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Research Article

How do local governments respond to central mandate in affordable housing policy? A qualitative comparative analysis of forty-one Chinese cities



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ABSTRACT

Countries in developed and developing worlds have faced growing challenges to solve affordable housing shortages for lower-income households, prompting the adoption of various types of mandates to compel local implementation of affordable housing policy. A large volume of literature has focused on whether and how such top-down mandate indeed improves local supply of affordable housing. Insufficient understanding has been provided regarding the multi-faceted nature of local strategic responses to a top-down housing mandate. This research addresses this intellectual gap with an empirical study of local strategic behavior in response to the affordable housing mandate that was announced by the central government during the Twelfth Five-Year Plan (2011-2015). Through systematic content analysis of local news reports on affordable housing from 41 Chinese cities from various provinces, we describe the multiple-dimensional characteristics of local policy actions as cities were compelled to complied with the mandate. We further employ a fuzzy-set qualitative comparative analysis method to investigate how topdown political pressure combines with local policy interpretation, resource mobilization capacity, and local public pressure lead to more diverse policy actions in affordable housing. This research enriches the understanding of how city governments respond to top-down housing mandate, as well as offers valuable policy implications for affordable housing policy.

1. Introduction

The question of how to provide decent and affordable housing for middle-to-low-income residents has challenged policymakers and planners of many countries for decades (Bratt, 2018). In recent years, national and state governments have attempted to use various forms of political or legal mandates to improve local affordable housing production (Austin et al., 2014; Clegg & Farstad, 2021; Mitra, 2022; Goetz & Wang, 2020). These mandates represent a coercive approach compelling local authority to implement measures for affordable housing development, such as augmenting housing units or enhancing inclusivity. Local authorities would face a series of legally or fiscally punishment or sanctions if they don't respond to these mandates as required.

Existing literature has focused on the extent to which these top-down mandates have or have not successfully increased the overall stock of affordable housing (Goetz & Wang, 2020; Karki, 2015). Some scholars have revealed that "hard" mandates compel local

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governments to attach more importance to the affordable housing production. However, others still question the effectiveness of these mandates by pointing out the housing exclusion, uneven distribution of inclusionary affordable housing, and symbolic implementation in responding to the housing elements (Lewis, 2005; Li & Guo, 2020; Smith & Byrne, 2021). Such controversy implies the necessity to further investigate how local governments specifically respond to the mandate.

Examining local governments' response to housing mandate requires clarification on two fronts. First, housing policy is complicated and multifaceted. Successful implementation of housing policy hinges not only on augmenting the quantity of affordable housing, but also encompasses diverse facets such as housing quality, housing location, long-term management (Jonkman et al., 2022; R. Liu & Wong, 2015; Z. Ma et al., 2018; Y. Xiao et al., 2020). While a few case studies have discussed local response actions in certain aspects (Ebekozien, 2021; Hansson, 2019), a comprehensive conceptual framework delineating local actions in response to housing mandates is yet to be established systematically.

Second, local governments are embedded in a social, political and cultural environment that influences the form and content of their behavior (González & Healey, 2005). Therefore, local governments choose their actions based on their own interpretation and adaptation in response to the pressure imposed by the top-down mandate (Kostka & Hobbs, 2012; McDermot et al., 2012). Such process entails an examination of the congruence of both top-down political pressure and multiple local factors that eventually shapes local strategic responses to a political mandate.

This research thus aims to contribute to these intellectual gaps with an empirical study of local responses to an affordable housing mandate issued by the central government during the Twelfth Five-Year Plan (2011–2015). In 2011, the central government announced the ambitious goal to construct 36 million units of affordable housing within five years (2011–2015). This mandate was accompanied by a combination of increased fiscal subsidy and heightened political accountability to compel local government compliance to fulfill the numeric construction target. Using this housing mandate as an extreme case, we examine how city governments have responded to this top-down mandate of affordable housing construction. Through systematic content analysis of local news reports on affordable housing from 41 Chinese cities from various provinces, we describe the multiple-dimensional characteristics of local policy actions as cities were compelled to complied with the mandate. We further employ a fuzzy-set qualitative comparative analysis (fsQCA) method to investigate how top-down political pressure combines with local policy interpretation, resource mobilization capacity, and local public pressure lead to more diverse policy actions in affordable housing.

Our research contributes to the literature on housing policy in two fronts. First, we provided a three-dimensional framework for conceptualizing and quantitatively measuring local strategic responses to a top-down housing mandate, which extends beyond the traditional single-dimension approach to view local implementation equal to fulfilling a numeric number of housing construction (Hansson, 2019; Hoch, 2007; Yu & Xu, 2022). Second, by adopting the fsQCA method, our research are able to identify various combinations of various top-down and local factors that may contribute to more diverse local policy actions in affordable housing, rather than typical regression models that only focus on independent effect of each causal factor (Agyemang & Morrison, 2018; Goetz & Wang, 2020; Hu & Oian, 2017).

The structure of the rest of the paper is as follows. Next section introduces China's affordable housing mandate in 2011–2015, section three and four present the conceptualization framework and the influencing conditions to understand and explain local actions on responding to top-down affordable housing mandate. After elaborating our research design, we show the findings on the characteristics and variances of local actions as well as the configurations through fsQCA. The final section is our conclusions and discussions.

2. The affordable housing mandate in China during 2011-2015

Since the privatization, marketization, and decentralization of the urban housing system reform in the 1990s, affordable housing has always been marginalized with little funding for any affordable housing program from central government (Deng et al., 2011; Fang et al., 2020). Therefore, local governments had no incentive to construct affordable housing because they had to fund affordable housing provision directly with their own budget, or indirectly through waiving land-leasing fees and real estate-related taxes and fees that could have been charged on commercial housing projects (Hu & Qian, 2017).

In the pursuit of enhancing local affordable housing development, China's central government established ambitious targets, aiming to construct 36 million affordable housing units between 2011 and 2015. This initiative also outlined key planning principles concerning funding, management, and allocation procedures for affordable housing projects within the Twelfth Five-Year Plan. Ratified by the National People's Congress, the Five-Year Plan's contents and primary objectives underscore the government's dedication to the public (Yuan & Zuo, 2011). Moreover, as the most important government document of China, it offers guidelines and development strategies of the whole country which will be implemented by all levels of subnational governments (Guilhot, 2022; Yuan & Zuo, 2011). Accordingly, the section addressing affordable housing development within the Twelfth Five-Year Plan evolved into a top-down mandate, necessitating local actions to achieve the overarching goal of resolving housing challenges.

The mandate distinguishes from previous housing policy in China in two aspects. First, this was a strong mandate with significant political pressure on local leaders. The central government attached political accountability (in Chinese, xingzheng wenze) with the performance targets. Because local leaders' political promotion was tied to their performance evaluation controlled by upper-level governments (Xu, 2011), the latter stipulated that the leader of lower-level government were to be held accountable – i.e., disciplined, suspended, or even directly removed from office – for failing to achieve the construction target within a pre-determined time frame (General Office of State Council, 2011 No.45). City officials faced performance evaluation and accountability from the provincial government, which will be evaluated by the MOHURD.

In terms of financial outlay, according to the data from Ministry of Finance during 2011-2016, the central assistant of the affordable housing nearly doubled from 73.1 billion yuan in 2010 to 144.4 billion yuan in 2011, which further increased to a high of 216.7 billion

yuan in 2012 before dropping to 120.8 billion yuan in 2015. The increased central government fund prompted provincial governments to follow suit and expand provincial housing funds, leading to dramatic increase of the overall government expenditure on affordable housing. The amount of subsidy a city received was based on the city's committed target of affordable housing construction, therefore offering a monetary incentive for local governments to comply with the mandate.

3. Hard target and beyond: Understanding City's actions

In China, the central government has widely adopted top-down mandate as its tool to achieve policy objectives. Given the hierarchical nature of China's administrative system, previous studies have predominantly examined local responses to central mandates through the lens of central-local relationship, and identified the incentive mechanism and the supervision from the central government as crucial factors (Anderson et al., 2019; Kostka & Nahm, 2017; Ran, 2013; S. Xiao & Zhu, 2021). In cases where mandates lack sufficient financial and political incentives but demand significant local resource inputs, local governments are not motivated to comply (Gong & Wu, 2012; Ran, 2013). This, coupled with the information asymmetry resulting from weak monitoring of central government, will lead to various implementation biases such as passive resistance, selective implementation, or symbolic implementation (Fan & Yang, 2019b; Gong & Wu, 2012; Y. Huang, 2012; O'Brien & Li, 1999).

Under this situation, the central government has enhanced the incentives and supervision via various approaches, including target-oriented responsibility system, central inspection system, third-party monitors (the public or NGOs) (Anderson et al., 2019; Gao, 2015; Jia & Chen, 2019; Z. Liu et al., 2021). Some scholars have observed that these measures prompt local governments to respond more actively to central mandates, as evidenced by significant improvements in response intensity, response speed, and the degree of completion of quantitative targets (Z. Liu et al., 2021; Y. Ma, 2021; S. Xiao & Zhu, 2021).

However, improvements in response do not necessarily equate to the achievement of policy objectives especially in complex policy fields like housing policy, poverty-alleviation policy and environment policy. These policies tend to be complicated, ambiguous, and multifaceted, necessitating long-term resource investment by governments, making the implementation process complex and challenging (C. K. Cai et al., 2022; Manna & Moffitt, 2021; Plutzer et al., 2019). Even when the central government sets strict assessment targets, it cannot dictate all the actions of local governments for implementation (G. Kostka, 2016; Zhang et al., 2013). In fact, several studies have revealed the hard targets often lead local governments to focus solely on meeting targets within limited timeframes, resulting in unintended consequences such as unmet policy objectives, resource wastage, and policy distortions (Gao, 2015; G. Kostka, 2016).

In the realm of housing policy, existing literature has primarily focused on examining local responses to affordable housing mandates by assessing the quantity of affordable housing constructed. This assessment often involves metrics such as the number of housing units or utilizing fiscal expenditure and land supply dedicated to affordable housing as proxies (Goetz & Wang, 2020; Hu & Qian, 2017; Z. Liu et al., 2021; Sun, 2020). However, simply concentrating on the quantity of affordable housing construction may overlook the quality of housing provided, and the overall well-being of residents living in affordable housing (Ramsey-Musolf, 2017, 2018), so as to produce unsatisfactory housing projects (Z. Ma et al., 2018; Y. Xu & Luo, 2021). Moreover, focusing on the short-term construction targets, typically imposed through top-down mandates, could also divert resources away from local institutional and capacity building toward long-term policy implementation (Rudolf et al., 2017).

Therefore, understanding local responses to central mandate calls for a framework that encompasses a broad spectrum of local actions including not only actions on the fulfillment of hard targets, but also actions in favor of satisfactory policy outcomes and improving local long-term institutions. The spectrum of actions serves as a gauge for the effectiveness of policy implementation, indicating that diverse actions are more conducive to achieving policy objectives. We accordingly propose an three-dimensional framework for understanding local response to the national affordable housing mandate.

Procedure formalization. These actions pertain to efforts aimed at improving procedures to fulfill the quantitative construction target. City governments have to respond to the top-down hard mandate both in form and in content under the political pressure of the target assessment (Fan & Yang, 2019a). The common practices include setting up an inter-departmental leading group to coordinate various departments, mobilizing and investing all kinds of required resources, expediting procedural work, convening frequent working meetings, and inspecting the implementation progress by leaders (N. N. Liu et al., 2015; Tan et al., 2021; F. Wang et al., 2022). All these measures involve hastening the planning and construction procedures through political pressure and administrative mobilization, ensuring the timely fulfillment of annual affordable housing targets.

Outcome improvement. This refers to actions in favor of improving policy outcome and achieving policy goals. The intricacies of social policies like housing policy, adaptation policy, and poverty alleviation policy determines that meeting quantitative targets doesn't automatically translate to achieving policy goals. This is particularly evident in affordable housing policy, where factors like housing quality, location, design, management, and allocation schemes significantly impact the living experiences of beneficiaries, consequently influencing the ultimate policy outcome (Gan et al., 2016; Z. Huang & Du, 2015). Scholars have found that the failures of many affordable housing projects are owed to unattractive locations, a lack of professional management and the eventual development of shabby communities that evolve into concentrations of poverty (Hananel et al., 2021).

Institution building. This refers to stable, sustainable, and institutional actions that fundamentally improve local ability to cope with social issues and bolster local system development. Such measures encompass establishing permanent organizations, promulgating formal and detailed laws or regulations, extending the channels for citizen participation and supervision (Mitra, 2022; Odoyi & Riekkinen, 2022; Tan et al., 2021; F. Wang et al., 2022).

4. A configurational perspective on local response to housing mandate

Within the central-local dynamic in China, the implementation of most mandates encounters principal-agent problems. The central government formulates and issues the housing mandate as the principal, with the aim of solving the housing difficulties of middle-to-low-income households. Local governments, serving as agents, are tasked with implementing these mandates under top-down political pressure. However, the central government affords considerable autonomy to localities in determining specific implementation approaches. As a result, local governments have the discretion to interpret and undertake actions to implement the mandate based on local conditions (Miao & Li, 2017; Zhuo et al., 2022). Consequently, local actions can be regarded as the composite outcome of interpretation on the mandates, local implementation capacity as well as external circumstances, which are reflected in three dimensions.

Firstly, different interpretations of policy mandates serve as guides for their specific responsive actions (Deyle & Smith, 1998). Existing literature has proved that local governments often perceive unfunded mandates as burdensome and therefore exhibit reluctance in implementing them (Gong & Wu, 2012). However, if local governments align policy mandates with their own development agendas, it enhances the core value of these mandates. This alignment prompts local governments to elevate their level of attention and actively take corresponding actions to ensure effective policy implementation. For instance, both Genia Kostka and Hobbs (2012) and Miao and Li (2017) have found that local governments would respond more actively to central mandates by bundling and associating their actions with other developmental agendas and co-benefits. Therefore, this study contends that if local governments consciously bundle the interpretation and elucidation of central mandates for affordable housing construction with their local development agendas, they will possess stronger intrinsic motivation to undertake more diverse actions that foster the integrated development of affordable housing.

Secondly, local implementation capacity has been proved to be crucial for local implementation. Executing diverse actions in a short timeframe necessitates the ability of local governments to swiftly mobilize resources. Fiscal capacity, among various resources pertinent to affordable housing development, has been empirically affirmed as a critical factor influencing the actions of local governments (Butler et al., 2021; Goetz & Wang, 2020; Zhuo et al., 2022). Fiscal resources serve as the foundation and assurance for policy implementation by local governments. Empirical studies have revealed limited fiscal capacity may impede local governments from undertaking comprehensive and widespread actions, pushing them towards noncompliance or low-quality implementation (Berke et al., 2014; Homsy & Warner, 2015). Research on the implementation of affordable housing policies in the United States has highlighted financial issues as a significant reason for non-compliance by local governments (Karki, 2015; Ramsey-Musolf, 2017). Consequently, cities with stronger fiscal capacity are more likely to undertake diverse actions in response to the housing mandate.

Thirdly, the external circumstances can exert pressure on local governments to take diverse actions. On the one hand, while local governments are typically driven by the incentive to "be accountable to the higher-level government" (B. A. Huang & Wiebrecht, 2021), public dissatisfaction stemming from livelihood issues, particularly rapid increases in housing prices and inadequate housing affordability, can pose threats to social stability and political legitimacy. The pressure arising from these societal concerns can influence the actions of local governments when responding to policy mandates (Hu & Qian, 2017; Yu & Xu, 2022). X. Cai and Wu (2019) has pointed out that when governments perceive a high public demand, they will actively implement the policy to have a positive policy outcome. Owing to the underlying objective of affordable housing mandate is to satisfy the housing demand of residents with housing difficulties, if a city faces severe issues regarding the affordability of housing and there's strong social demand for affordable housing, local governments might take more proactive measures to develop and enhance affordable housing policies to address local housing problems.

Furthermore, besides the social pressure from public demand, another pressure comes from the central government. Studies indicate that mandates from the central government not only establish policy objectives and rules for local government actions but also provide resources such as funding, data, and technical assistance to motivate local governments to take more actions (Homsy & Warner, 2015; Laurian et al., 2017). In the context of affordable housing mandate, although local governments face similar top-down construction pressures, the level of support and attention they receive varies. To address funding issues concerning affordable housing construction, the Ministry of Housing and Urban-Rural Development of the State Council designated 28 cities as pilot cities for affordable housing construction supported by housing provident funds in August 2010. These pilot cities are obligated not only to rigorously adhere to the usage of project loan funds but also to strictly comply with requirements for the construction, distribution, and management of affordable housing. The central government specifically conducts supervision and inspections of affordable housing projects in these pilot cities (Guo et al., 2021). Consequently, compared to cities not included in the pilot program, those designated as pilot cities are more proactive in implementing a diverse range of actions during the "Twelfth Five-Year Plan" period.

Based on the discussion above, we specify four conditions that influence cities' responsive actions: (1) policy interpretation as urban agenda; (2) fiscal capacity; (3) social pressure from housing issues; (4) pressures from higher authorities.

5. Research design

5.1. Method

These four contributing factors play a crucial role in the process of municipal responding to central affordable housing mandate. It is insufficient and oversimplified to attribute complex policy responses to the impact of individual factors and to overlook the interplay of contributing factors. Consequently, we propose adopting a configurational theorizing perspective to analyze interactions among four conditions using fsQCA.

FsQCA offers three key facets that facilitate configurational studies (Schneider & Wagemann, 2012). Firstly, equifinality suggests that addressing policy issues can be achieved through various viable and equally effective choices (Yan et al., 2021). There might be multiple pathways for cities to adopt more or less diverse responsive actions. Second, conjunctural causation clarifies that outcomes are

linked to combinations of causal conditions rather than isolated conditions. Third, asymmetric causation denotes that appropriate and deficient performance of conditions have different explanations (Fiss, 2011). It implies that the combinations of factors driving more diverse responsive actions may be different from the combinations prompting less diverse actions.

5.2. Data:Source and measurement

5.2.1. Outcome

While formal policy documents are the ideal data source for analyzing local responsive actions, severe data deficiencies make systematic content analysis of policy texts impractical and cross-locality comparisons challenging. Therefore, we capture local responsive actions from daily newspapers. Firstly, daily newspapers offer high continuity and accessibility, making them suitable for long-term retrospective studies and detailed descriptions of past events. Their data completeness and richness also effectively address the issue of missing data. Secondly, local daily newspapers are sponsored and issued by the municipal party committee, serving as a tool for the government and party committee to publicize programs, development guidelines, and policies. Its content thus can largely reflect local policy attention, the actions the government decides to take or what actions it has taken. Thirdly, since the city's ultimate performance in implementing affordable housing matters more than its propaganda, there is no motivation to conceal preferences in the daily newspaper. The information within it genuinely conveys perceptions and actions taken in response to top-down affordable housing mandates to a considerable extent.

We specifically focus on the actions of forty-one cities in twenty-three provinces in China. Xinjiang, Tibet, Hongkong, Macau and Taiwan Province are not included in the analysis of this study for their institutional particularity. Municipalities directly under the central government are not included in this part because of their administrative status equivalent to provincial governments. Among the rest of twenty-five provinces, cities are selected following three principles. Firstly, we aim to ensure regional diversity. Given the substantial regional variations in the implementation of affordable housing policies in China, as highlighted in existing literature (Hu & Qian, 2017; Z. Liu et al., 2021), we make an effort to encompass all provinces and regions in our case selections. We next consider the comparability of the cases. We intentionally choose cities where the committed affordable housing units per capita ranked in the top 25% in at least one of the five years during 2011–2015. The purpose is to control their quantitative performance in affordable housing mandate for a more robust comparison of local actions. Lastly, we have to ensure the city's daily newspapers are available and have no absence during our targeted period. Due to the absence of any cities ranking in the top 25% in Hainan Province and the unavailability of suitable daily newspapers in Zhejiang Province, our final research object is forty-one cities in twenty-three provinces. With the exception of five provinces (Jilin, Ningxia, Qinghai, Guizhou, & Yunnan), each province has two cities as research cases. The final distribution of cities is as follows: there are 12 cities in the eastern region, 15 cities in the central region, and 14 cities in the western region.

Forty-one cities' daily newspapers were searched, retrieved, and downloaded through China's CNKI Newspaper Full-text Database.

Table 1Coding framework: three level indicators of responsive actions.

1st level- Dimensions	2nd level- Categories	3rd level - Actions		
Procedure formalization (11)	Priority reiteration (2)	Declaring commitment to the target		
		Volunteering additional target		
	Resource mobilization (3)	Mobilizing funding		
		Diversifying sources of funding		
		Mobilizing land resources		
	Administrative mobilization (2)	Establishing a leading group		
		Mobilizing administrative departments		
	Evaluation and oversight (4)	Implementing inspections		
		Setting up performance ranking		
		Setting up reward		
		Setting up punishment		
Outcome improvement (11)	Housing quality (2)	Ensuring building quality		
-		Focusing on housing design		
	Location and planning (2)	Focusing on location		
		Focusing on residential integration		
	Facilities and services (2)	Focusing on supporting facilities		
		Focusing on job opportunities		
	Coverage expansion (2)	Expanding eligibility standard		
		Including migrants		
	Project management (2)	Enforcing the rule on fraudulence		
		Routinely maintaining and managing		
	Allocation (1)	Specifying the procedures on allocation and exit		
Institution building (8)	Capacity building (3)	Improving administrators' professional skills		
		Optimizing administrative process		
		Learning experience of housing policy		
	Private sector involvement (1)	Public-private partnership in affordable housing provision		
	Citizen participation (3)	Disclosing information		
		Setting up channels for citizen's advice and complaint		
		Public participating in project planning and management		
	Organizational restructuring (1)	Establishing administrative departments or enterprises		

Table 2The descriptive analysis of city's actions.

2nd level- Categories	Forty-one Cities			East	Midland	West	
	Mean	Std.error	Min	Max	Mean	Mean	Mean
Procedure Formalization(11)	1.39	1.38	0.00	7.91	1.01	1.22	1.88
Priority reiteration (2)	2.57	2.31	0.00	11.00	2.38	2.13	3.17
Resource mobilization (3)	1.60	1.33	0.00	6.00	1.36	1.40	2.00
Administrative mobilization (2)	1.61	2.43	0.00	11.50	0.71	1.37	2.57
Evaluation and oversight (4)	0.54	0.94	0.00	6.00	0.21	0.55	0.80
Outcome Improvement(11)	1.52	1.05	0.09	4.91	1.89	1.48	1.25
Housing quality (2)	2.37	1.82	0.00	8.50	2.54	2.37	2.23
Location and planning (2)	0.69	1.02	0.00	5.00	0.75	0.57	0.77
Facilities and services (2)	1.33	1.57	0.00	7.50	2.21	1.23	0.73
Coverage expansion (2)	1.60	1.38	0.00	6.00	2.42	1.27	1.27
Project management (2)	0.89	0.97	0.00	3.50	0.96	1.13	0.60
Allocation (1)	2.90	2.17	0.00	10.00	3.00	3.20	2.53
Institution Building(8)	0.65	0.87	0.00	4.50	0.97	0.43	0.62
Capacity building (2)	0.57	0.98	0.00	5.33	0.75	0.44	0.56
Private sector involvement (1)	0.67	1.26	0.00	5.00	1.08	0.07	0.93
Citizen participation (3)	0.67	1.26	0.00	5.00	1.03	0.31	0.44
Organizational restructuring (1)	1.14	2.01	0.00	10.00	1.33	1.13	1.00

Note: As the scores for the second-level indicators are aggregated from the scores of the third-level indicators, in order to enhance the comparability between indicators, the author standardized the scores using the values of the second-level indicators (the numerical values in parentheses).

The searching keywords were "affordable housing", "low-income rental housing", "public-rental housing", "economic comfortable housing", "capped-priced housing". The time range is limited from January 1, 2011 to December 31, 2015. After manual reading and verification, news reports that do not reflect the city-level situation were eliminated, and finally 1795 news reports were obtained. On average, each city has 44 news reports. Among them, Lanzhou has the highest number of news reports, totaling 101; while Zhangye has the fewest, with only 13 reports. The twelve cities in the eastern region collectively have 608 reports, accounting for 33.87% of the total number of reports; the fifteen cities in the central region have a total of 584 reports, comprising 32.54% of the total number of reports; and the fourteen cities in the western region have a total of 603 reports, representing 33.59% of the total number of reports.

Our first step is to measure and characterize local compliance actions based on the information from these local newspaper through content analysis. Guided by the three dimensions of local response including procedure formalization, outcome improvement, and institution building, we read the original text and extracted the information about local actions in responding to affordable housing mandate. Finally, we develop a coding framework about local actions covering three-level indexes (Table 1).

Using this codebook, we then conducted systematic coding of the local daily newspaper about affordable housing. We focused on specific actions mentioned in the coverage and eliminated the discourse like slogans, principled statements, or descriptions of the construction progress functioning as propaganda. We coded the texts through manual reading and understanding by judging whether the content in each news report mentioned any action. Specifically, the news report of this city scored 1 once it did. The scores for each news report were added together to produce a city's scores on every third-level indicator. One author conducted the coding twice respectively in 2020 and 2023. The percentage of agreement among the two coding is 92.1%, and the Cohen's kappa value is 0.754. We finally obtained every city's annual scores for each action (third-level indicator), from which the scores for each category (second-level indicator), and each dimension (first-level indicator) were summed.

To further measure the diversity of city's responsive actions, we used an indicator in the literature for breadth or diversity - Shannon entropy (Guan & Rowe, 2016). Entropy refers to the inherent disorder within a system. To compute Shannon entropy, we first calculated the proportion of each indicator score to the total score (P_j), then used the Shannon entropy formula to obtain the Shannon entropy of responsive actions for each city. The formula is as follows:

$$S = \sum_{j=1}^{m} P_j * \ln \left(\frac{1}{P_j} \right)$$

Where m represents the number of indicators and S represents Shannon entropy. A higher value of S indicates that the city's actions across various indicators are more extensive, reflecting a more diverse range of actions in procedure formalization, outcome improvement, and institution building. Conversely, a lower value indicates a lower extent of diversity in the city's actions, where actions primarily focus on a few indicators. This might imply potential issues of being too selective or lacking comprehensive approaches in their actions.

5.2.2. Condition

Based on the discussion of configurations influencing local policy responses, we select four conditional variables: local policy interpretation, fiscal capacity, social demands, and superior pressure.

Local policy interpretation reflects whether the city government bundles affordable housing construction with the local development agenda when facing a top-down mandate. Specifically, if the local government during the "Twelfth Five-Year Plan" period considered

affordable housing as a means for "attracting talent, labor, and accelerating urbanization," or utilized affordable housing construction to "improve the urban environment, implement urban renewal, and promote urban development," then this variable is assigned a value of 1, indicating that the city aligned affordable housing policies with the urban development agenda. Otherwise, it is assigned a value of 0. Data for this variable were sourced from the Urban Daily newspaper from 2011 to 2015.

Fiscal capacity is measured using local fiscal revenue. Although the higher-level government provides some financial support for affordable housing, cities still need to input local fiscal resources (Zou, 2014). Therefore, fiscal revenue is the most direct indicator of fiscal capacity. To mitigate the influence of population size, the author standardized local fiscal revenue using the city's resident population (in thousands). The data source comes from Urban statistical yearbook of 2011 which reflect the real situation in 2010.

Social demand for housing is mainly reflected by the severity of local housing affordability issues. We use the ratio of local housing prices to residents' income to capture it. A higher ratio of housing prices to residents' income indicates more severe housing affordability, signifying more social demand for affordable housing. In response, local governments need to take measures to enhance their capability to address housing issues. The data source comes from Urban statistical yearbook of 2011 which reflect the real situation in 2010.

Superior pressure is a binary variable indicating whether the city was chosen as a pilot city by the central government. Specifically, it measures participation in the "Housing Provident Fund Loan Support for Affordable Housing Construction" pilot program. If the city is selected as a pilot city, it is assigned a value of 1; otherwise, it is assigned a value of 0. This data is sourced from the list of pilot cities publicly released in 2010 on the Ministry of Housing and Urban-Rural Development website.

5.3. Analysis

We used fsQCA 3.0 (Ragin et al., 2006) to perform analyses. As the values for the outcome (the diversity of actions), and two conditions (fiscal capacity and housing affordability) exceeded 1, we first performed calibration to convert them into a scale ranging from 0.0 to 1.0 with multiple values in between for an fsQCA analysis (Ragin & Strand, 2008). The fuzzy set calibration process determined which original condition values constituted complete membership (membership score = 1), complete non-membership (membership score = 0.5) within the respective categories. The converted set membership ranged between 0 and 1. This study calibrated these three variables, setting the values at the 75th percentile and 25th percentile of the original data as complete membership and complete non-membership, respectively, with the 50th percentile as the crossover point.

The truth table was consolidated based on two principles: (1) at least one case required in a given configuration for a solution to be considered, and (2) a minimum consistency level of 0.80 for a given solution (Fiss, 2011). Consistency, ranging from 0 to 1, indicated the extent to which cases sharing a combination of conditions consistently yield the key outcome. Lower consistency suggested an unreliable relationship between a configuration and the outcome, whereas higher consistency implied that a specific configuration of factors almost always leads to the desired outcome (Misangyi & Acharya, 2014).

Despite different choices in reporting complex and intermediate solutions (Andrews et al., 2019; W. J. Wang, 2016; Yan et al., 2021), our analysis yielded the same complex and intermediate solutions of more diverse actions (Table 4) and less diverse actions (Table 5). In the tables, a black circle () suggests the occurrence of the precursor condition, and a circle with a hollow circle () indicates the precursor condition does not appear. A blank space suggested that this condition was irrelevant—the presence or absence of it did not make a difference in the outcome.

6. Findings

6.1. Results of content analysis: characterizing cities' actions

Table 2 presents the characteristics of all cities' responsive actions, highlighting variations among the eastern, central, and western regions. The descriptive statistics reveal the complexity and multidimensionality of actions taken by city governments. Their focus extends beyond merely meeting construction targets within tight timelines; they also engage in diverse response actions.

Firstly, the dimension of "outcome improvement" involving actions concerning the housing policy effect attains the highest overall score. Notably, there are numerous actions aimed at ensuring housing construction quality and enhancing distribution and exit

Table 3Consistency and coverage of single conditions.

Outcome	High Diversity		Low Diversity		
Condition	Consistency	Coverage	Consistency	Coverage	
Bundling with local agenda	0.478	0.487	0.497	0.513	
High fiscal capacity	0.541	0.555	0.539	0.560	
Low housing affordability	0.539	0.560	0.492	0.518	
Pilot city	0.297	0.551	0.239	0.449	
Not bundling with local agenda	0.522	0.506	0.503	0.494	
Low fiscal capacity	0.571	0.550	0.572	0.558	
High housing affordability	0.537	0.511	0.582	0.561	
Not pilot city	0.703	0.477	0.761	0.523	

Table 4Configurations for more diverse local actions.

Configuration	Solution Formulae			
	1-enterprising	2- reactive	3-supportive	
Bundling with local agenda	•	0	•	
High fiscal capacity	•	•	•	
Low housing affordability	©	•	•	
Pilot city	•	•	⊚	
Consistency	0.974	0.808	0.992	
Raw coverage	0.055	0.134	0.122	
Unique Coverage	0.055	0.134	0.122	
Cities	Kunming	Xiamen, Fuzhou	Guangzhou, Nanjing	
Overall solution consistency	0.900			
Overall solution coverage	0.311			

Table 5Configurations for less diverse local actions.

	Solution Formulae		
Configuration	1-selective	2-deficient	
Bundling with local agenda	•	•	
High fiscal capacity	•	©	
Low housing affordability	©	•	
Pilot city	©	•	
Consistency	0.841	0.929	
Raw coverage	0.126	0.038	
Unique Coverage	0.126	0.038	
Cities	Yueyang	Xining	
Overall solution consistency	0.860	_	
Overall solution coverage	0.164		

mechanisms. This aligns with additional requirements from the central government, emphasizing specific aspects of policy beyond strict assessments based solely on construction quantity. For instance, the Ministry of Housing and Urban-Rural Development specifically issued the "Notice on Strengthening the Quality Management of Affordable Housing Projects" in 2011, emphasizing the reinforcement of quality management and ensuring project quality. Moreover, in the National Government Work Reports from 2011 to 2015, the establishment and improvement of the mechanism for the allocation and exit of affordable housing were mentioned almost every year. Secondly, city governments still undertake numerous actions of "procedure formalization" which aiming at ensuring the fulfilment of construction tasks, especially actions revolving around completing mandatory targets. However, the overall low score of "institution building" indicates the inadequate actions in establishing and developing a local long-term affordable housing system.

More importantly, the responsive actions vary significantly across cities. The eastern cities place greater emphasis on the effectiveness of implementing affordable housing policies and local housing system building. For example, Table 2 shows their focus on supporting facilities for affordable housing and the coverage scope of housing security is higher than central and western cities. This implies that, apart from the construction targets of affordable housing, eastern cities also allocate substantial resources to ensure the housing and living needs of middle-to-low-income residents as well as migrant populations. In comparison, western cities place more emphasis on achieving quantifiable targets, scoring significantly higher than the average in all categories of "procedure formalization" to ensure the completion of affordable housing construction tasks within a limited timeframe. The central cities exhibit noticeable deficiencies in actions concerning local affordable housing institutional development, with very low scores across various indicators.

6.2. Analysis of single conditions

Before deriving the configurations of conditions using the truth table in fsQCA, it's essential to verify whether individual condition variables (including their negations) are necessary conditions for the outcome variable (Ragin, 2009). In QCA computations, assessing the consistency indicator can determine if a condition is necessary. A consistency indicator exceeding 0.9 indicates that the condition is necessary for the outcome (Young & Park, 2013). Table 3 reveals that when analyzing the necessity of conditions—including bundling affordable housing with local development agendas, fiscal capacity, housing affordability, and being selected as a pilot city—regarding the diversity of action, the consistency of each condition is below 0.9. Thus, the four conditions selected in this study do not individually constitute necessary conditions for the outcome. Furthermore, the analysis of the necessity of non-sets of these four conditions similarly demonstrates that the absence of any single condition does not independently affect the diversity of city's responsive actions.

6.3. Configuration analysis of the diversity of local responsive actions

Our analyses revealed five pathways, three of them contributing to more diverse response actions the other two leading to less

diverse ones. We include measures of consistency and coverage for each configuration and for the solution as a whole. Coverage assesses the degree to which instances of the outcome of interest are accounted for by a given path and by the solution as a whole. Unique coverage explains memberships in the outcome not covered by other configurations. No minimum level of coverage is required in QCA analyses (Yan et al., 2021).

We present our findings by characterizing the three pathways of more diverse actions as "enterprising", "reactive", "supportive" (Table 4), and two pathways of less diverse actions as "selective", and "deficient" (Table 5), respectively.

6.3.1. Pathway 1: "Enterprising"

The first pathway to more diverse response actions involves a configuration where the internal willingness, superior pressure and local capacity exist except internal social pressure for housing. Kunming took this pathway, showing diverse actions in developing affordable housing. As the capital city of Yunnan Province, Kunming is not in extreme lack of fiscal resources. Facing the top-down affordable housing mandate, it aligned affordable housing development with urban construction rather than regarded it only as a political mandate or economic propeller. More importantly, Kunming accepted the special inspection of MHUD as a pilot city for the affordable housing construction and development in 2011 (Kunming Daily, 2012-01-17). Therefore, under the superior pressure, strong internal willingness and fiscal capacity, even though it didn't suffer from severe housing affordability issue, Kunming still take a wide variety of actions, including not only extensive mobilization to complete the hard construction target, but also improvement of affordable housing location to avoid residential isolation.

6.3.2. Pathway 2: "Reactive"

The second configuration, represented by Xiamen and Fuzhou, comprises of external and internal pressure, along with local capacity. Similar to the first pathway, Xiamen and Fuzhou, as pilot city, underwent special inspections by the central government for the affordable housing project. Their actions in developing affordable housing received heightened attention and more requirements from the superior government. In addition, these cities face relatively serious housing affordability problems, and the resulting social demand will also affect the actions of local governments to responding to the affordable housing policy mandate. Therefore, in response to internal and external pressures and with sufficient resources, the city will try to take various and extensive actions in the implementing affordable housing policies to make the project achieve more desirable outcomes, including focusing on housing design, quality, location and supporting facilities and other aspects.

6.3.3. Pathway 3: "Supportive"

The "supportive" pathway for more diverse actions of city governments involves a series of internal conditions including local bundling urban agenda, strong fiscal capacity, and social pressure for housing affordability. The representing cases are Guangzhou and Nanjing, which are both economically developed cities with sufficient resources but severe housing issues. Notably, both of them have interpreted the mandate and embraced the development of affordable housing into urban agenda. For example, Guangzhou believes that "strengthening affordable housing construction is a need to enhance the core competitiveness of the city" (Guangzhou Daily, 2011-05-18), while Nanjing put forward "make it (affordable housing) a major feature to attract and retain talents" (Nanjing Daily, 2011-09-09). Therefore, this pathway shows the city's own support of developing affordable housing.

6.3.4. Pathway 4: "Selective"

The "selective" pathway to the adoption of less diverse response actions has involved the absence of both internal social pressure and external superior pressure, as well as the presence of local willingness and capacity. The city that took this pathway was Yueyang. Without severe housing affordability issues and strict central inspection, it didn't have much pressure. Therefore, although affordable housing was interpreted by a project associated with city image, its actions didn't comprehensively cover most items. Specifically, it focused more on improving the effect of affordable housing policy and building long-term housing system. Overall, their response actions to the affordable housing mandate was "selective".

6.3.5. Pathway 5: "Deficient"

Xining was one city that adopted different kind of less diverse response actions, this was distinguished by strong internal willingness, social pressure and superior pressure but weak implementation capacity. Xining had strong desire to develop affordable housing by regarding it as the sally port for promoting the transformation of old city proper and improving urban functions. It also faced internal social pressure for solving housing affordability problems as well as external inspection pressure as a pilot city. However, the weak fiscal capacity constrained it to take diverse actions in affordable housing policy implementation. In especial, it concentrated mainly on making efforts to mobilize resources and simplifying the administration procedures to increase efficiency to fulfil the construction tasks with limited time and resources. The absence of fiscal capacity generally reinforced the "deficient" approach.

7. Conclusions and policy implications

Understanding local actions is crucial for studying policy implementation and the effectiveness of housing mandates. Although the housing mandate attract local attention and exert pressure of developing affordable housing with strict quantitative target assessment, city governments retain a degree of flexibility. Their actions in response to the top-down mandate are taken based on their interpretation, local capacity, social and superior pressure they feel. This study constructs a configurative framework to empirically investigate Chinese city governments' actions in responding to central affordable housing mandate. A content analysis of the municipal level

newspapers issued by 41 Chinese cities demonstrates that local governments vary significantly in their response actions. Then, the fsQCA analysis shows three pathways to more diverse actions and two pathways to less diverse actions.

Our analysis firstly echoes the existing studies emphasizing local capacity as an essential condition in influencing local actions (Goetz & Wang, 2020; Hu & Qian, 2017; Z. Liu & Ma, 2021; Ramsey-Musolf, 2017). All pathways to more diverse actions include the presence of local fiscal capacity, as well as one of the pathways to less diverse actions comprise the absence of it. However, the effect of fiscal capacity doesn't exist solely on its own, thus strong fiscal capacity doesn't necessarily lead to more diverse actions.

Additionally, despite satisfying local housing demand being an initial objective of affordable housing policy, not all city governments' actions are driven only by social pressure of housing issues in practices (Chiu-Shee & Zheng, 2019; Shen & Li, 2022). Even in the absence of severe housing affordability issues, cities may choose to develop affordable housing if it can be linked with overall urban development objectives, such as urban renewal, improving city identity, and attracting talent.

Finally, while much discussion on the effect of housing mandates points to superior pressure incentivizing local actions (Yu & Xu, 2022; Zhuo et al., 2022), our findings highlight that superior pressure plays a role combining with conditions of local willingness and capacity. In other words, if there is inadequate willingness or capacity, city governments still choose to respond to the hard targets to be assessed under upper-level pressure rather than take diverse actions.

Our research offers policy implications for how to use the mandate as a strategy to facilitate affordable housing implementation at the local level. As city governments are the pivotal participants that address housing issues effectively, they need to be empowered adequately through technical and financial assistance from the central and provincial governments, through appropriately designed schemes and programs. Also, policy makers should adjust the design of the mandate from simply focusing on the construction target to diverse dimensions.

The limitations of this research are in order to increase the comparability between cases, only 41 cities which are high performers in the committed construction units of affordable housing are discussed. Although cities in three regions and most provinces of China have been deliberately selected in the research design to enhance the representation of cases, the lack of attention to specific compliance actions of other cities still brings challenges to the external validity of the study. Therefore, in the following research, we will continue to collect data from more cities, and the sample scope will cover all provinces and cities in China, so as to improve the representativeness of the research samples and the amount of data.

CRediT authorship contribution statement

Luyao Ma: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Zhilin Liu:** Conceptualization, Funding acquisition, Investigation, Resources, Supervision, Writing – review & editing.

Declaration of competing interest

This manuscript has not been under review at another journal or other publishing venue.

The author declares that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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