

Using Social Media Big Data and ChatGPT for Identifying Counter-urbanisation Hot Spots in China

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Abstract

While urban areas remain home to most of the global population, the countryside is increasingly becoming a preferred place of residence, even in some developing nations such as China. Potential benefits and challenges for rural development posed by this counter-urbanisation trend make it essential to monitor its extend and progression. However, in China, statistical data on this phenomenon remains scarce due to the restrictions on rural property ownership by outsiders, who mostly rent properties from individual rural residents, leaving no formal record. This research uses the data from the Chinese social media platform, XiaoHongShu (or RedNote, a platform similar to Instagram), where specific users share their experience renting houses in rural areas or moving back to home villages. A web crawler was developed to collect all these 'big data', which was subsequently cleaned and processed by ChatGPT AI model. To ensure credibility, partial human validation was also applied to AI-generated results. Despite certain limitations, the findings provide original insights into the counterurbanisation trend in China, highlighting its widespread occurrence and identifying several hot spot areas. This study demonstrates that combining social media big data with AI processing offers an effective and timely way to identify human migration flows between urban and rural areas, enabling valuable reference for policymakers and the real estate sector.

Keywords: Big data; ChatGPT; Counterurbanisation; Rural; China

1 Introduction

The countryside has become the preferred place of residence for an increasing number of people, although the majority of the world's population still generally dwell in urban areas. Whereas this phenomenon of rural inflows, termed as counterurbanisation (Berry, 1976), was initially perceived as a form of 'population redistribution' or rural 'population renaissance' (Fielding, 1982) in the early stages during the 1970s and 1980s, emerging research has presented that counterurbanisation carries diverse economic, social and environmental potentials to support local development in both developed and developing countries.

However, in developing countries like China, the lack of relevant statistical migration dataset makes it difficult to monitor and access the extend and progress of counterurbanisation trend, although a growing number of case studies with a focus of rural tourism and rural entrepreneurship has add up nuanced knowledge to enlarge the global counterurbanisation story. This research explored the possibility to use massive social media data source and efficient AI-based data processing methods to generate an overview of the counterurbanisation progress in China.

This paper begins by introducing relevant concept and theories of counterurbanisation, followed by a synthesis of Chinese scholars' perspectives, including dominant understanding, ongoing debate, and methodological approaches. It then examined the challenges associated with using social media data source and AI-based methods in existing literature. Subsequently, this paper outlines the ethic considerations, data source and its limitation, and technical aspects of research methodology, covering data acquisition, data cleaning, AI-based data processing, case mapping, and thematic analysis. The results are presented in two parts: geographic distribution maps of identified counterurbanisation cases and narrative insights into general counterurbanisation patterns and specific cases. Finally, the discussion addresses new findings and their alignment with existing literature, as well as the advantages and limitations of the methodology applied in this study.

2 Literature review

2.1 Counterurbanisation

2.1.1 What is counter-urbanisation?

In the 1970s, attention was drawn to anomalous – at least for the then data – population growth in non-metropolitan America as a result of downward migration by Beale (1975) and this phenomenon was subsequently studied and popularised by Berry (1976) who coined it as 'counterurbanisation'. Robert and Randolph (1983) indicate that counterurbanisation has a clear division between extended suburbanisation and is comprised of both population growth in the hinterland of 'a metropolitan area's "daily urban system"' and movement beyond that system.

The literature has created various taxonomies of different counterurbanisation types based on the location of counterurbanisation and the different motives associated with it. For example, Mitchell (2004) proposed three sub-forms of counterurbanisation: ex-urbanisation (the commuter); anti-urbanisation (those who want to escape from cities); and displaced-urbanisation (households forced to move due to 'new employment, lower costs of living and/or available housing'). Today counterurbanisation is also commonly discussed in the global south and emerging economy contexts (Gkartzios and Halfacree, 2023). The breadth and richness of counterurbanisation research have extended to involve a diverse group of rural newcomers and returnees, to cover various rural areas, and to generate different context-specific experiences of migration worldwide (ibid., 2023).

2.1.2 Rural Incomers

The inflow of rural populations resulting from internal or international movement is commonly observed to follow two directions: primarily downward within urban hierarchies (from urban to rural areas) and, to a lesser extent, lateral migration between different rural areas (Stockdale, 2016).

However, there is no very clear distinction in the types or characteristics of newcomers between accessible and remote rural areas based on the literature review in Table 1, although this may vary geographically and in terms of quantity.

Table 1 Types and characteristics of newcomers in both accessible and remote rural areas

Factors	Accessible rural areas	Remote rural areas
Employment	well-educated (Herslund, 2012) /professional (Burchardt, 2012) /creative class (Herslund, 2012) /artists (Yang and Xu, 2022) /remote working (LiuBai and Ravenscroft, 2023) /entrepreneur (Bosworth, 2010) /retired people (Gallent, 2014)	well-educated (Löffler and Steinicke, 2006) / professional/ creative class/ artists/remote working /entrepreneur/ seasonal <u>proprietors</u> (Shannon and Mitchell, 2020) /retired people (Winkler, 2013)
Income	Wealthy/affluent (Burchardt, 2012) / high-and-middle income (YuWang and Li, 2024)	Wealthy/affluent (Löffler and Steinicke, 2006) / high-and-middle income
Age	young families with children (Herslund, 2012) /retired people (Gallent, 2014)	young families with children (Zollet and Qu, 2024) /retired people (Winkler, 2013)
Motives	returnees (ChenZhang and Wang, 2022) /second-home owner (Gallent, 2014) /tourist (ChenZhang and Wang, 2022)	Returnees (Ji, 2024) /second-home owner (Winkler, 2013) /tourist (Winkler, 2013)/

2.1.3 Factors and Motivations

Generally, rural inflows are driven by two causes of interactions: individuals' will to move to rural areas (personal factors), and the facilitation or permission to do so (macro factors). Despite a little dated, these two causes can also be interpreted as 'desirable' and 'feasible' factors by Beale (1975), or 'motivational' and 'environmental' aspects by Champion (1998). Migration behaviours is typically a combination of macro factors and personal motivations, though the balance between these varies from case to case. The distinction is intended for descriptive purpose only, as these factors often overlap and cannot be clearly separated.

Gkartzios (2013) concluded that 'early research centred around a dualism between economic (or job-led) and quality of life (or people-led) considerations of the migrants involved'. But currently, counterurbanisation has globally become a much more story-based narrative of different experiences and representatives (ibid., 2013).

2.1.3.1 Macro factors

In terms of liveability, the advantages of urban life have been diminished by massing populations (Beale, 1975) and recent or ongoing challenges including covid-19 pandemic and climate crisis (ScottGkartzios and Halfacree, 2024). Whilst the countryside has undergone modernisation and can offer access to more natural and green spaces, safer neighbourhood. And the enhanced mobility and its enabling development, in other words, 'easy transportation and communication' (Beale, 1975) or 'freedom to move' (Berry, 1976), 'wider spread of services and the changing distribution of employment' (Champion, 1998) or 'ruralisation of employment' (Frost and Spence, 1984), further facilitate rural in-migration. Besides, general societal changes, such as increased overall affluence and aging populations (Beale, 1975), have led to the accumulation of individual rural inflows as a demographic trend later accepted as counterurbanisation.

2.1.3.2 Personal motivations

Rural newcomers can have very diverse and personal motives for moving in, which are usually grouped under headings such as employment, housing, neighbourhood, proximity to families/partners/friends or services, preference for living pace or the environment (Halfacree, 1994, Champion, 1998). Each category encompasses considerable variability among individuals and locations.

2.1.4 Implications

In the early stages during the 1970s and 1980s, counterurbanisation was initially only perceived as a form of 'population redistribution' (Robert and Randolph, 1983) or rural 'population renaissance' (Fielding, 1982).

Emerging research has presented that counterurbanisation carries diverse economic, social and environmental potentials to support rural development and local communities. Rural incomers may bring or bridge new investments, create jobs, demonstrate business running and disseminate new commercial concepts. They help maintain the village as a human settlement and 'provide new hope' for locals (LiuBai and Ravenscroft, 2023), "'bridge" social capital' - exchange of skills, knowledge and resources - to the 'closed' or 'more limited' rural network 'to solve collective problems and improve or maintain the wellbeing of that community' (Gallent, 2014). Besides, newcomers tend to introduce organic agriculture or businesses, engage in green volunteer work, and advocate for environmentally friendly construction practices (LiuBai and Ravenscroft, 2023).

However, positive contributions associated with counterurbanisation can remain limited and many issues also have arisen in the literature. Economically, it varies in specific business types and places whether these in-migrant proprietors will create extra or attractive jobs for rural locals and contribute to the 'local' market rather than outside market (Pristed Nielsen, 2022, LiuBai and Ravenscroft, 2023). Incomers may even take away the job opportunities (Yan et al., 2023) or business customers (LiuBai and Ravenscroft, 2023) from locals because of the inequality of marketing knowledge and networks. Socially, the countryside can be reconfigured as alternative settlements, taking into account the fact that amenity and lifestyle inflows are the mainstream of counterurbanisation, which has reportedly led to the loss of some residential services (Clout, 1986, Stabler, 1987, Herslund, 2012), housing affordability and social exclusion issues, and gentrification and displacement problems (Phillips et al., 2021).

2.2 Counterurbanisation in China

2.2.1 The progress of counterurbanisation in China and related debate

Two decades after the introduction of counterurbanisation in the English literature, Chinese researchers like Zhang (1987) started to introduce relevant theory and international cases from developed economies into China concerning the US, the UK, some western European countries and Japan. Drawing on aggregate demographic data Kong and Liu (2011) reported that counterurbanisation happens after the urbanisation rate reaching 70%, while in China it was 51% in 2011 and increased to 70% by 2021.

However, there has been debate about what kinds of rural incomers can be identified as counterurbanisers, or whether China has been experiencing a counterurbanisation process. Some Chinese scholars such as Cai and Zhou (2014) regarded working-class rural returnees who constituted the dominant rural inflows during periods of economic crisis as counterurbanisers. But, Liu and Li (2017) argued that these crisis rural returnees in China

cannot be treated as counterurbaniser but stakeholders who are just 'unable' to urbanise rather than those who are 'unwilling' to migrate to cities (Xue and Zhang, 2017). Similarly, Wu (2020) also found that Chinese governments historically promoted young people moving to rural areas during periods of economic depression and high urban unemployment rate. And this promotion always failed to meet government expectations, as evident by the subsequent return of these rural incomers to urban areas.

Duan (2015) highlights that urban out-migration was closer to sub-urbanisation rather than counter-urbanisation. These rural inflows and outflows in China were just a dynamic process of migration distinct from the counterurbanisation in western countries, which occurs in the premise of relative balance between urban and rural infrastructure and public service provision (ibid., 2015). But most Chinese rural areas were significantly underdeveloped then.

Beyond western counterurbanisation paradigms, Chen (2020) emphasises the profound cultural foundation in China that historically motivated Chinese educated gentry moving to rural areas whether for retirement or pastoral seclusion. This Chinese traditional cultural foundation can be associated with the new term, 'imagined rurality', that Yang and Xu (2022) employ to frame Chinese gentrification phenomena or British 'rural idyll'. Also, it parallels the western notion of anti-urbanisation involving those who want to escape from cities (Mitchell, 2004).

Besides, Li (2017) offers a nuanced interpretation, acknowledging that while the migration patterns in China have not yet to exhibit full-scale counterurbanisation, related phenomena are emerging in diverse forms—including an increasing number of rural amenity consumers and diverse rural returnees, such as rural tourists, outside retirees, tenants from cities, and returning entrepreneurs—across multiple regions.

The challenge in measuring counterurbanisation in China lies not in mapping western models directly but in exploring its unique and emerging forms through a bottom-up approach. This involves examining everyday practices, imaginations and representations in relation to rural in-migration.

2.2.2 General methods to investigate counterurbanisation in China

Regardless of the debate around the understanding of counterurbanisation by Chinese scholars, the methods they adopted mainly include case studies and qualitative interviews, or statistical analysis, quantitative questionnaire sampling, and Roxy model indexing.

Specifically, case studies and qualitative interview methods tend to focus on analysing individual motivations for rural incomers, their local life and social network development, and implications of counterurbanisation. Typical cases in literature include middle-class inflows in Dali, Yunnan Province, China (Zhang, 2018), entrepreneur in-migrations (tourism entrepreneurs in Yiwu (Wang, 2022) and Hangzhou (Zhou, 2024), Zhejiang Province, China, agricultural entrepreneurs in Yaoan, Yunnan Province, China (Wei, 2022)), seasonal second-home flows traveling more than 600 kms between Lichuan and Wuhan, Hubei Province, China (Xu and Xu, 2023).

Quantitative methods based on secondary data generally are applied to monitor the extend of counterurbanisation trend in certain geographical regions with discussions around its causes. For example, Wang (2024) sampled 312 villages in Guangdong Province, China, and sent questionnaires to local village councils or town governments investigating whether there were rural incomers. Fan (2022) used agricultural census data to analyse the population changes in 3, 772 villages in Beijing, China. Several researchers applied statistical data to structure Roxy index model which is close to the deconcentration of population in cities (Tang and Xiao, 2017) to identify the 'counterurbanisation situation' in Beijing, Tianjin, Shanghai cities (Tang and Xiao, 2017), urban agglomerations alongside Yangtze River Basin (Zhang and Mei, 2020), or Yangtze River Delta (Chen, 2023).

2.3 Quantitative and qualitative research using AI-based methods

Researchers often face challenges when analysing collected data—whether quantitative or qualitative—via specialised software R, Stata, SPSS, Python or NVivo. These tools frequently demand expertise that extend beyond

'an individual's established skillsets and technical knowledge' (PrandnerWetzelhütter and Hese, 2025). Particularly, qualitative content analysis is 'notoriously time and labor intensive because of the work to detect, assess, and code a large amount of data' (Bijker et al., 2024), compared to usually well-structured quantitative data.

Scholars have been exploring how to use machine assisted methods, or more precisely Artificial Intelligence (AI), to reduce data analysis burden and accelerate the process. These methods evolve from machine learning, pre-trained/fine-tuned models, to large language models. However, it can raise two main questions (Morgan, 2023): a) whether AI methods can produce similar results without the demanding process by human; and b) whether the simplicity of using AI methods and time savings worth the effort. Generally, AI methods are more adapted in qualitative research and more deeply involved in qualitative data analysis. According to the search results in Scopus database with keywords 'AI + qualitative/quantitative research' on 28 April 2025, qualitative group outweigh quantitative set by 4292 versus 3432. And AI methods often are only applied to help with scripts, get help for visualisation in quantitative research (PrandnerWetzelhütter and Hese, 2025).

Large language models developed in the past few years, such as ChatGPT, are proved to be acceptably effective, efficient, and simple to apply in a variety of settings. It is argued that ChatGPT can 'create code, category and theme, cite directly from within the text, interpret data sets, and analyse the meaning at the core of the data sets' (ŞenŞen and Şahin, 2023), and 'performed better in developing an inductive coding scheme that emerged from the data than adapting an existing framework into an unconstrained coding scheme or coding directly into a structured matrix' (Bijker et al., 2024). Specifically, many social science researchers use ChatGPT chatbots to interactively code interviews, focus groups, social media posts and the like, either big or small data, which is 'quite easy to use and required very little effort' (Morgan, 2023). For example, Bijker et al. (2024) used the ChatGPT chatbots in ten different dialogues to analyse the same 537 forum posts data, and generate ten versions of responses. When comparing with the results from three human, the precision of ChatGPT results were evident to range from 66% to 88%, which is 'fairly reliable' (ibid., 2024).

However, using AI methods does not mean there is no need for any human work. Bijker et al. (2024) stated that AI generated results also require various postprocessing steps to clean the data and check whether responses are in line with the instructions. Regardless of how many argue for the reliability of AI methods, human validation remains essential—not only to build trust for the researchers themselves but also to ensure credibility for readers and broader audiences.

3 Methodology

3.1 Ethical considerations

The ethic concerns for using social media data and AI methods were considered (London School of Economics and Political Science, 2025) during the whole process of data collection, processing and reporting.

The data collected from the social media platform, XiaoHongShu (, includes posters' user name (all pseudonyms), profile URL, postdate and post IP (provinces – the first-level administrative division in China, if available), posts' title, content and hashtags, comments replied by the poster. The general location of their house (such as village name or city district), tenancy conditions, personal emotions, marriage status, employment status may be involved. This information may be considered as sensitive or private but technically, it is open data which originally is published to all the users on XiaoHongShu platform, and the original intention of these posters is to share this information to present a whole story to all the other users.

Following the anti-crawler restriction of XiaoHongShu platform, a two steps web crawler was developed based on python using Google Chrome to automatically explore the XiaoHongShu platform and save targeted data properly simulating human behaviours.

Subsequently, these data were cleaned and processed in Python using OpenAI API¹, which accesses the ChatGPT AI model. According to the OpenAI Data Usage Policy (OpenAI, 2023), data submitted through the API will not be used for training purposes but retained for 30 days to monitor potential abuse and misuse. Regarding concerns about bias, inaccuracy and misinformation, in the research, ChatGPT AI model was applied solely to extract targeted information, primarily through direct quotations in the original language (Chinese). And the accuracy of any directly quoted information in this paper were double checked.

Data reported in this paper will not be identifiable for original posters and the quotations either direct or indirect are also all anonymised or paraphrased to avoid this issue. Additionally, we took care to translate the quoted text from Chinese to English but we accept that some details and nuances may have been lost (LiuBai and Ravenscroft, 2023). Besides, location data-without any other identifiable information about the poster-will be converted into geographic coordinates using Gaode Map (a Chinese navigation service provider) API and visualised on national base map of China using ArcGIS Pro only to show the rough distribution of these rural incomers.

3.2 Data collection

3.2.1 Data source and limitations

The data for this present paper comes from one of the main Chinese social media platforms, XiaoHongShu (<http://xiaohongshu.com>) that translates to 'the small red notes'. Its function is similar to Instagram where 320 million² of the 1.4 billion Chinese share their daily lives. Many rural second home tenants and rural returnees make posts sharing their rural relocation experiences. Although the number of these posters is relatively small compared to the Chinese population and can only represent certain groups especially young generation, this data source still supplements the absence of official statistical data related to counterurbanisation in China and provide an insightful lens to explore the spread of this migration phenomenon. These bottom-up representations are intrinsically connected with Chinese culture and as such provide a fascinating dimension towards understanding China's counterurbanisation. As Halfacree (2008) argues, the 'more culturally imaginative dimensions of counterurbanisation also come through in the way the phenomenon is represented in popular telling of the counterurbanisation story' (p489-490).

In addition to being limited to specific user group, each social media post collected from XiaoHongShu platform may not contain all the targeted information. Consequently, the total number of valid cases varies across different thematic analysis.

3.2.2 Raw data collection: a web crawler

Following the anti-crawler restriction of XiaoHongShu website, a two steps web crawling strategy was developed based on python using Google Chrome to automatically explore the website properly simulating human behaviours and on 24 December 2024, recorded 668 counterurbanisation related posts covering 644 different posters. At step one, the web crawler searches by two sets of keywords in Chinese, which can be translated into 'rent in countryside/rural areas/villages' and 'return to countryside/rural areas/villages from cities'. Given the complexity of the term rural outside anglophone uses (GkartziosToishi and Woods, 2020), we have used five original Chinese keywords in total trying to include all related data considering the multi expressions of 'countryside' in Chinese. The four keywords, in group 'Rent in countryside/rural areas/villages', were searched in the order as shown in Table 2 and duplicated posts were excluded during web crawling. Post URL, title, poster username and poster profile URL were recorded. At step two, the web crawler browses recorded poster profile to open the targeted post recording its contents, hash tagged topics, comments replied by the author, postdate and post IP (if available), which is saved in spreadsheets like Table 3.

1 An API (Application Programming Interface) allows applications or code to send request to another service and receive data or results in return. In the case of web APIs, URL addresses typically serve as endpoints that specify where the requests should be directed. In this research, API services were used to automate batches of data processing tasks.

2 Data from https://www.sohu.com/a/842803232_121846117

Table 2 Relevant posts in XiaoHongShu website

Keywords (Translated)	Keywords (Original Chinese)	Posts with con- tents	Covering peo- ple	Posts with IP
Rent in countryside/rural areas/villages	农村租房住	203	188	129
	乡村租房住	111	109	74
	乡下租房住	85	83	59
	村里租房住	81	80	45
	*Sub total	480	460	307
Return from Cities	城里回村住	188	184	55
In Total		668	644	362

Table 3 examples of data obtained from XiaoHongShu website (incomplete, anonymised and rephrased)

			Author		Note				
Post ID	IP	Post date	Author profile	Title	URL	Content	Comments replied	Search keyword	Search date
1	江苏	2024-11-28	*	去乡下租院子*	*	我们与乡村 [[comments: 转租吗, 'a 农村租房住			2024-12-04 15:33:05.960802
2	北京	2024-10-26	*	别来村里租房	*	如果你想在考 [[comments: 今年搬进; 农村租房住			2024-12-04 15:33:28.250602
3	上海	2024-12-04	*	*几亩/月我找到了人*		在*农村租到 [[		农村租房住	2024-12-04 15:33:39.380422
4	上海	2024-11-04	*	请问*房子 能满足这*		远离城市的 [[comments: 这个房子; 乡下租房住			2024-12-04 15:33:55.570771
5		2024-06-04	*	一个人住着月租100€*		十八线城市 [[comments: 生活太美; 农村租房住			2024-12-04 15:34:18.481639
6		2024-06-10	*	签了10年的农村租房*		大概4年前, [[comments: 那么好的; 农村租房住			2024-12-04 15:38:57.035989
7		2024-08-16	*	想在农村租房子, 没*		*因为第一次 [[comments: 租房装修; 农村租房住			2024-12-04 15:39:22.496740
English Translation									
1	Jiang	2024-11-28	*	rent in the countryside*		we and the v [[comments: subretting; rent in the countryside			2024-12-04 15:33:05.960802
2	Beijin	2024-10-26	*	Do not rent in the vill*		if you're cons [[comments: move in th; rent in the countryside			2024-12-04 15:33:28.250602
3	Shang	2024-12-04	*	several hundreds pcm*		Rent in a villi [[		rent in the countryside	2024-12-04 15:33:39.380422
4	Shang	2024-11-04	*	which kindd of house*		keep away fr [[comments: still rent ti rent in the countryside			2024-12-04 15:33:55.570771
5		2024-06-04	*	live alone in an ¥100*		a remote villi [[comments: wonderful; rent in the countryside			2024-12-04 15:34:18.481639
6		2024-06-10	*	10 years tenancy cont*		4 years ago, [[comments: such as go; rent in the countryside			2024-12-04 15:38:57.035989
7		2024-08-16	*	want to rent in the co*		first time rer [[comments: the protec; rent in the countryside			2024-12-04 15:39:22.496740

3.3 Data Process

3.3.1 Data clean and key information extraction: ChatGPT

3.3.1.1 Information extraction piloting

Five sets of information are established to be coded into 'Post Information', 'Poster Information', 'House Information (include house location)', 'Tenant or Returnee-Specific Information', 'Letting or Renting-Specific Information'.

10 posts covering various posts were picked to pilot the information extraction results by human and batch ChatGPT 40-mini-2024-07-18 model, showing an 87% average accuracy with no key information missing only some small mistakes (e.g. identify a 'landlord' as 'returnee') and different information grouping (e.g. save 'village description' in 'complaints').

3.3.1.2 ChatGPT prompts and batch

A clear prompt is expected to go with these posts to tell ChatGPT what task it is, steps to follow, and which information to extract and extraction requirements.

First it is suggested to ask ChatGPT to adopt a persona, such as

'You are an information extraction assistant. Follow the steps below to extract targeted information with delimiters '*' from social media posts provided. And structure the output as JSON³ format.'

3 JSON (JavaScript Object Notation) is a lightweight, text-based format for storing and exchanging data. Results in JSON format are saved as Excel spreadsheets later through Python.

Second, considering the original language of the social media data is Chinese, it is better to require ChatGPT to use original language:

'Requirements for extraction: if there is targeted info, use original text from the post as detailed as possible and do not translate it into English.'

Third, after checking the relevance to counterurbanisation topic, ask ChatGPT to extract targeted info one by one using human language, such as:

House Information:

- House Location: Where is the house located?
- Refurbishment: (Options: refurbished, needed refurbishment, no need)
-

Once the prompt is established, it is very easy to use the codes provided on OpenAI platform to submit batch information extraction requests. Calling ChatGPT-4o-mini to batch the tasks in non-peak hours costs around one day for all returns and less than \$0.01 for one request covering approximately at most 100 thousand words inputs and 25 thousand words outputs.

Table 4 ChatGPT batch input examples (anonymised, rephrased and translated by ChatGPT)

Post content go with the prompt	Post comments go with the prompt
Chinese Original ID: 26 title:*, 租到600元山上的房子 post by* on 2024-09-10 in 广东 with content: 今年四月, 我因公司裁员而离职, 带着赔偿金开始了一段随心所欲的旅行, 走访了多个城市。随着时间推移, 我对大城市的喧嚣愈感到厌倦。九月, 我来到了这个被绿色环绕的小县城, 租下了一间每月仅600元的山景房。每天清晨, 拉开窗帘便能看见青翠的山峦, 阳光洒满整个房间。房子前面是热闹街道, 后面则是宁静的乡村, 真正实现了“出门在市井, 归家入山林”的生活。日出日落之间, 山色光影不断变化, 我沉浸在风声、雨声、朝霞与晚霞之中。散步成了我最享受的日常。在这里, 我的思绪慢了下来, 曾在大城市中积累的焦虑逐渐被抚平。连续熬夜五个月的我, 终于开始按时入睡。皮肤也肉眼可见地变得细腻白皙, 痘痘消失了。从小我就有一个隐居的梦想。还记得高中时第一次读到“离群索居”这个词, 内心便怦然心动。那时我特别喜欢李白的山水诗。王维的田园诗, 常常在笔记本上抄写和背诵。我原以为要等到四五十岁退休后, 才能实现山水田园的生活。没想到在30岁这一年, 我就提前实现了这个梦想。真的感到非常幸福, 也非常幸运。 #隐居 #山居生活 #躺平 #低成本 #失业 #裸辞 #租房 Translation ID: 26 title:30-year-old girl unemployed, moved into a 600 yuan mountain view room post by * on 2024-09-10 in Guangdong with content: After being dismissed by the company in April this year, took the compensation to open the roaming, to play a few cities. More and more tired of the big city, September came to this small county full of green, living in the 600 yuan mountain view room. Every morning when I woke up and pulled open the curtains is the green mountains, sunshine sprinkled all over the house. In front of the house is a lively street, behind the house is the countryside, really out of the downtown, home hermitage. Every day, you can see the green mountains from sunrise to sunset, in different light and shadow of each moment. Listening to the wind, watching the rain, watching the sunrise and chasing the sunset. Walking has become the most enjoyable thing in my daily life. Thinking just slowed down, and some of the anxious nerves from the big city were soothed. After 5 months of staying up late, I finally went to bed on time. My skin went from pore size to fine, yellowish black to fair, and acne disappeared as far as the eye could see. My childhood dream of seclusion was realized. I remember reading the word "seclusion" in high school, and my heart thumped like a deer in the headlights. At that time, I loved Li Bai's landscape poems and Wang Wei's idyllic poems, and I copied one after another in my notebook, and I memorized one after another. I thought I would have to retire in my forties or fifties before I could realize my idyllic landscape. I didn't expect to suddenly realize my dream of seclusion just in the year I turned 30. Really happy and lucky- #seclusion #mountain life #flying flat #low cost #unemployment #naked resignation #rental housing	Chinese Original (incomplete) [[('others: 对于隐居来说房租太贵, 你这是短暂疗伤可以', 'author: *农村等地更便宜, 但我更看重交通便利和山景, 这里最合适'), ('others: 白天睡觉会吵吗作息颠倒的夜猫子的疑问', 'author: 有时外面施工, 会有点吵'), ('others: 这是多大平米的房子? 单人套房吗? 有独立厨房卫浴吗?', 'author: 三室三卫一厅, 客厅有厨房区'), ('others: 这是“进入一点”, 'author: 是的, 你很熟悉啊'), ('others: 感觉还不错, 生活方便吗, 购物买菜呢? 这种山里要注意蚊虫吧', 'author: 骑电瓶车十分钟买菜, 外卖能送, 附近也有饭店'), ('others: 大风景就是美丽', 'author: 如画中游'), ('others: 600一个月?', 'author: 是的, 是和朋友合租的一间房'), ('others: 这个价格是合租吗?', 'author: 是的')]] Translation [[('others: rent is too expensive for a hermitage, you're a short-term healing can', 'author: rent is cheaper in many places, such as the silver beach in *, 2,000 yuan can be rented for a year, or two or three thousand a year inside the countryside, but for me to be easily accessible, and to go out to the nature, and also need a mountain view, the house would be more than suitable'), ('others: daytime sleep will be noisy? work and rest reversal of the night owl's questions', 'author: Sometimes there is construction outside, will be noisy'), ('others: this is how big square meters of the house? Is it a single room? Does it have a separate kitchen and bath?', 'author: three rooms, three bathrooms and one living room, with a kitchen area in the living room'), ('others: This is the entrance to the * a little bit', 'author: Yes, you're familiar with it'), ('others: It feels pretty good, is it easy to live in, and do you shop for groceries? This kind of mountain should pay attention to mosquitoes, right?', 'author: Riding a battery car, ten or so minutes, shopping for groceries. The takeaway can be there. There are also restaurants nearby'), ('others: The scenery of Great Guangxi is just beautiful', 'author: Like swimming in a painting'), ('others: 600 a month?', 'author: Yes, but it's a room, shared with a good friend') ('others: Is this price shared?', 'author: Yes'), ('author: yes') ...]]

Table 5 ChatGPT outputs example (anonymised)

Targeted info	Outputs (original)	Outputs (translated)
Post Info		
Post ID	26	26
created_time	2025-01-14 01:52:49	2025-01-14 01:52:49
model_used	gpt-4o-mini-2024-07-18	gpt-4o-mini-2024-07-18
Relevance	Yes	Yes
Post Location	广东	Guangdong

Targeted info	Outputs (original)	Outputs (translated)
Date of Post	2024-09-10	2024-09-10
Poster info		
Poster Type	Returnee	Returnee
Employment Status	Unemployed	Unemployed
Work	线上工作	work online
Commute	工作在线	work online
Marriage Status	single	single
Gender	Female	Female
House Info		
House Location	*	*
Village Description	这个满是绿色的小县城，房子前面是热闹的街道，房子后面就是乡村。	This small county full of green has lively streets in front of the houses and countryside behind them.
House Rental	600元	600 yuan
Contract Duration	/	/
House Size	/	/
Floors	1	1
Bedrooms	3	3
Bathrooms	3	3
Kitchen	有厨房区域	has kitchen
Living Rooms	1	1
Refurbishment and how	不需要	no need
Refurbishment Cost	/	/
Facilities and accessibility	附近有吃饭的店，骑电瓶车十几分钟可以买菜，外卖也可以送到。	There are eating establishments nearby, and you can buy groceries in ten minutes by electric bike, and take-out can be delivered.
Tenant or Returnee-Specific Information		
Date of Move-in	2024-09-01	2024-09-01
Length of Stay	1 month	1 month
Rental Contract Duration	/	/
People in the House	和好朋友合租	rent with friends
move in rural areas	越来越厌倦大城市，想实现隐居梦想。	Growing tired of the big city and wanting to realize the dream of seclusion.
move in this village and this house	因为环境优美，出门就是热闹和自然。	Because of the beautiful surroundings, the buzz and nature are right outside your door.
Satisfaction Level	Very good	Very good
Descriptions related to satisfaction	真的很幸福，很幸运。	really happy and lucky
Difficulties/Complaints	有时候外面有施工，会吵。	Sometimes there is construction outside and it can be noisy.
Letting or Renting-Specific Information		
Advertised/Expected Advantages	环境优美，适合隐居，同时交通便利，出门方便。	The setting is beautiful for seclusion, while the transportation is convenient for getting out and about.

3.3.2 Data clean and selection

After processed by ChatGPT-4o-mini-2024-07-18 model, the 668 outputs still required cleaning for further analysis (Table 6), leaving 426 posts from 394 unique posters. The cleaning work based on the ChatGPT-generated outputs and manual filtering. Specific cleaning includes excluding posts not in China, posts not relevant to counterurbanisation, and updating other miscellaneous information such as location and poster types. The effort of updating unspecified or unclear house location aims to safeguard the credibility of further cases mapping in ArcGIS pro. Besides, 222 entries of rural incomers were extracted out, including 66 cases of rural returnees and 142 rural tenants. Posts from one same poster are merged using an Excel formula⁴.

Table 6 Data cleaning and selection

Criteria	Method	Processed /posts	Remain /posts (668)
Not in China	Human (post IP) ChatGPT (content)	16 (excluded)	652
Not relevant	ChatGPT Human (occasionally)	189 (excluded) 35 (excluded)	463 428
House location	Unspecified house location (e.g. '村子 (a village)', '县城 (a county)', '老家 (hometown)' Unclear house location (e.g. only has town or village name)	175 (update)	428
Occasional corrections	Human (after ChatGPT): Blank poster type update (14) Poster type (8) Employment status (5)	27 (updated)	428
Rural incomers: tenants, tenants (subletting), returnees	Human (after ChatGPT): filtered by poster types merged posts by the same poster	66 (returnees) 142 (tenants) 28 (merged into 14)	208 (posters) 222 (posts)
Mapping rural incomers: tenants, tenants (subletting), returnees	Human (after ChatGPT): excluded posts without location information, categorised the precision of house location into three levels	58 (excluded) 26 (Province level) 74 (City level) 50 (Village level)	150 (posters)

3.4 Data Analysis

3.4.1 Mapping

To identify the counterurbanisation hot spots in China, Geocoding and ArcGIS Pro are applied to map the location of recorded rural incomers. Geocoding is the process of converting addresses or place names into geographic coordinates. Locations of rural incomers—such as accurate village names, or rough city/county/province names and nearby tourism attractions—were processed in Python⁵ using GaoDe Map (or Amap, one of the main Chinese

⁴ Formula example: =TEXTJOIN(" ", TRUE, IF(A2:A100=A2, B2:B100, ""))

⁵ The script was published in <https://gitee.com/sidchen0122/coordinates-convertoor>

navigation service providers) API. For imprecise locations, GaoDe Map will use the geographical coordinates of their administrative governments-usually located in the city centre-as replacement. For example, if the rough location is Shanghai, returned geographical coordinates will be the Shanghai City Government. Subsequently, all these coordinates were loaded into ArcGIS Pro to create XY points on the base map of the whole China. Since there were too many points overlapped in one same location, Kernel Density analysis⁶ was conducted to provide a clearer view of the concentration of rural incomers (exclude very rough province level house locations).

3.4.2 Thematic analysis

Thematic analysis aims to construct a general narrative of counterurbanisation in China, focusing on the associated population groups, their characteristics, motivations and levels of post-move satisfaction. For each theme, Excel's filtering and statistic tools like PivotChart were used to extract and summarise relevant information. However, due to occasional inaccuracies in ChatGPT-generated outputs, researchers were required to manually correct certain text coding and revisit original social media posts.

4 Analysis results

4.1 Overview of counterurbanisation hot spots and general distribution

As shown in Figure 1, Figure 2, and Table 7, identified counterurbanisation migration in China has presented to be relatively widespread covering general South and East China, with a high concentration in the Yangtze River Delta region (Shanghai, Zhejiang, Jiangsu), Beijing, Chengdu (Sichuan) and Dali (Yunnan), and less concentrated around Guangzhou (Guangdong), Chongqing, and Changsha (Hunan). Apart from these metropolitan areas, there were also many counterurbanisation cases in Shandong Province and Guangxi Province (Table 1).

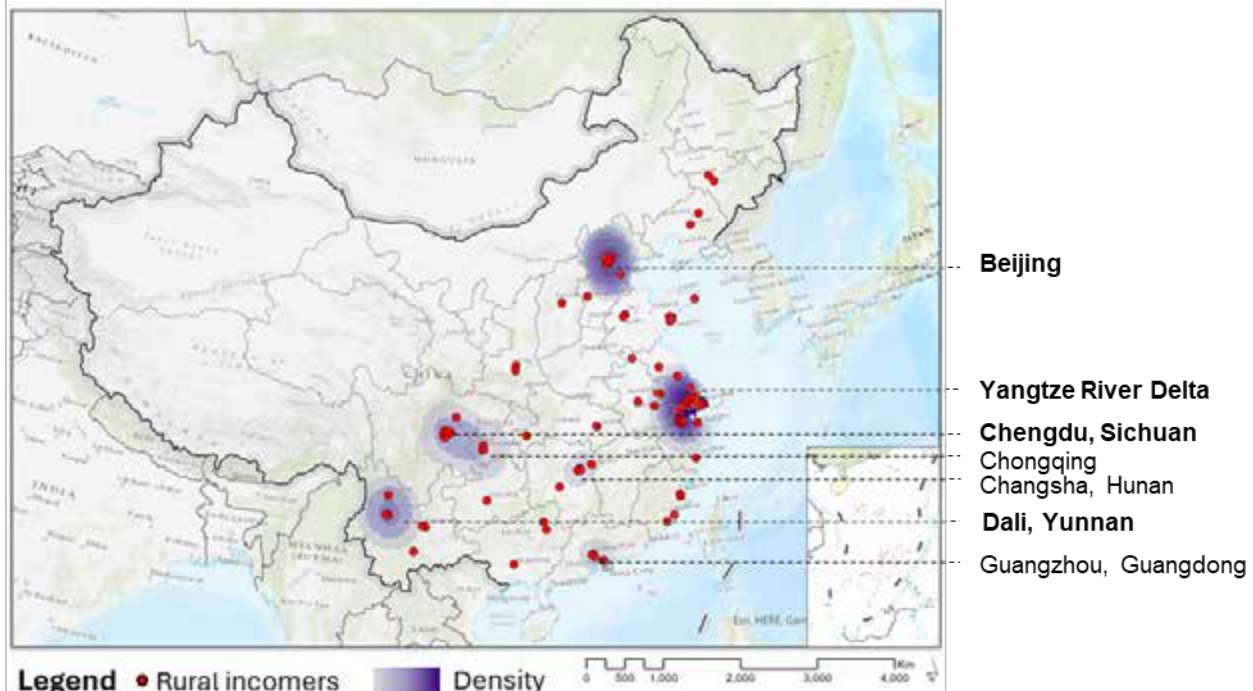


Figure 1 Distribution and Density of Rural Incomers

(Topographic basemap provided by ArcGIS Pro; boundary data obtained from China standard map service: <http://bzdt.ch.mnr.gov.cn/>)

⁶ 'Calculates a magnitude-per-unit area from point or polyline features using a kernel function to fit a smoothly tapered surface to each point or polyline.' (<https://pro.arcgis.com/en/pro-app/latest/tool-reference/spatial-analyst/kernel-density.htm>)

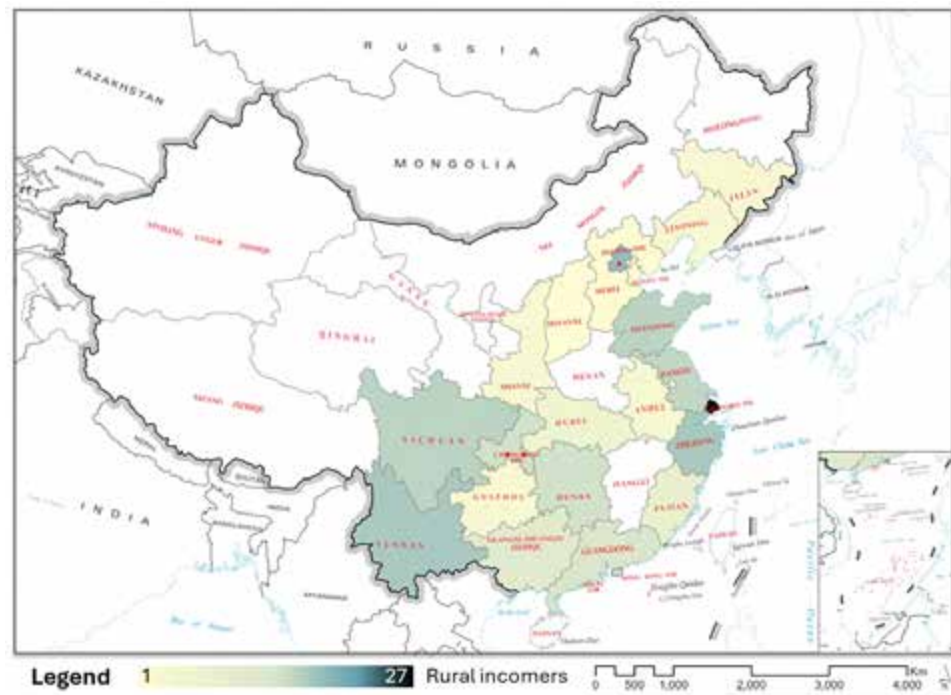


Figure 2 Distribution and Density of Rural Incomers by Province
(Basemap obtained from China standard map service: <http://bzdt.ch.mnr.gov.cn/>)

Table 7 Distribution of Rural Incomers by Province

Province & Region		Incomers	Province & Region	Incomers
Yangtze River Delta	Shanghai City	27	Fujian	4
	Zhejiang	14	Hubei	3
	Jiangsu	9	Anhui	2
Beijing City		22	Shaanxi	2
Yunnan		14	Liaoning	2
Shandong		10	Jilin	2
Sichuan		10	Guizhou	1
Chongqing City		7	Hebei	1
Hunan		7	Shanxi	1
Guangdong		6	Tianjin City	1
Guangxi		5	Grand Total	150

4.1.1 Identified counterurbanisation hot spots

Zooming in onto these hot spots, it is found that most counterurbanisation cases are in metropolitan areas (examples in Figure 3) with good transportation connections and natural resources enabling both urban and rural amenity consumption. This is a typical scenario for counterurbanisation—living within a ‘daily urban system’ (Robert and Randolph, 1983).



Beijing

Shanghai

Chengdu

Legend • Rural incommers

Figure 3 Counterurbanisation cases in selected hot spot areas
(Topographic basemap provided by ArcGIS Pro)

To be more precise (Figure 4), the distance from the village populated by rural incommers to nearby city centre usually are within 50 km requiring 1-1.5 hrs driving or bus, calculated through GaoDe Map navigation API based on 54 valid cases with precise village level location.

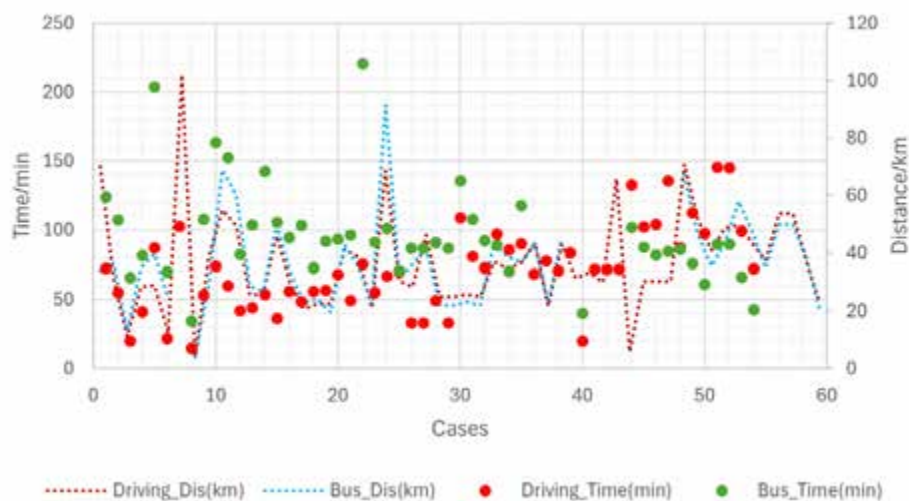


Figure 4 Navigation distance and time from recorded villages to city centre by car and bus
(Calculated using GaoDe Map navigation API)

Most of these hot spots (Figure 1) have been documented in the literature (see, for example, section 2.3) with comparative fewer mentions of cases in Changsha City, Chongqing City, Shandong Province and Guangxi Province. Besides, existing literature mostly focuses on tourism-oriented villages, tourism or agriculture entrepreneurship incommers, gentrification phenomenon, or population deconcentration in metropolitan areas.

However, beyond these counterurbanisation narratives, there remain a number of cases within identified hot spots where stakeholders have relocated to the general countryside primarily for residential purpose. To provide a concrete illustration of identified residential counterurbanisation, three cases were selected from top hot spot areas (Table 8).

For Shanghai case (case ID:⁷ 41), the tenant rented a two-floor rural house living with children. There is a metro station in 10 minutes away by car and the tenant need around another 1.5 hrs commuting to work on metro. It was considered convenient to live in the village due to the accessibility of essential facilities and the availability of home delivery services. This individual expressed that ‘the aspiration to live in Shanghai—as an outsider—is fulfilled by moving to the beautiful “socialist new countryside”, where I have a yard, vegetable fields, and a small forest nearby’.

For Beijing case (case ID: 538), the tenant had lived in a small rural house with two bedrooms for two years and commuted to work by a 40-minute drive. This individual was very satisfied with the comfortable and convenient life there. One wonderful moment was ‘enjoying sunshine at the yard, getting a cup of coffee, feeling the breeze, listening to the birdcall or music, and petting the dog’.

For Chengdu case (case ID: 190), the tenant rented a whole rural house (about 1,000 m²) in west Chengdu for 20 years when this individual will be 50 years old. The individual spent ¥280,000 on all refurbishment work. Adding up the average refurbishment expense to original rental, the monthly rent was ¥2500, which was five times cheaper than ¥1,2000 for a similar size property in the nearest cheapest urban district⁸. And the house was just rented for private living rather than commercial purposes.

The selected Shandong case (case ID: 216) is in the provincial capital city of Shandong, Jinan City. It is a little bit similar to Shanghai case in terms of location, although Jinan is far less developed, with a per capita GDP of around ¥55,000 in 2024—four times lower than Shanghai’s ¥217,000. The tenant rented a rural house in the northeast of Jinan. There is a railway station and metro station (connecting to the airport) nearby. The rent was cheap, and the house included a yard and a vegetable field with clean and green neighbourhood and welcoming villagers. This individual said, ‘I deeply regret not renting (a similar rural house) earlier’.

⁷ Case IDs are anonymised reference to individual social media posts in the dataset.

⁸ It is ¥12 per square metre per month in Shou’an County, Wenjiang District, Chengdu. Data from website: <https://cd.bendibao.com/fangchan/2025418/196937.shtm>

Table 8 Selected counterurbanisation cases in hot spot areas (Imagery basemap provided by ArcGIS Pro)

Case	Location	Village
Qingpu, Shanghai case		
Haidian, Beijing Case		
Wenjiang, Chengdu case		imprecise location
Jinan, Shandong case 216		

4.1.2 Widespread occurrence in East and South China

This research highlight the widespread occurrence of counterurbanisation in general East and South China. Both existing literature and identified hot spot areas in the previous section predominantly concerned with the most developed (Shanghai and Beijing) or well-known regions (Dali) in China. However, even based on the limited data source (Figure 1, Figure 2), evidence suggests that counterurbanisation cases also occur in less developed areas in general South and East China (1-2 cases for each province as shown in Table 7). These cases, however, are also located near the provincial capital cities—typically most developed district in their respective regions—reflecting both the general improvement of societal wealth and emerging signs of the counterurbanisation tendence.

Once again, several residential counteruabnisation cases are illustrated below (Table 9) to enrich existing counter-

urbanisation story in China with newly observed scenarios.

For Changsha case (case ID: 225) in south-central China, the tenant decided to rent a rural mountain house for 20 years after coming across it when driving by. It is located 20 km away from the centre of Changsha city, approximately half an hour driving away. The refurbishment work was estimated at ¥200,000 and monthly rental was ¥300. This individual said, 'at my youth, I felt exhausted and anxious about building a life. my dream was simple: have a house with a garden. Now, in middle age, I gathered courage to reconnect to the nature and to rest peacefully in that garden'.

For Liaoning case (case ID: 116) in the northeast of China, the tenant paid only ¥50 for a rural house with two bedrooms and vegetable fields in both the front and back yard. This individual spent summer there with families and moved back to urban home during winter because of the coldness. The biggest motivation for having a rural second home was to 'growing vegetables' and experience rural life.

For Xi'an Case (case ID: 199) in central China, the tenant rented a huge rural house in the south to Xi'an City, with 4 bedrooms and a large garden. It is 40min driving distance away from nearby city centre and 10min on motor-cycle to nearest county centre. The commuting time to the city is similar—or even shorter—due to lighter traffic. This individual lived with families and parents, and was motivated by the concern about virus in cities, aiming to prevent the child from falling ill too often. This individual's one-and-a-half-year-old child and parents were very happy to live in a home with bigger space for daily activities. Besides, the house is very close to many nearby orchards and mountain valleys. The tenant felt very satisfied to live there, 'I find myself liking this place more with every passing day'.

Table 9 Selected residential counterurbanisation cases in South and East China (Imagery basemap provided by ArcGIS Pro)

Case	Location	Village
South-cent- ral China: Lianhua County, Changsha case		
Northeast China: Fus- hun, Liao- ning case		imprecise location



4.2 General counterurbanisation stories in China

Based on recorded social media posts, two main groups of rural incomers were identified: rural returnees (66 records), who moved back to home villages, and rural tenants (142 records), who rented houses in rural areas—although most rural tenants also originally came from the countryside. This distinction was made in consideration of differing challenges each group faces when integrating into village life, particularly in terms of land ownership and social bonding. However, these two groups were found to share many similarities regarding personal characteristics, migration motivations, post-move satisfactions—an unsurprising outcome, given that both involves transition from urban life to rural life. Nevertheless, quantitative comparisons were constrained due to the limited data source.

4.2.1 Personal characteristics

Recorded rural incomers consist of a variety of groups, including the employed, unemployed and retired (Table 10). Individuals who commute to work outside the village typically travel by electric motorcycles for 10 to 30 minutes, while a few drive cars for journey over 40 minutes. Self-employed tenants usually work from home or within the village, for example running business such as homestay or engaging in artistic work.

Table 10 Employment status of rural incomers

Poster type	Employed	Work Online	Self-employed	Unemployed	Retired	blank	Grand Total
Tenant	40	1	7	4	2	88	142
Returnee	10	0	5	2	2	47	66
Grand total	50	1	12	6	4	135	208

4.2.2 Migration motivations

There is no significant difference in migration motivations between rural returnees and rural tenants. Although it is generally easier for returnees moving back—since they already own a rural house and farmlands and are members of local communities—relocating to rural areas fundamentally reflects the shift of preferences from urban to rural life. Specifically, for example, the difference can be that rural returnees may have rural parents to visit or live with, whereas rural tenant may choose to rent a rural house because their parent who originally come from countryside struggle to adapt to urban life. Generally, their key motivations—often individually mixed—can be grouped under eight headings, acknowledging potential overlapping among them.

'Escaping' from cities and shift to (imagined) 'rural life'. Many rural incomers indicated that they were seeking refuge from the noisy, congestion and health risks of urban environment. Their relocation patterns varied; some moved temporarily, such as for a weekend, to get recovered from tiring work or life in cities; others relocate seasonally to enjoy more milder climate; and some opted for almost permanent settlement, exemplified by long-term tenancy agreements up to 20 years. From their perspectives, rural life is quiet, slow-paced, relaxing, simple, free ('ultimate freedom' for certain individuals), natural, and environmentally healthy with clean and well-oxygenated air. Incomers could more focus on their own life, even do pastoral seclusion, or start a 'new life after retirement'. A lot of incomers found it easier to have high quality sleep and fostered better work and rest routine

after moving to the countryside.

Farming and organic food. Engaging in Farming activities themselves was a major driven for some rural incomers. They enjoyed planting vegetables and flowers, raising livestock and pets. One returnee (case ID: 222) shared, 'I come to enjoy the feeling of the softening change in soil and the sweating process from physical work on fields'.

Cheaper living expense and bigger space. For some rural incomers, purchasing or renting spacious and nice house in a megacity is financially unfeasible, whereas similar properties are more affordable in accessible rural areas. Due to the lack of high-end commercial facilities in the rural hinterland, overall living expense can be significantly reduced.

Enjoying the process of refurbishment and making their own home. Many incomers took pleasure in refurbishing old rural houses and creating gardens, activities that provided them with 'a sense of achievement' (case ID: 157) or helped them 'fulfil their garden dreams' (case ID: 510). Some professional social media posters can even generate economic benefits by sharing their refurbishment experience.

Caring for household members, including children, parents, or pets. Some rural incomers relocated mainly because they want to take good care of their household members, for example, living with their elderly parents—a more specific situation in China culture, providing happy, free and safe grow-up environment for kids and pets. One tenant expressed that she rented a rural mountain house after retirement mainly for the safety for her 13 dogs (case ID: 161).

Proximity to workplace or entrepreneurship opportunities. With the diffusion of employment such as factories moving to more suburb areas, some workers chose to rent house in nearby villages. Besides, young civil servants were encouraged by China government to stay in a village for several years. Additionally, some people who prefer rural life move to scenic villages to find ways to support themselves financially and fulfil their personal needs. Nostalgic attachment. For some people who were born and grown in the countryside they may have one kind of nostalgic feeling about rural life, such as the garden of their childhood house. Even when renting a house in a different rural area closer to their workplace, these individuals may create similar garden spaces to evoke familiarity and a sense of security. As one tenant reflected, 'when I was a child born and grown in the countryside, living in my own rural house with fields, I dreamed of tall buildings. But after growing up, working in a high-rise and on busy street, I came to realise that what I truly long for is the garden from my childhood' (case ID: 238). In Chinese culture, there is a traditional term, *ye luo gui gen*, which translates to 'falling leaves settle on their roots'. One tenant interpreted this as, 'as long as you know where you are from, you will not be afraid of how far you go' (case ID: 632). In this case, many individuals invest in refurbishing and prepare their rural home for retirement life.

4.2.3 Moving in

The village populated by rural incomers often has good transportation linkages and natural resources, as noted in section 4.1.1, although the availability of specific amenities varies depending on their proximity to cities. Metropolitan rural areas generally can benefit from enhanced infrastructures, such as direct bus service or metro connection to city centre, accessible kindergartens and primary schools, and convenient links to major transportation hub like railway stations and airports. The village size can even reach 1,000 households (case ID: 18). While rural incomers in remoter countryside also find it convenient to use the facilities in nearby towns. However, there are some rural tenants relocate to extremely remote mountain villages—consisting of a few households and lacking basic public infrastructure—in pursuit of pastoral seclusion (case ID: 231). But what in common is that most local long-term residents in the villages are elder population.

Rural incomers include both families and singles (Table 11). And rural tenants either rented a whole house or just a flat with one bedroom, one kitchen and one toilet. The tenancy contract varied from several months or years to 10 or 20 years. Both tenants—typically holding leases of over ten years and renting entire houses—and most

returnees undertook significant refurbishment work before or after moving in. The most expensive refurbishment case among returnees is ¥880,000 (case ID: 614) covering all renovation work, furniture and appliance. In comparison, expenditure among tenant is ¥600,000 (case ID: 159) associated with a 15-year tenancy.

Table 11 Household members of rural incomers

	Families	Families with children	Alone	Blank	Grand total
Tenant	8	5	28	101	142
Returnee	3	1	7	54	66
Grand total	11	6	35	155	208

Regarding move-in dates, recorded instances of counterurbanisation migration (Figure 5) began in 2020 for both returnees (12 complete cases) and tenants (22 complete cases) with an increase in entries during 2023 and 2024.

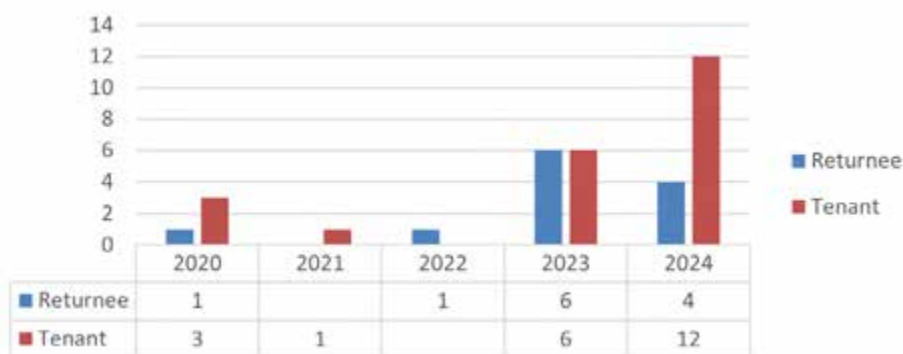


Figure 5 Recorded move-in dates of rural incomers

4.2.4 Post-move satisfaction

Generally, it shows a high level of satisfaction for rural incomers moving to or back to rural areas (Table 12), as identified by ChatGPT through the content analysis of social media posts.

For example, one tenant (Case ID: 463) shared a rural house with others in Shanghai metropolitan area and had lived there for half a year. This individual enjoyed exploring nearby nature areas, such as foraging for edible wild herbs in spring. At times, they found it hardly to believe they were still within the boundary of Shanghai—despite the presence of a metro station near the village. This person even expressed, 'I truly feel like a human being in the countryside, rather than merely a tool used for work in the city centre'.

Table 12 Post-move satisfaction levels of rural incomers

	Very Good	Good	Neutral	Bad	Very Bad	blank	Grand total
Tenant	29	20	10	3	76	4	142
Returnee	16	5	5	1	/	39	66
Grand total	45	25	15	4	76	43	208

Based on 45 valid cases, the cross-analysis results (Figure 6) generally reveal a consistently high level of satisfaction, regardless of the duration of stay in countryside. But rural incomers with longer duration of stay often have a more discreet attitude towards relocating to the countryside, recognising the effort required to adapt and maintain rural life.

For example, one returnee (case ID: 575) worked online and had moved back for 4 years mainly for the children to have a happy childhood. This person did not feel regret but warned that 'no matter where you live, it requires efforts for better living environment'. This returnee spent two years refurbishing the property, primarily working alongside family members. The renovation work was relatively costly due to larger size of a rural house. Moreover, cultivating seasonal vegetables is not an easy work, as it requires both physical efforts and self-directed learning about planting techniques and storage methods.

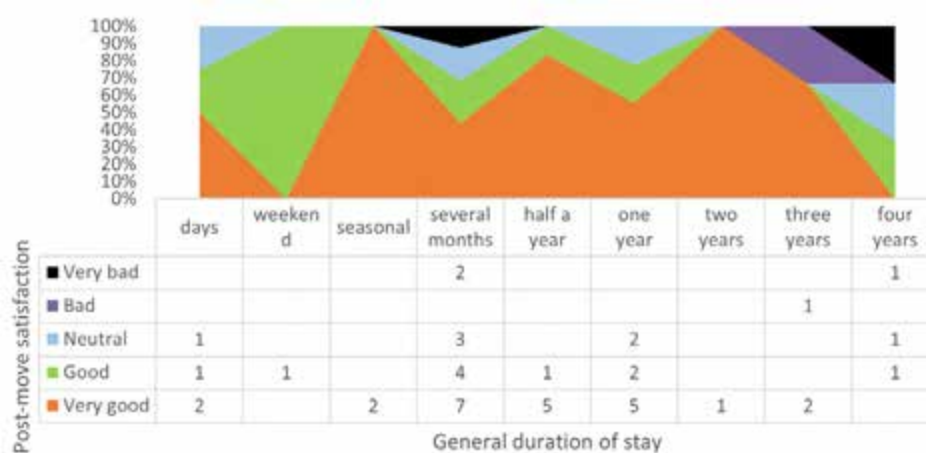


Figure 6 Cross analysis of Post-move Satisfaction and General duration of stay

However, some incomers had expressed concerns that contrast with their 'imagined rurality'. These includes the safety concern for living alone in a village, displacement when the demolition required by the government happens, bad landlord or uncomfortable feeling to live with the landlord, bad living and hygienic conditions, poor employment opportunity, bad public transportation, unfair service fee required by village council and the like.

For example, one tenant (case ID: 6) rented a rural house for 10 years to escape from the noisy in city centre when she was trying to have a baby. She became regret soon and realised that she did not enjoy the 'imagined' rural lifestyle—activities such as planting vegetables and flowers, picking fruits and playing in the river. And she found herself uncomfortable with the insects and frogs there. After her baby was born, she had less time to use the garden of the house and were more concern about the hygiene condition for her baby. She had lived there occasionally for four years and found herself in a dilemma: she no longer wished to return yet could not bear to leave the house behind that she had so carefully built.

5 Discussion

5.1 Findings compared with existing literature

Recorded counterurbanisation migration in China presented to be in its early stage. Different from patterns observed in some western countries, currently most rural incomers in China were concentrated in 'a metropolitan area's "daily urban system"' (Robert and Randolph, 1983)—typically refers to areas located around 50km away from city centre requiring 1-1.5 hrs of travel by car or bus based on this research—and very few cases were recorded in remote countryside. Although identified counterurbanisation cases were found in the most developed areas in China, this research highlights the broader presence of counterurbanisation across general south and east of China—revealing many instances that have not yet been reported in existing literature. Additionally, apart from typical family rural incomers, single tenants or rural house shares were also observed in various areas.

Current research on migration motivations of counterurbanisation in China emphasizes tourism related activities, potentially influenced by China's Rural Revitalization Scheme initiated in 2017. However, this study identifies

a significant number of cases involving rural returnees and tenants moving to the countryside for long-term residential purpose. Besides, individuals of rural origin are particularly inclined to invest in refurbishing their home rural houses preparing for retirement life. This tendency is shaped by the unique context of permanent yet unpurchasable rural land rights—covering both residential plots and farmland—as well as by culture norms of returning to one's hometown in old age. And the opportunity to cultivate vegetables on the land attached to the rural house has emerged as a major motivation for rural incomers. Similarly, rooted in anti-urbanisation sentiments, the concept of 'imagined rurality' is also the key factor motivating individuals moving to the rural hinterland. Although most incomers reported a high level of post-move satisfaction regardless of their duration of stay, some expressed regret or adopt a more cautious stance towards rural relocation.

5.2 Social media data source

Monitoring migration trends between urban and rural areas in China has been challenging due to the lack of formal migration records. The social media platform, XiaoHongShu, has proved to be a valuable data source supporting both geographic overview of counterurbanisation and specific rural relocation cases, despite its limitations—particularly data being restricted to certain groups of population and inconsistent sample size across thematic analysis, which complicate comparisons. As with other incomplete data sources such as case study, the primary guidance for using social media data in research is to acknowledge the presence of certain phenomenon—such as various counterurbanisation movement examined in this study—rather than making quantitative comparison between different groups or regions. For instance, while it is valid to conclude that residential counterurbanisation has emerged in certain parts of China, it would be inaccurate to claim that most reverse movement in China is driven by residential motives. In addition, most recorded cases are isolated and lack of interconnection, making it difficult to identify the broader implication of counterurbanisation in specific rural contexts. Detailed case studies and fieldwork are therefore essential for a more comprehensive understanding.

5.3 AI-based processing methods

As noted in section 2.3, the primary concerns for AI-based processing methods include result accuracy, ease of use, and time efficiency compared to manual processing.

Although ChatGPT-generated results demonstrated almost 90% accuracy during pilot testing, the remaining 10% inaccuracy posed challenges for researchers, creating an uncertainty about which part of the output is reliable and which are not. While this sense of uncertainty must be acknowledged, researchers had come to recognise that ChatGPT-generated outputs should not be treated as a settled final result, but rather provisional data that requires a little further validation and interpretation. For example, there are several occasions when the researcher had to revisit the original data to correct errors made by ChatGPT. Corrections often had implications for earlier stage of analysis. Nevertheless, this iterative process was ultimately deemed acceptable. Besides, since the original data in this research is in Chinese, ChatGPT's limited proficiency with Chinese language posed more challenges for accurate processing. AI models such as DeepSeek, which are primarily trained on Chinese data, are expected to yield higher accuracy over generated results. But technical issues with DeepSeek's batch API service in early 2025—when the model gained widespread popularity—prevent this hypothesis from being tested.

As for ease of use, AI tools like ChatGPT currently are evolving to offer more user-friendly experience and interfaces. Batch scripts usually will be provided and hardly require any prior knowledge for coding. Alternatively, these tools can function as a professional data processor, enabling users to input their requirements and receive interactive, tailored, outputs—potentially improve the accuracy of results.

The primary advantage of AI tool is its time efficiency. For example, in this study, coding each social media post required an average of 10 min. With around 650 original posts, this amounts to 6,500 min—or more than 100 hrs—of labour-intensive and tedious work, equivalent to nearly half a month of full-time effort base on an 8-hour workday. Errors are still likely to occur, although potentially at a lower frequency. By contrast, when using AI models, a single click can process entire dataset in under 10min. Despite the risk of inaccuracy, rough results can be considered acceptable within a certain fault tolerance threshold. Achieving higher accuracy just need several

days of data cleaning and refinement.

5.4 Counterurbanisation in China

Despite the limitation of available data, counterurbanisation in China is beginning to take shape, with a growing number of urban residents opting for rural lifestyle. Given the general underdeveloped and population decline in China's rural hinterland, this tendency of reverse migration presents a significant opportunity for future rural revitalisation. However, some levels of Chinese government still exhibit a bias against the countryside, preferring to concentrate the rural residents to facilitate more convenient infrastructure provision. For instance, one tenant (case ID: 33) expressed high satisfaction with the five months of rural life but was compelled to leave due to the government's planned demolition of the village. In addition, rural tenants often face the challenge of independently locating a suitable house and negotiating rental terms with landlords. Rural housing has the potential to be a new growth driver of the real estate industry. Even though China government may uphold current rural land rights system—which prohibits land purchases—in order to maintain the societal stability, there remains room for the formalisation of rural tenancy. Such reforms could help safeguard the rights of both tenants and landlords, thereby encouraging more people moving to depopulated villages and fostering mutual beneficial outcomes. Future research could focus on potential inequity issues—such as housing affordability, gentrification and displacement—that may arise as the counterurbanisation trend progresses in China. It is also important to develop an appropriate framework that both encourage rural in-migration and mitigates associate challenges.

6 Conclusion

Counterurbanisation is an inclusive and useful concept for understanding the reverse migration from cities to the countryside. When comparing the Chinese context with western patterns, Chinese scholars have debate on how to classify migration flows—whether as counterurbanisation or failed urbanisation. There is also discussion about how these flows relate to similar concepts such as suburbanisation, deconcentration.

Despite ongoing debates, this research identified a significant number of rural incomers using social media data from XiaoHongShu platform. These include both returnees moving back to their home village and tenants renting rural houses, mostly in metropolitan rural areas within 50km or 1-1.5 hrs of travel from a city centre. Overall, counterurbanisation in China exhibits a widespread occurrence in general South and East China with several hot spots in Yangtze River Delta region (Shanghai, Zhejiang, Jiangsu), Beijing, Chengdu (Sichuan), Dali (Yunan).

Many of the observed cases represent long-term in-migration particularly for residential purpose, rather than short-term stay associated with rural tourism. Recorded rural incomers display a high degree of diversity, in terms of employment status, household composition and migration motivations. Given that counterurbanisation often involves very individualised decision, these incomers typically are driven by a range of motives: 'escaping' from cities and shifting to (imagined) 'rural life', farming and organic food, cheaper living expense and bigger space. enjoying the process of refurbishment and making their own home, caring for household members including children, parents and pets, proximity to workplace or entrepreneurship opportunities, and nostalgic attachment. Some of these factors are particularly rooted in Chinese context regarding rural land rights and traditional culture, such as returning to live with elderly parents, preparing a rural house for retirement, seeking pastoral seclusion in extreme remote villages. Most of these individuals reported a high level of post-move satisfaction regardless of the duration of their stay—some dating back to 2020.

Social media data source and AI-based processing methods like ChatGPT AI model were proven to be a reliable and efficient way for monitoring and accessing counterurbanisation trend in China.

Counterurbanisation in China appears to be in its early stage. Rural incomers face several challenges, including the risk of government-planned demolition of their living village, and, for rural tenants, the difficulty of locating a suitable rural house and dealing with landlords. Further research is needed to better understand the implications of counterurbanisation in China and developed an appropriate framework that both encourages more in-migration and prevents potential issues.

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Declaration of generative AI in scientific writing

Generative AI and AI-assisted technologies including ChatGPT and Copilot were used in the writing process to improve the readability and language of the manuscript.

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