiscal authority distribution.

(1) To achieve control, the reform established clear tax-sharing principles: 75% of value-added tax (VAT) revenue was allocated to the central government and 25% to localities; consumption tax and tariffs were designated as central taxes. As a result, the central government's share of fiscal revenue rose from 22% in 1993 to 55.7% in 1994, reversing its earlier financial weakness.

(2) To achieve the incentive objective, the reform ensured that intergovernmental fiscal relations continued to stimulate local initiative. Business tax, corporate income tax, and VAT were designated as major local revenue sources—all tied to enterprise output and allocated based on the production location principle. These taxes were closely interlinked: corporate income tax and VAT, concentrated in industry, encouraged local governments to promote industrial growth. Industrialization then drove the expansion of productive services and urbanization, which in turn stimulated construction, real estate, and consumer services—key bases for business tax. As a result, local fiscal revenue was tightly linked to industrial and urban development. This prompted local governments to compete for investment and boost real estate development, sustaining China's long-term high growth.

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(3) To achieve the balance objective, the central government made use of its enhanced fiscal capacity to reduce regional disparities through large-scale intergovernmental transfers. As regional economic gaps widened and the central share of revenue grew, narrowing interregional fiscal inequality became a key goal of these transfers. From 2000 onward, the volume of intergovernmental transfers increased year by year. Since 2015, they have stabilized at approximately 68% of central government expenditure, forming a core component of the central budget and a major tool for ensuring basic public service equalization across regions.

Between 1994 and 2011, China underwent rapid economic growth and a notable increase in national strength, closely tied to growing governmental enthusiasm across all levels. Three key drivers underpinned this expansion: WTO accession and trade liberalization since 2001, accelerated industrialization, and rapid urbanization. The resulting surge in enterprise output and urban growth demanded timely infrastructure upgrades, increasing the output elasticity of government actions and justifying greater local fiscal and administrative autonomy. Although the central government initially increased its share of revenue through tax reforms, its actual share declined from 55.7% in 1994 to 49.4% in 2011. In terms of responsibility, despite efforts toward vertical management, local governments retained substantial control in areas such as industrial and commercial regulation, the judiciary, environmental protection, and safety oversight. High output elasticity combined with substantial fiscal authority and responsibility further intensified local initiative (Proposition 3).

Theoretical insights suggest that local initiative is positively correlated with fiscal revenue and economic development targets. Figures 1 and 2 show that from 2000 to 2012, these targets were assigned high priority and significant assessment weights, reinforcing strong local mobilization.

However, the tax-sharing system's effectiveness in stimulating economic activity also generated significant negative externalities. Fierce tax competition emerged, centered on attracting investment. While this promoted growth, it also fostered unfair business practices and disrupted the unified national market. The production-based tax-sharing structure encouraged local governments to aggressively expand industrial—particularly heavy industry—investment through tax rebates, cheap land, and lax regulations. This entrenched a growth model that was extensive and inefficient.

5.4 Evolution and Impact of Intergovernmental Fiscal Relations under the Tax-Sharing System (2012-Present)

Since 2012, the logic underpinning the operation of intergovernmental fiscal relations in China under the tax-sharing system can be interpreted through Propositions 1, 2, and 3. First, if the central government's objective is to promote balanced regional development and improve local welfare, it must reduce the fiscal authority of local governments. Second, when the negative externalities and cost coefficients associated with local government actions increase, the central government is compelled to limit local fiscal authority. Third, the enthusiasm of local governments for economic development is positively correlated with their share of tax revenues.

The 18th CPC National Congress convened in 2012, marking the beginning of a new era of socialism with Chinese characteristics. In 2013, the Third Plenary Session of the 18th CPC Central Committee articulated the overall goal of comprehensively deepening reform as the modernization of the national governance system and governance capacity. It also emphasized the need to establish a modern fiscal system and to encourage the initiative of both central and local governments. Intergovernmental fiscal relations are central to the performance of governmental functions at all levels and play a critical role in motivating local governments and improving economic and social governance. As such, they form an essential institutional foundation for advancing the modernization of national governance.

In 2014, the Politburo of the CPC Central Committee reviewed and approved the "Overall Plan for Deepening the Reform of the Fiscal and Taxation System", which identified the adjustment of fiscal relations between central and local governments as a primary reform focus. Compared to previous

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phases, intergovernmental fiscal relations in this period assumed broader responsibilities, including promoting the rational division of governmental functions, facilitating the transformation of local government roles, advancing high-quality economic development, and fostering the creation of a unified national market. Representative reforms during this period included the introduction of reforms in fiscal responsibilities and expenditure assignments across various sectors starting in 2016, the replacement of the business tax with a value-added tax in the same year, the merger of national and local tax administration bodies in 2018, the reform of the transfer payment system in 2019, and the advancement of sub-provincial fiscal system reform in 2022.

One of the key measures for promoting the modernization of national governance has been the transformation of government functions, which requires a rational and clearly defined division of responsibility, fiscal authority, and expenditure responsibilities among different levels of government. Prior to the 18th CPC National Congress in 2012, although policy documents repeatedly stressed the need to align spending responsibilities with administrative functions, actual reform progress remained limited. A critical reason for this stagnation was that the reform of responsibilities lay beyond the authority of the Ministry of Finance, making it a higher-level issue. Without such reform, however, the division of expenditure responsibilities between different levels of government lacked a necessary foundation.

In the broader context of comprehensive deepening reforms, external conditions emerged that helped resolve this long-standing dilemma. Since the 18th CPC National Congress, China has vigorously reformed its administrative management system. These included measures such as vertically managed environmental supervision below the provincial level, comprehensive environmental monitoring, and the implementation of inspection systems, all of which effectively constrained local governments from using relaxed environmental regulations to stimulate economic growth. In 2016, reform documents for the first time introduced the concept of "fiscal responsibilities", and the Ministry of Finance took the lead in advancing reforms in sectors such as education, healthcare, and basic public services, ensuring a clearer alignment between fiscal responsibilities and expenditure obligations. From a theoretical standpoint, fiscal authority should correspond to responsibility. When local governments are assigned excessive administrative functions, their associated expenditure responsibilities place significant financial pressure on them, often forcing them to either borrow funds or request additional intergovernmental transfers from the central government.

As a result, while fiscal responsibility reforms were being implemented, major strategic documents—such as the Fourth and Fifth Plenary Sessions of the 19th CPC Central Committee and the 14th Five-Year Plan—continued to stress the importance of reforming the relationship between administrative functions and expenditure responsibilities. The underlying logic is that fiscal responsibilities are a subset of broader governmental responsibilities, and resolving issues of expenditure ultimately depends on reforming responsibilities. However, the Ministry of Finance can only directly oversee fiscal responsibility reforms. The 2018 merger of national and local tax authorities further constrained the ability of local governments to influence the economy through tax administration. Overall, under the broader context of advancing the rule of law, promoting high-quality economic development, building a unified national market, and focusing more closely on the improvement of public welfare, local fiscal authority has been increasingly regulated and brought under more standardized control.

During this period, a significant economic backdrop was the growing downward pressure on the economy, which necessitated that intergovernmental fiscal relations continue to provide strong economic incentives for local governments. In response, when the business tax was replaced by value-added tax (VAT) in 2016, the central-local VAT revenue-sharing ratio was adjusted from 75:25 to 50:50. This adjustment was clearly explained in the *Transitional Plan for Adjusting the Central-Local VAT Revenue Sharing after the Full Implementation of the VAT Pilot Program*, which stated: "Local governments should be granted a higher proportion of VAT revenue based on the location of tax collection. This will motivate them to promote economic development and strengthen local revenue generation, thereby

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helping to mitigate current downward economic pressure". At the same time, the central government was fully aware that this was not an optimal long-term solution and therefore labeled it a "transitional plan", specifying that the new sharing ratio would remain unchanged for "two to three years". It was only after 2019 that the VAT revenue-sharing ratio was formalized. Objectively speaking, however, the adopted arrangement still introduces certain economic distortions and remains a subject for future reform.

Since the 18th CPC National Congress in 2012, reform of intergovernmental fiscal relations has made breakthroughs. Nevertheless, as the theoretical analysis in this article underscores, these fiscal relations are influenced by multiple and often competing governmental objectives as well as shifting external conditions. As a result, there is no fixed or static optimal point, and reform must remain an ongoing process. This dynamic nature of reform explains why key policy documents issued by the CPC Central Committee have consistently emphasized the need to improve intergovernmental fiscal relations.

At present, two particularly prominent challenges have emerged. First, local governments—especially those at the grassroots level—are facing growing fiscal pressures due to a combination of extensive tax and fee reductions and the persistent rise of non-discretionary expenditures. Second, the design logic of the tax-sharing system, which prioritizes stimulating local governments' enthusiasm to drive economic growth, has encouraged fierce tax competition, often in the form of informal tax rebates. This has significantly disrupted efforts to build a unified national market.

Solving these problems requires further deepening of intergovernmental fiscal reform. This includes advancing the rational division of responsibilities between levels of government, refining the system of expenditure assignments, improving the structure and targeting of intergovernmental transfers, reforming sub-provincial fiscal systems, and strengthening the local tax framework. These areas represent key reform priorities during the 14th Five-Year Plan period (2021-2025) and are expected to remain central to the reform agenda through to 2035.

Table 2 summarizes the internal logic and impact of the evolution of intergovernmental fiscal relations in China.

Table 2: Logic and Impact of China's Evolving Intergovernmental Fiscal Relations

Period	Background	Motivation	Key Reforms	Impact on Modernization	Persistent Issues
Unified revenue & expenditure (1949-1977)	A weak economic foundation required concentrating national funds for heavy industrial development	Prioritize heavy industry development	Highly centralized financial revenue and spending	Achieved the goal of prioritizing heavy industry	Suppressed local initiative and enthusiasm
"Eating from separate stoves" (1978-1993)	The "reform and opening up" policy needed decentralization to boost local economies	Stimulate local government initiative and enthusiasm	Tiered fiscal contracting and management	Drove local economic growth and expansion	Led to "two declines" and severe market fragmentation
Tax-sharing (1994-2011)	Declining central fiscal capacity; economic system transitioning	Increase the central government's share of revenue; establish a socialist market economy	Tiered tax management	Increased central revenue proportion; established a socialist market economy; maintained high local initiative	Tax competition distorted the market; difficult transition from extensive to intensive growth
Tax-sharing (2012-)	Deepening economic integration; reforms expand to a "Five-in-One" governance system	Foster a unified national market; promote high-quality development and modern governance	Clarified fiscal authority and expenditure responsibilities; merger of national and local tax authorities; replacement of business tax with VAT; improved intergovernmental transfers system	Promoted coordinated government management; optimized fund allocation; advanced national governance and a unified market	Still not fully conducive to a unified market; local governments face significant fiscal challenges

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6. Conclusion and Policy Recommendations

For years, a substantial body of literature has used the frameworks of fiscal federalism or fiscal decentralization to analyze the behavior of China's local governments and the resulting economic outcomes. However, these approaches often fail to account for the central government's pivotal role and typically overlook the multi-objective nature of decision-making across different levels of government. In China's system of "centralized leadership and tiered local management", it is precisely the type of intergovernmental fiscal relations that can "activate the initiatives of both central and local governments" that serves as the cornerstone for sustained economic and social development. In this context, terms such as "fiscal balance between centralized unity and decentralized initiative" or "fiscal co-governance" are more accurate and appropriate than fiscal federalism or decentralization. This framework better reflects China's governance tradition of a centralized hierarchy with local implementation in the *junxian* (prefecture and county) system, while aligning with the distinctive national governance approach characterized by coordinated national strategies and collective initiative.

This paper incorporates multi-level, multi-objective decision-making into the study of intergovernmental fiscal relations and establishes a theoretical framework that reflects China's institutional context. It systematically explains the internal logic of the evolution of China's intergovernmental fiscal system during the modernization process, analyzes its impact on local government behavior, and evaluates its influence on economic growth. The main findings can be summarized in three areas.

First, the configuration of intergovernmental fiscal relations in China is jointly determined by the objectives of both central and sub-national governments and by current external constraints; these arrangements subsequently condition the magnitude and direction of governmental initiative at each tier. When the central government seeks to promote local economic development, it tends to expand local fiscal authority; when it aims to strengthen its control over local governments, it reduces that authority. The impact of the central government's efforts to increase its own revenue on intergovernmental fiscal relations remains uncertain. These relations also shift in response to factors such as the output elasticity of local government actions, cost structures, uncertainty, externalities, and public preferences regarding public welfare. Ultimately, the extent to which government initiative is realized depends on the distribution of local fiscal authority, the objectives and preferences of both central and local governments, and the characteristics of their policy actions.

Second, the paper articulates the logic behind the transformation of China's intergovernmental fiscal system and how it affects governmental initiative. The central government's decisions regarding intergovernmental fiscal arrangements involve a multi-objective optimization process. When the goal is to stimulate local initiative, the central government tends to increase local fiscal authority. However, empowering local initiative can give rise to new challenges, such as weakened central authority, market fragmentation, and diminished macroeconomic control. These challenges, in turn, create pressure for fiscal system reform. At the same time, the structure of intergovernmental fiscal relations has a profound impact on the behavior of both central and local governments, and by extension, influences economic growth, the distribution of fiscal resources, and the central-local power dynamic.

Third, the study explains why China's intergovernmental fiscal system has been able to support economic growth and under what conditions it remains effective. China's intergovernmental fiscal system functions as an adaptable revenue-allocation mechanism whose rules of apportionment—between hierarchical tiers of government as well as between government and market—are continuously recalibrated in response to evolving objectives, external circumstances, and policy outcomes. This adaptability enables the system to meet participation and incentive constraints for all actors, making it a key mechanism for driving economic growth.

This theoretical analysis provides a foundation for the next phase of intergovernmental fiscal reform. From the Third Plenary Session of the 18th CPC Central Committee to the report of the 19th National

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Congress and the 14th Five-Year Plan, there has been a consistent emphasis on "activating the initiatives of both central and local governments" and on "establishing a fiscal relationship between central and local governments characterized by clear responsibilities, well-coordinated financial resources, and balanced regional development". Currently, the CPC Central Committee is actively planning a new round of fiscal and tax system reforms, with intergovernmental fiscal relations constituting a key priority. In light of China's transition to high-quality development and the three propositions developed in this paper, the future reform of intergovernmental fiscal relations can advance in the following directions.

First, fiscal reform must continue to prioritize local government initiative. As a large and diverse country, China's long-term development and governance require the full activation of local government capacity, particularly at the municipal and county levels. Historical experience since the beginning of reform and opening-up shows that attention to the fiscal interests of local governments—especially at the grassroots level—has been crucial to mobilizing their enthusiasm. The central government should adjust local fiscal authority in line with evolving policy objectives.

Second, there must be a rational allocation of responsibilities and expenditure obligations, both fiscal and non-fiscal. Currently, many responsibilities are inappropriately assigned across levels of government. Tasks that should be carried out by higher-level governments are often delegated downward, while duties suited to lower-level governments are assumed by higher authorities. The provision of basic public services frequently involves overlapping roles, and the current assignment of expenditure obligations does not align with fiscal authority. A more coherent framework is needed—one that classifies responsibilities based on output elasticity, externalities, and cost coefficients—and allocates corresponding expenditure responsibilities based on fiscal authority.

Third, the fiscal revenue system and tax-sharing mechanisms should be reformed to better guide local government enthusiasm. At present, China's intergovernmental revenue distribution is primarily based on tax-sharing, especially following the production-based principle. While this approach incentivizes local governments to develop their economies, its shortcomings are increasingly evident in the high-quality development phase. Fierce tax competition, often marked by informal tax rebates, has emerged, undermining the construction of a unified national market and weakening available fiscal resources. Future reform should consider incorporating population and consumption factors into the tax-sharing framework. This would encourage local governments to shift their focus from corporate interests to people's welfare, and from pure economic growth to broader improvements in public well-being.

Finally, sub-provincial fiscal reform must be strengthened. At present, the fiscal systems below the provincial level face multiple challenges: imprecise division of fiscal authority and spending responsibilities, irregular revenue allocation mechanisms, unclear roles for intergovernmental transfers, significant fiscal pressure in some areas for ensuring the "three guarantees" (basic public services, salaries, and operations), and limited progress toward equalizing basic public services. A comprehensive and systematic overhaul is needed to refine and improve sub-provincial fiscal arrangements, enabling them to support the construction of a unified national market, promote the equalization of basic public services, and facilitate high-quality development. Only by doing so can China establish a solid institutional foundation for the full realization of a modern socialist country.

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