Regional Economic Resilience in China

Subjects: Area Studies

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The notion of resilience has been increasingly adopted in economic geography, concerning how regions resist and recover from all kinds of shocks. Most of the literature on the resilience of coastal areas focuses on biophysical stressors, such as climate change and some environmental factors.

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1. Introduction

After the global financial crisis in 2008, global economic growth slowed, and the international situation was complicated and severe. This had a great impact on China's economic development. Especially after the outbreak of COVID-19, the internal and external uncertainty of China's economic development increased sharply, and the economic downturn pressure was huge. How to cope with downward pressure on the economy, prevent and resolve major risks, ensure that the economy is operating in a reasonable range, and build a resilient and healthy economic system has become the key to China's economic development.

Resilience is a wide notion, which is often used to analyze the resistance to and recovery from shocks of systems. The notion is established in disciplines like physics and ecology, and is popular in economics, regional and social sciences, as well as in policy makers [1]. After the Great Financial Crisis in 2008, many scholars, especially economic geographers, have strengthened their interest in regional economic resilience by tackling the question of why some regions renew themselves and recover quickly, whereas others do not [2][3]. It has generated a boom in studies on regional economic resilience, including burgeoning conceptual debates and empirical research [4][5]. These studies attempt to clarify the heterogeneity of regional economic resilience in different regions, identify the underlying factors behind these differences, and make clear whether it is possible to influence these factors. The existing knowledge on this topic preliminarily derives from regions with developed economies (mainly Europe and North America) and is concerned about the national scale or larger. Few studies have focused on whether coastal areas with higher economic exposure encountered more recession and had low levels of adaptability. Coastal areas in China are embedded in a more open economy and government-oriented institutional contexts, and thus may have different economic resilience and determinants compared with regions in Europe and America. In short, the research on coastal areas in China can give some insights into whether economic resilience in China differs from some developed economies and whether higher economic exposure may cause lower resilience.

2. The Concept of Resilience

Resilience usually refers to the ability of a social–economic system to recover from shocks, which may be economic crises, pandemics, natural disasters, etc. [6][7]. The concept of resilience has been popularized in the last decade, and it has been used in many different disciplines [8]. The nature of resilience is general conceptualized in three ways in the literature, namely engineering resilience, ecological resilience, and adaptive (evolutionary) resilience. Engineering resilience emphasizes a system's ability to bounce back to a pre-recessional equilibrium state, and ecological resilience is defined as the scale of shocks that the system can absorb before its pre-recessional equilibrium state collapses [9][10]. These two notions adopt an equilibrium-based approach in the short term, which is usually criticized by economic geographers, and they have advocated an evolutionary approach to define resilience as a path-dependent process of creative destruction and constant renewal, as well as an open-ended reorientation, recoverability, and reorganization [11][12]. Just as Hassink proposed that resilience is more than a metaphor but less than a theory [13], it can be best described as a conceptual framework, and some useful conceptual frameworks have been put forward. Researchers adopted the adaptive resilience and its related conceptual framework.

3. The Measurement of Regional Economic Resilience

Based on the notions of resilience, a large empirical body of literature has been published on the resilience, especially on regional economic resilience, after the Great Financial Crisis in 2008. The regional economic resilience is defined as the process of the regional economic system responding to the crisis and the ability to deal with the crisis. Since resilience is a highly complex and multi-dimensional concept, the measurement or assessment of regional economic resilience is difficult and challenging, and the methods may varied across different disciplines with different parameters [14][15]. The quantitative studies on regional economic resilience focused on different regional scales (e.g., European and national) with different parameters (e.g., GDP, unemployment). In the European context, Giannakis and Bruggeman assessed the economic resilience of Europe based on the employment changes from 2008 to 2013, and found that economic resilience showed a strongly uneven geography both in national patterns and within countries. The results indicated that regions in southern Europe were non-resilient, while the continental southern periphery was resilient [16]. Crescenzi et al. explored the short-term economic performance of regional resistance and found that the regional economic resilience, measuring with GDP and with unemployment rates, was quite different. The results showed that the Polish regions recorded the most positive economic resilience with GDP indicators, which was quite different to the results measuring unemployment [17]. In the national context, economic resilience of the U.K., the U.S., Italy, Australia, and some other development countries were measured with different methods, including the shift-share method, dynamic spatial panel, etc. [8][18][19][20]. Faggian et al. explored the regional economic resilience in terms of the local labor systems of Italy, and the results clearly pointed out high heterogeneous resilience [8]. Han et al. analyzed the economic resilience of U.S. counties with monthly employment data, and found each county exhibits unique action and reaction patterns for its recession and recovery processes, which was an important starting point for policy makers [19]. In short, the existing research on regional economic resilience is mainly derived from developed economies, particularly in Europe and the U.S., whereas regional economic resilience knowledge in China is inadequate.

In China, the regional economic resilience research is in its infancy, and the empirical research mainly focuses on some problem areas, such as resource-based cities and old industrial cities. Hu and Hassink provided a novel conceptual framework to better understand the long-term uneven resilience by exploring the notions of adaptability and adaptation, and then used it to explain the uneven resilience between Zaozhuang and Fuxin, two resource-based cities in China [21]. Thereafter, Hu and Yang, drawing on the concepts of institutional change and path development, analyzed the divergent economic resilience of two resource-depleted cities in China from an institutional change approach [22]. From a macro level, Tan et al. assessed the regional economic resilience in terms of resistance and recoverability and its influential factors of resource-based cities during economic crises in Northeast China and the whole of China, respectively [23][24]. In short, the quantitative studies of regional economic resilience at different scales and different regions all showed high heterogeneity, however, the argument about the difference in economic resilience between coastal and inland areas was insufficient.

Coastal areas concentrate a high proportion of human populations and economic activities, and these areas are also exposed to many hazards and risks, such as hurricanes, floods, and other disease epidemics [25]. Increasing risks along with highly degraded coastal ecosystems has sparked great work on the adaptation and social–ecological resilience of these areas [26]. Numerous stressors or disturbances have been identified that have influenced the ecosystems and human communities in coastal areas, and a recent bibliometric analysis showed that biophysical stressors, especial climate change (e.g., sea level rise) and some environmental factors (such as hurricanes, coastal erosion) are the main factors, however, the social–economic stressors only account for 25% [26]. The empirical research mainly focused on the resilience of coastal areas responding to some nature hazards, and proposed some planning strategies [27][28], but few paid attention to the economic crisis. The spatio-temporal evolutionary characteristics of marine economy resilience in three coastal areas of China were analyzed based on multi-dimensional perspectives [29]. The research on emerging small island developing states' economies found that the interruptions in coastal cities were serious and affect both coastal cities and also their hinterlands, resulting in their individual and collective inability to produce and service enough food for local consumption and distribution to various catchment cities, so the resilience was low and needed sustainable development [30]. Since the economic linkages and the globalization of trade ties the regions more closely than before, the resilience of the coastal social–economic system is more tightly linked to larger-scale processes and exposed more to the global crisis, which may lead to more economic recession in coastal areas [25]. Therefore, identifying the characteristics of economic resilience to economic crises in coastal areas has become an urgent issue.

4. The Determinants of Regional Economic Resilience

Since the high heterogeneity of regional economic resilience, an important question arises as to why economic resilience might vary from region to region, and what factors determine the ability of regional economic resilience. In fact, the regional economic resilience is determined by a complex array of factors, such as labor conditions, industrial structures, technological coherence, financial arrangements, policies, government management, etc. [16][31][32]. Martin and Sunley proposed a framework of resilience determinants from four main subsystems, including the structural and business subsystem, the labor market subsystem, the financial subsystem and the governance

subsystem [2]. The role of geography has been a key research motivation for why some factors have more impact on resilience in some regions, and not in other regions. Economic structure is an important determinant and even the most important one. Christopherson et al. found that a diversified economic base enabled a region to adjust and adapt [5]. Brown and Greenbaum tested the effect of industrial diversification in the Ohio counties of the U.S.A and found that counties with higher industrial diversification had higher resilience to external shocks [33], while Navarro-Espigares et al. provided evidence that service-intensive regions in Spain showed more resilience [34]. Considering the impact of labor conditions, human capital, and in particular education, is a major determinant for shaping regional economic resilience in Europe [16]. Bristow and Healy found that innovation leaders in Europe were significantly more likely to resist the crisis and recover quickly [35]. Kakderi and Tasopoulou found that national supporting policies explained not only resilience to the crisis, but also its vulnerability to the still ongoing crisis [36]. Furthermore, the quality of government was also an important factor shaping the regional resilience to the crisis [32]. In general, regional economic resilience is determined by multiple factors and those factors may vary across different regions, furthermore, the research mainly focused on the developed economies. Therefore, the effect of these factors and its mechanisms can be adapted to China is a topic worthy of further investigation.

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