

Construction of a Multidimensional Indicator System for the Well-Being of Rural Residents

-- Based on a Digital Economy Perspective

Peilin Fang*, Yaqi Zhong, Yuan Zhang

Jiangxi University of Finance and Economics, Nanchang, Jiangxi, 330013, China

*peilin_fang@163.com

Abstract

The report of the 19th Party Congress points out that “the fundamental purpose of economic development is to enhance the well-being of the people”. As a large country with 800 million rural residents, improving the well-being of China’s rural residents is an important means of enhancing the well-being of the population, which has become a top priority for Chinese government. At the same time, the development of the digital economy is accelerating its penetration into rural areas, changing the lifestyles and behaviors of rural residents and affecting their well-being. Based on this, the construction of a multi-dimensional indicator system for the well-being of rural residents from the perspective of the digital economy is important for the in-depth study of the relationship between the development of the digital economy and the well-being of rural residents and the formulation of future well-being policies.

Keywords

Well-being of Rural Residents; Indicator System; Digital Economy.

1. Introduction

The report of the 19th National Congress of the Communist Party of China (CPC) states that “the fundamental purpose of economic development is to enhance the well-being of the people”. In 2020, the Central Committee of CPC emphasized in its 14th Five-Year Plan that it would “constantly enhance the people’s sense of access, happiness and security” to enhance the well-being of the population. As a large country with 800 million rural residents, improving the sense of access, security and happiness of China’s hundreds of millions of rural residents is an important means of enhancing the well-being of the population, which has become a top priority for the government. The 14th Five-Year Plan points out that the digital economy should be used to give growth potential and innovative vitality to improve the production and living standards of rural residents, adhere to the priority development of agriculture and rural areas, and enhance the well-being of rural residents. However, safety, health, happiness and satisfaction of rural residents have not been paid enough attention to in the process of digital economy development [1]. According to the People’s Happiness Index Research Report released by Tsinghua University, the total national happiness score has increased less than the increase in GDP from 2010 to the present, indicating that the economic level is not the only factor determining the well-being of rural residents. Therefore, the construction of a multi-dimensional indicator system for the well-being of rural residents is of great theoretical value and practical significance for the scientific measurement of the well-being of rural residents, the in-depth study of the relationship between the development of the digital economy and the well-being of rural residents, and the formulation of future well-being policies.

2. Literature Review

Regarding well-being, scholars have studied it for a long time. During the Marginal Revolution, Jevons pointed out that well-being was a calculation of pleasure and pain, and Bentham believed that well-being is the pursuit of advantages and the pursuit of happiness. In general, well-being can be divided into both subjective and objective aspects[2]. Objective well-being, that is, an objective assessment of the individual's quality of life, mostly referred to by per capita GDP and per capita disposable income; Subjective well-being refers to an individual's subjective assessment of the quality of life, which is mainly expressed by subjective happiness, life satisfaction, and confidence in future life[3]. In this regard, some scholars mostly use a single indicator for measurement based on the results of three-point or five-point SWB surveys, such as Shi Huaping and Yi Minli (2020)[4] using the question "In general, do you think your life is happy" in the questionnaire, dividing the answers into five levels, and using a single indicator of "self-presentation" to measure residents' well-being.

Another part of scholars believes that well-being is multi-dimensional, and a single indicator cannot be comprehensively measured, and the establishment of a well-being index system can better tap the source of well-being. For example, Andrews et al (1991)[5] measure the well-being of American residents using multidimensional indicators such as recreation, health, marriage and children, income and standard of living, self-evaluation, neighborhood and community relations, local and national government, work status, leisure time, and social activities. Liu Xiangdong and Tao Tao (2012)[6] divide well-being into five dimensions: individual self, relatives society, acquaintance society, living society, and natural environment based on the "happiness circle theory", and explore the degree of influence of each dimension on well-being. Shi Peng (2021)[7] constructs a welfare index system for rural residents from the aspects of economic status, relocation and resettlement housing, community life, living environment, employment status, social capital, government public services, and realization of farmers' participation rights.

In summary, we can find that the academic community attaches great importance to welfare research, but the measurement of well-being has not been uniformized. China is a large country with 800 million rural residents. The well-being of rural residents has always been a livelihood issue of great concern to the government in China, but now in the context of the booming digital revolution, the rapid development of the digital economy supported by emerging information technology and network infrastructure is constantly penetrating rural areas. However, little research has been done on how the new digital economy affects the well-being of rural residents. Therefore, from the perspective of digital economy, this paper constructs a multi-dimensional rural residents' well-being index system based on economic status, health status, life satisfaction, and interpersonal relationships to measure the well-being of rural residents, so as to provide a reference for in-depth study of the digital economy on the measurement of rural residents' well-being.

3. Construction of an Indicator System for the Well-Being of Rural Residents

3.1. Identification of Rural Residents' Well-Being from the Perspective of Digital Economy

Digital economy, the third largest new form of economy after agricultural economy and industrial economy, has an impact on rural residents' production and life, mainly focusing on the economic level, life satisfaction, health status, and interpersonal relationships.

(1) Economic level. The development of the digital economy can narrow the information use gap and increase the income of rural residents[8].

(2) Life satisfaction. The digital economy has penetrated many aspects such as education and social networking of rural residents[9]. On the one hand, the digital economy enriches rural education resources through digital education platforms, promotes education equalization, and improves the well-being of rural residents. On the other hand, rural residents can enrich their lives through online social platforms, promote rural residents to accumulate social capital, and thus improve the well-being of rural residents.

(3) Health status. The digital economy can empower the medical industry, improve the level and efficiency of diagnosis and treatment, and alleviate the shortage of medical resources in rural areas which are conducive to rural residents' fair access to medical services and improve their well-being[10].

(4) Interpersonal level. The development of the digital economy can broaden the interpersonal circle of rural residents and improve their well-being[11].

3.2. Construction of Rural Residents' Well-Being Index System based on the Perspective of Digital Economy

Table 1. The index system of rural residents' well-being

Dimensions	Indicators	Well-being Threshold and Assignment	Weight
Economic level	Wage income	Annual income greater than or equal to 1.5 times the national rural per capita disposable income, assigned 1	1/8
	Income horizontal comparison	Self-assessment income horizontal comparison greater than or equal to 3, assigned 1	1/8
Life satisfaction	Life satisfaction	Self-reported life satisfaction greater than or equal to 3, assigned 1	1/8
	Future confidence level	Self-assessment of their future confidence greater than or equal to 3, assigned 1	1/8
Health status	Physical condition	Self-rated health less than or equal to 3, assigned 1	1/12
	Medical resources	The overall medical treatment condition satisfaction of the medical treatment point is greater than or equal to 3, assigned 1	1/12
	Chronic disease	Chronic disease not judged by a doctor assigned 1	1/12
Interpersonal relationships	Social trust	Trust in strangers scored greater than or equal to 5, assigned 1	1/12
	Neighborhood trust	Trust in neighbors scored greater than or equal to 5, assigned 1	1/12
	Social communication	The frequency of friend group sharing more than 2-3 times a month, assigned 1	1/12

In this paper, the China Family Panel Studies (CFPS) of the China Social Sciences Survey Center of Peking University was selected to construct the well-being index system of rural residents.

As an important representative high-quality database in China, CFPS covers 25 provinces, municipalities, and autonomous regions in China (except Qinghai, Inner Mongolia, Ningxia, Hainan, Hong Kong, Macao, Taiwan, Xinjiang, and Tibet), contains all family members of 16,000 families and has enough panel data for well-being, which to some extent solves the limitation problem caused by the possible availability of data [13].

From the above analysis, it can be seen that the digital economy mainly has an important impact on economic level, life satisfaction, health status, and interpersonal relationships of rural residents. Therefore, drawing on Hu Ronghua and Chen Yan (2012) [14], this paper constructs an index system of rural residents' well-being from these four dimensions (as shown in Table 1). This paper mainly selects the median value of the score or frequency in each indicator as the critical value of well-being. Namely, if the total number of scores is 10, select 5; if the total number is 5, select 3; the median frequency of friend group sharing is 2-3 times a month. Then, the equal weight method is used, that is, the total dimension weight is equal to 1, the weight value on each dimension is the reciprocal of the number of dimensions, and the weight value of each indicator on each dimension is the weight value of the dimension divided by the number of indicators to measure.

4. Conclusion

The digital economy, as a new driving force for China's economic development, provides a good opportunity to improve the well-being of the population, especially the well-being of rural residents. Therefore, the scientific construction of a well-being index for rural residents is important for the empirical study of the relationship between the two and the formulation of well-being policies. This paper uses the equal-weighting method to construct a well-being index for rural residents based on 10 indicators in four dimensions: economic level, life satisfaction, health status and interpersonal relationships. Based on the previous theoretical analysis, this paper suggests that the well-being of rural residents can be improved through a combination of developing the digital economy, thereby narrowing the information use gap, promoting educational parity, improving medical treatment and enriching online social life.

Acknowledgments

Jiangxi University of Finance and Economics 2022 Project Grant for Students' Innovation and Entrepreneurship Training Program (No. 202210421015).

References

- [1] Chen Hongsheng, Wang Xingping, Liu Ye. Research on the Relationship between Urbanization and Residents' Subjective Well-being: An Examination and Enlightenment of Urban and Rural Planning[J]. *Urban planning*, 2020,44, (07): 18-27.
- [2] Li Zhiping, Zhou Yanqin. Research on the transmission mechanism of rural finance deepening to farmers' welfare[J]. *Economic Review*, 2016, (03): 86-94.
- [3] Zhao Yifan. Internet Use and Rural Residents' Well-being in the Context of Rural Revitalization: An Empirical Study Based on CFPS Panel Data [J]. *Jiangnan Academic*, 2021, 40, (05): 5-15.
- [4] Shi Huaping, Yi Minli. Environmental Governance, High-quality Development, and Residents' Happiness: An Empirical Study Based on CGSS (2015) Microsurvey Data[J]. *Management Reviews*, 2020, 32, (09): 18-33.
- [5] Andrews F M, Abbey A, Halman L J. Stress from infertility, marriage factors, and subjective well-being of wives and husbands[J]. *Journal of health and social behavior*, 1991: 238-253.
- [6] Liu Xiangdong, Tao Tao. Research on Happiness Evaluation Index System--An Empirical Analysis Based on "Happiness Circle Theory"[J]. *Journal of Chinese min University*, 2012, 26, (05):99-107.

- [7] Shi Peng, Ren Honghao, Yu Jin. Fuzzy Evaluation of Subjective Well-being of Relocated Poverty Alleviation and Relocated Farmers: An Empirical Analysis Based on 1250 Relocated Rural Households [J]. Journal of Northwest A & F University (Social Science Edition), 2021, 21(05): 113-127.
- [8] Gao Zhenjuan, Zhao Jingfeng, Zhang Jing. Mechanism and Path Selection of Digital Economy Empowering Consumption Upgrading[J]. Southwest China Finance, 2021, (10): 44-54.
- [9] Sun Wenting, Liu Zhibiao. Digital Economy, Urbanization and Farmers' Income Increase: An Empirical Test Based on the Yangtze River Economic Belt[J]. Exploration of economic issues, 2022, (03): 1-14.
- [10] Tang Hongtao, Xie Ting. Digital economy and farmers' income and consumption increase[J]. Journal of South China Agricultural University (Social Science Edition), 2022, 21, (02): 70-81.
- [11] Cheng Yiyang. Research on the mechanism path of digital economy driving common prosperity[J]. Operation and Management, 2022: 1-13.
- [12] Hu Dong, Guo Ying. The Relationship between Interpersonal Communication and Subjective Well-being in College Students' Mobile Social Network: A Moderating Mediating Role [J]. Chinese Journal of Health Psychology, 2021: 29, (09): 1376-1381.
- [13] Xie Y, Lu P. The sampling design of the China family panel studies (CFPS)[J]. Chinese journal of sociology, 2015, 1, (04): 471-484.
- [14] Hu Ronghua, Chen Yan. Statistical Analysis of Rural Residents' Life Satisfaction: A Case Study of Jiangsu[J]. China's Rural Economy, 2012, (01): 80-91.