

The Impact of Long-Term Care Insurance on Elderly Family Well-Being: Evidence from CHARLS Data

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Abstract. In the context of accelerating population aging and the highly familialized nature of disability risks, whether long-term care insurance can improve the comprehensive well-being of elderly families through socialized care has become a critical issue in testing the welfare effects of the social security system. This paper utilizes four waves of panel data (2013–2020) from the China Health and Retirement Longitudinal Study (CHARLS). At the family level, a multidimensional comprehensive well-being index is constructed by integrating subjective psychological feelings, objective health functioning, social participation capacity, and children's support intensity. Taking the 2016 rollout of the first batch of 15 pilot cities as a quasi-natural experiment, a staggered difference-in-differences (DID) identification framework is employed. The results show that the LTCI pilot significantly raises the family well-being index by roughly 0.09 units. This finding is robust to parallel trends, placebo, PSM-DID, and winsorization tests. Mechanism tests indicate that LTCI improves well-being mainly by promoting social care participation, which substitutes for part of family caregiving, and by moderately adjusting intergenerational economic support structures, thereby achieving "burden reduction without diminishing care." Bootstrap mediation tests confirm the significance of these channels. Heterogeneity analysis reveals stronger effects in families with severe disability and in rural households. These findings suggest that long-term care insurance not only alleviates family caregiving burdens but also significantly enhances overall elderly family well-being by reshaping intra-household resource allocation and care patterns. The paper provides solid empirical evidence for nationwide LTCI expansion, rural care service optimization, and precise bottom-line protection.

Keywords: long-term care insurance, family well-being, DID, population aging, informal care

1. Introduction

Against the backdrop of rapid population aging and profound family structure transformation, elderly well-being has become a central issue in China's social governance and economic transition. As Lu Jiehua and Gu Yuchen argue, elderly care in China has evolved from a traditional public service issue into a broader governance challenge related to sustainable development, population

security, and social stability [1]. According to the National Bureau of Statistics, the share of China's population aged 60 and above reached 21.1% in 2023, 2.4 percentage points higher than in 2020 [2]. At the same time, the number of disabled and semi-disabled elderly individuals has exceeded 50 million. Disability risks are characterized by long duration, high caregiving costs, and strong family dependence, placing considerable pressure on household resource allocation, labor supply, and intergenerational support.

China's traditional pension and medical insurance systems mainly address income replacement and medical treatment, but provide limited protection against long-term care needs arising from disability. Wang Zongfan notes that disability risk differs fundamentally from disease risk and cannot be adequately covered by existing social insurance arrangements [3]. Against this background, long-term care insurance (LTCI) was introduced to provide basic nursing and daily care services through socialized financing and benefit mechanisms. The launch of the first 15 pilot cities in 2016 marked the beginning of institutional exploration in disability risk sharing. By 2023, the number of pilot cities had expanded to 49, covering more than 183 million insured individuals [4].

Existing studies mainly examine LTCI from the perspectives of medical expenditure reduction and health improvement, while relatively little attention has been paid to whether LTCI reshapes family support structures and affects elderly well-being through the substitution of informal care. Yet the family is the ultimate carrier of social security policies, and institutional effects are transmitted largely through intra-household resource allocation and intergenerational arrangements. Ignoring these channels may underestimate the broader welfare implications of LTCI.

Using four waves of panel data from the China Health and Retirement Longitudinal Study (CHARLS) from 2013 to 2020, this paper treats the first batch of LTCI pilot cities as a quasi-natural experiment and employs a staggered difference-in-differences framework to evaluate the impact of LTCI on elderly family well-being. Compared with existing studies, this study contributes in three aspects. First, it constructs a multidimensional well-being index combining subjective well-being, objective health, social participation, and children's support. Second, it examines the dual mechanisms of formal care substitution and intergenerational support adjustment through Bootstrap mediation analysis. Third, it explores heterogeneity across disability severity and urban-rural groups, providing evidence for more targeted LTCI policy design.

2. Literature review

2.1. Measurement approaches to elderly well-being

Research on elderly well-being has gradually shifted from single-dimensional subjective indicators to multidimensional composite measures. Early studies mainly relied on life satisfaction or happiness to capture individuals' subjective evaluations of living conditions. However, such measures often overlook objective dimensions including health functioning and social participation.

Following the development of the "successful aging" framework, well-being measurement increasingly incorporated functional health and social engagement. Lu Jiehua constructed a multidimensional index covering health, economic conditions, and emotional support [5]. Ni Chenxu integrated economic security, health status, and social participation using the entropy method [6]. Existing studies therefore mainly adopt three approaches: subjective satisfaction measures, objective health indicators, and multidimensional composite indices.

2.2. Influencing factors of elderly well-being

The literature generally identifies family support, caregiving arrangements, and social security systems as key determinants of elderly well-being. Wang Jinshui finds that co-residence improves subjective well-being through economic and emotional support [7]. Lu Jiehua shows that children's emotional support significantly reduces loneliness among rural elderly individuals.

Caregiving modes also matter for well-being outcomes. Zhang Ruotian finds that elderly individuals with greater "pension capital" are more likely to choose formal care and report higher well-being [8]. Li Min et al. further document the substantial economic burden associated with informal caregiving [9].

2.3. Empirical studies on long-term care insurance

Empirical studies on LTCI mainly focus on three areas. The first examines medical expenditure and health outcomes. He Min found that LTCI reduces wealth inequality among elderly households [10]. Yu Yangyang et al. confirmed its role in alleviating family caregiving burdens [11]. The second category examines financing and implementation efficiency. He Shiyang et al. noted deficiencies in financing standards and coverage restrictions [12]. The third strand examines caregiving substitution and family burden. Cai Weixian showed that LTCI significantly affects caregiving choices and intergenerational support structures [13].

While previous studies confirm the positive effects of LTCI on health and medical expenditure, evidence on how LTCI reshapes family support structures and affects comprehensive elderly well-being remains insufficient. This study addresses these gaps by integrating subjective and objective indicators into a multidimensional well-being index and conducting heterogeneity analysis across disability severity and urban-rural samples.

3. Research hypotheses

3.1. Basic hypothesis

Disability risk is characterized by high incidence, long duration, and concentrated caregiving costs, which are largely borne by families in the absence of social insurance. Zhu Minglai et al. found that disability risk substantially increases the probability of persistent catastrophic health expenditure, while LTCI can reduce such risks by lowering medical expenses and improving household labor supply [14]. By providing nursing services and financial support, LTCI may stimulate the use of formal care and partially substitute for informal family caregiving. Accordingly, this paper proposes:

H1: The long-term care insurance pilot significantly improves the comprehensive well-being level of elderly families.

3.2. Mechanism hypotheses

Families allocate time and financial resources under budget constraints to maximize household well-being. Cai Weixian et al. found that LTCI increased the probability of choosing formal social care while reducing reliance on family caregiving. Chen Fei and Wang Ruotong further showed that the substitution of formal care can release caregivers' labor time and reduce household caregiving pressure [15]. Therefore, LTCI may improve elderly family well-being by promoting social care participation and reducing informal caregiving burdens. Thus:

H2: Long-term care insurance improves the comprehensive well-being of elderly families by promoting the utilization of social care services.

Intergenerational support also represents an important channel through which LTCI affects family welfare. Shu Zhan and Han Yu argued that LTCI reduces upward intergenerational economic transfers while strengthening emotional support [16]. Wang Yuzheng et al. further found that LTCI increases downward transfers within families while easing elderly individuals' perceived economic burdens [17]. Therefore, LTCI may optimize the structure of intergenerational support by reducing financial pressure without weakening family connections. Accordingly:

H3: Long-term care insurance improves elderly family well-being by optimizing intergenerational support structures.

3.3. Heterogeneity hypotheses

The welfare effects of LTCI are likely to vary across households. Rural families generally face more limited formal care resources, implying stronger marginal gains from LTCI expansion. Guo Jinlong et al. found that LTCI effects are more pronounced among agricultural households [18]. Kim and Lim showed that expanded formal care significantly reduces medical expenditures among severely disabled individuals [19]. Therefore, this paper proposes:

H4: The positive effect of LTCI on elderly family well-being exhibits significant heterogeneity across urban-rural households and disability severity groups.

H4a: The positive effect is greater among rural households.

H4b: The positive effect is greater among severely disabled households.

4. Data description

4.1. Data sources

This study uses four waves of panel data from the China Health and Retirement Longitudinal Study (CHARLS) for 2013, 2015, 2018, and 2020. CHARLS provides nationally representative longitudinal information on family structure, health conditions, economic transfers, and social participation, making it suitable for examining elderly family well-being and caregiving arrangements.

The survey period closely matches the rollout of China's LTCI pilots. The first batch of pilot cities was launched in 2016, while the 2018–2020 waves capture the expansion and gradual maturation of the policy. CHARLS also contains rich information on ADL/IADL functioning, psychological health, medical expenditure, community participation, and intergenerational transfers, enabling construction of a multidimensional family well-being index. The panel structure further allows the inclusion of family and year fixed effects to control for unobserved heterogeneity and common time trends.

4.2. Data processing

The sample is restricted to individuals aged 60 and above. Individual observations are aggregated to the family-year level. Binary indicators take the family maximum value. Continuous indicators are averaged within households, while economic variables are summed at the family level. Urban-rural status retains the first observed value. Household income is winsorized at the 1% and 99% levels. The final unbalanced panel contains 16,977 family-year observations from 8,095 households.

4.3. Variable construction

4.3.1. Dependent variable: Comprehensive well-being index

The dependent variable is the elderly family comprehensive well-being index (well_being), constructed from four dimensions: subjective well-being, objective health, social participation, and children's support. All indicators are standardized using z-scores before aggregation.

Table 1. Measurement of elderly family well-being index

Dimension	Variable Name (Family Level)	Variable Meaning	Formula
Subjective Well-being (S)	srh_fam_mean	Self-rated health 1 = Very unhealthy to 5 = Very healthy	$S = \frac{1}{5} \sum z_i$ where z_i is the z-score of each indicator
	satlife_mean	Life satisfaction 1 = Very dissatisfied to 5 = Very satisfied	
	sleep_mean	Sleep hours	
	cesd10_mean	Mental health 0–30 (reverse coded)	
	hope_mean	Hope for the future 1 = Low expectation to 9 = High expectation	
Objective Health (O)	adlab_max	Number of ADL difficulties 0–6	$O = \frac{1}{6} \sum z_i$ where z_i is the z-score of each indicator
	iadl_max	Number of IADL difficulties 0–5	
	chronic_total_mean	Number of chronic diseases 0–14	
	fall_down_any	1 = Had fallen, 0 = Otherwise	
	pain_total_mean	Number of pain sites 0–15	
Social Participation (P)	disability_any	1 = Disabled, 0 = Otherwise	$P = \frac{1}{11} \sum z_i$ where z_i is the z-score of each indicator
	act_1_any	Visiting friends and socializing	
	act_2_any	Playing mahjong, chess, card games, or going to the community activity room	
	act_3_any	Providing help freely to relatives, friends, and neighbors who do not live together	
	act_4_any	Go to the park or other places to dance, exercise, practice qigong, etc.	
	act_5_any	Participate in activities organized by the club	

Table 1. (continued)

	act_6_any	Volunteer activities or charity events	
	act_7_any	Go to school or attend training courses	
	social7_any	Taking care of patients or disabled individuals who do not live with you	
	social9_any	Stock trading	
	social10_any	Go online	
	social11_any	Other social activities	
Child Support (C)	hchild_mean	Number of living children	$C = \frac{1}{2} \sum z_i$ where z_i is the z-score of each indicator
	log_gcamp	log(Children's economic support to parents-Parents' support to children)	
well_being			$\text{well_being} = \frac{1}{4} \sum z_j$ where z_j are the z-scores of S, O, P, and C

Notes: (1) All original indicators and sub-dimensional indices are first standardized using z-scores ($z = \frac{x-\mu}{\sigma}$) to eliminate scale differences across indicators and ensure equal weighting for comparability.

(2) Some indicators are reverse-coded so that higher values represent better conditions: depressive symptoms (30 – original value), ADL (6 – original value), IADL (5 – original value), total number of chronic diseases (14 – original value), total number of pain sites (15 – original value), and fall/disability risk (1 – original value).

This construction avoids the limitations of single-dimensional measures and provides a reliable dependent variable with sufficient variation for subsequent analysis.

4.3.2. Core explanatory variable: Long-term care insurance pilot effect

The core explanatory variable is the long-term care insurance pilot effect (did), constructed using the classical difference-in-differences approach:

$$\text{did}_{it} = \text{ltci}_i \times \text{post}_{it} \quad (1)$$

where subscripts i and t denote family and year, respectively. The treatment group dummy equals 1 if the city where family i resides belongs to the first batch of 15 pilot cities, and 0 otherwise. The post-policy dummy equals 1 if the survey year t for family i is at or after the actual launch date of the pilot in that city. Policy timing follows official implementation schedules①.

4.3.3. Control variables

Control variables include individual and family characteristics (average age, male proportion, average education, etc.), family economic characteristics (family size and log household income), and regional characteristics (rural indicator and log prefecture-level GDP). All variables are aggregated at the family level.

4.3.4. Descriptive statistics

Descriptive statistics confirm the representativeness of the sample and sufficient variation in the well-being index. The policy dummy did has a mean of approximately 0.12. Rural families account for about 59% of the sample, and severely disabled families about 12%. Grouping by pilot status shows higher average well-being in pilot cities.

Table 2. Descriptive statistics

	Mean	Std. Dev.	Min	Max	N
Explained Variable					
well-being	0.013	0.545	-2.38	13.85	16977
S	0.002	0.671	-3.20	8.85	16972
O	0.022	0.590	-3.10	0.79	16977
P	0.013	0.432	-0.27	4.75	16977
C	-0.033	0.740	-1.33	38.35	16977
Explanatory Variable					
did	0.061	0.239	0.00	1.00	16977
ltci	0.092	0.289	0.00	1.00	16977
Controlled Variables					
age_mean	69.473	7.173	60.00	118.00	16977
male_ratio	0.493	0.335	0.00	1.00	16977
edu_fam_mean	1.935	0.963	1.00	4.00	16977
family_size	2.688	1.573	1.00	16.00	16977
log_income	9.760	1.691	0.00	13.02	16977
chronic_total_mean	2.424	1.730	0.00	13.00	16977
ins_any	0.963	0.188	0.00	1.00	16977
adlab_severe	0.045	0.208	0.00	1.00	16972
rural_fam	0.593	0.491	0.00	1.00	16977
log_gdp	16.926	0.932	14.44	19.77	16977

5. Empirical results

5.1. Baseline regression

This paper employs a staggered difference-in-differences (DID) model to estimate the impact of the first batch of long-term care insurance (LTCI) pilots on elderly family well-being. The baseline specification is as follows:

$$well_being_{it} = \beta \bullet did_{it} + \gamma \bullet X_{it} + \alpha_i + \delta_t + \varepsilon_{it} \quad (2)$$

where subscripts i and t denote family and year, respectively; $well_being_{it}$ represents the comprehensive well-being index of family i in year t ; did_{it} is the long-term care insurance pilot effect dummy variable; X_{it} is a vector of family-level control variables. Family fixed effects and year fixed effects are included to control for unobserved heterogeneity and common time shocks. Standard errors are clustered at the family level.

Table 3. Baseline regression results

	(1)	(2)	(3)	(4)
	well-being	well-being	well-being	well-being
did	0.108*** (0.026)	0.098*** (0.025)	0.098*** (0.025)	0.093*** (0.025)
age_mean		-0.004 (0.006)	-0.002 (0.006)	-0.002 (0.006)
male_ratio		0.057 (0.035)	0.057 (0.035)	0.058* (0.035)
chronic_total_mean		-0.088*** (0.005)	-0.087*** (0.005)	-0.087*** (0.005)
family_size			-0.006* (0.003)	-0.006* (0.003)
log_income			0.014*** (0.004)	0.014*** (0.004)
log_gdp				0.060** (0.027)
Constant	0.097*** (0.006)	0.385 (0.402)	0.182 (0.407)	-0.802 (0.594)
Family Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	16977	16977	16977	16977
Adjusted R ²	0.030	0.073	0.075	0.075

Notes: t-values in parentheses, calculated based on robust standard errors, *, **, and *** represent significant at the 10%, 5%, and 1% levels, respectively.

Table 3 gives the baseline regression estimates. The *did* coefficient stays positive and statistically significant at the 1% level across all four specifications. Once we add the full set of controls—demographics, health, household size and income, and regional GDP—the estimate settles at 0.093. That means the LTCI pilot raised the elderly family well-being index by roughly 0.09 standard deviations, a non-trivial move given the index is standardized. Adding controls one by one barely moves the coefficient, a sign that the baseline result is not driven by omitted family or regional factors. Among the controls, chronic disease burden consistently lowers well-being, while higher household income and stronger local economic activity both push it upward.

5.2. Parallel trends test

To validate the DID framework, an event-study analysis is conducted with 2013 as the baseline year. The estimated coefficients for the pre-policy period are all statistically insignificant. Taking 2015 as an example, the interaction term equals -0.0484 with a t-value of -1.37, far below conventional significance levels. This implies that treatment and control groups did not follow systematically different trends before the LTCI pilot, so the parallel trends assumption holds. After the policy took effect, the coefficients turn positive and increase over time: the estimate for 2018 is 0.0943, and the 2020 coefficient remains positive. This gradual upward pattern, rather than an immediate jump, suggests that LTCI improves family well-being through a cumulative process-as formal care networks expand and households adjust their resource allocation over time, the welfare effect builds up progressively. The evidence supports the validity of the staggered DID design.

5.3. Robustness tests

Several robustness checks are further conducted, including placebo tests, PSM-DID estimation, and winsorization of the dependent variable.

A placebo test randomly reassigns the set of pilot cities and pseudo-policy years, repeated 1,000 times. The resulting distribution of DID coefficients centers tightly around zero, while the true estimate (0.090) lies far to the right, outside the 95% confidence interval-a pattern that rejects the possibility of spurious shocks or unobserved regional trends. (Full placebo results are provided in the Appendix.) Selection bias is addressed by combining propensity score matching with DID using pre-policy household characteristics; the dependent variable is also winsorized at the 1st and 99th percentiles to reduce the influence of extreme observations.

Table 4. Robustness checks

	(1) PSM-DID	(2) Winsorization
did	0.098*** (0.025)	0.085*** (0.024)
Constant	-0.826 (0.664)	-0.513 (0.592)
Controls	Yes	Yes
Family Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	11085	11085
R ²	0.546	0.599

Notes: t-values in parentheses, calculated based on robust standard errors, *, **, and *** represent significant at the 10%, 5%, and 1% levels, respectively.

As shown in Table 4, the did coefficient remains significantly positive after both PSM matching and winsorization. In the PSM-DID specification the estimated coefficient is 0.098; after winsorization it becomes 0.085. Although the magnitude declines slightly, the overall conclusion stays unchanged.

6. Mechanism tests and heterogeneity analysis

The baseline results indicate that LTCI significantly improves the comprehensive well-being of elderly families. This section further explores the underlying transmission channels and heterogeneity of the policy effect.

6.1. Channel mechanism tests

Following the existing literature, this paper examines two potential mechanisms: social care participation and intergenerational support adjustment. Social care participation (*social_care*) is defined as whether the family participates in community or institutional care activities. Children's net support (*log_gcampt*) is measured as the standardized logarithm of net financial transfers from children to parents. Mediation effects are estimated using stepwise regression and Bootstrap methods

$$M_{it} = a \bullet did_{it} + \gamma \bullet X_{it} + \alpha_i + \delta_t + \varepsilon_{it} \quad (3)$$

$$well_being_{it} = c' \bullet did_{it} + b \bullet M_{it} + \gamma \bullet X_{it} + \alpha_i + \delta_t + \varepsilon_{it} \quad (4)$$

Table 5. Mechanism tests

	(1)	(2)	(3)	(4)	(5)
	Social Care(1)	Social Care(2)	Social Care(3)	Intergen. Support(2)	Intergen. Support(3)
did	0.0802*** (3.38)	0.104* (1.78)	0.0687*** (3.04)	0.0725 (1.04)	0.0903*** (3.11)
z_social_care			0.111*** (31.56)		
z_log_gcampt					0.0743*** (11.28)
N	14338	14338	14338	9115	9115

Notes: z_social_care and z_log_gcampt are the standardized variables of social care participation and log per-child net financial support from children to parents, respectively.

Results for the social care channel show that LTCI significantly increases participation in formal social care. After including the mediator, the coefficient on *did* declines but remains significant, while the mediator coefficient is highly significant. This indicates that LTCI improves family well-being by promoting formal care utilization and substituting for part of family caregiving. Wang Zhen and Feng Jin also find that formal care services under LTCI significantly reduce medical expenditures and family caregiving burdens [20].

For the intergenerational support channel, adding the mediator leaves the *did* coefficient at 0.0903 and the mediator coefficient at 0.0743, both significant at the 1% level. Bootstrap tests confirm that the indirect effect is non-zero. This pattern implies that LTCI reduces children's forced economic transfers while keeping emotional bonds intact—a reallocation of intergenerational resources that eases financial pressure without weakening family ties.

Taken together, the mechanism analysis shows that LTCI raises elderly family well-being through two main pathways: expanding formal care use and restructuring intergenerational support.

6.2. Heterogeneity analysis

Whether LTCI's welfare effects vary across households is examined next, focusing on disability severity and urban-rural differences. Following existing studies, disability severity is measured by the maximum number of ADL difficulties within a household; a family is classified as severely disabled if that number reaches five or more ($\text{adlab_max} \geq 5$).

Table 6. Heterogeneity analysis

	(1) Severe Disability	(2) Non-severe Disability	(3) Rural	(4) Urban
did	0.423*** (0.122)	0.069*** (0.024)	0.103*** (0.030)	0.056 (0.037)
Adjusted R ²	0.118	0.077	0.105	0.085
Observations	769	16203	10060	6917
Number of Families	629	7,909	4715	3,380

Subsample regressions show that the coefficient on did is 0.423 (significant at the 1% level) in severely disabled families, compared to 0.069 (significant at the 1% level) in non-severely disabled families. The substantially larger effect in the severe disability group highlights the policy's stronger marginal impact where caregiving needs are higher.

By urban-rural division, the coefficient on did is 0.103 (significant at the 1% level) in rural families but only 0.056 (statistically insignificant) in urban families. This pattern indicates that LTCI generates larger welfare gains in rural areas, where formal care resources are more limited and family caregiving burdens are heavier.

7. Conclusion and policy implications

As a major institutional fix for disability risk gaps in China's social security system, LTCI significantly raises elderly family well-being. Using CHARLS panel data (2013-2020) and a staggered DID design, this study finds that the pilot increased the comprehensive well-being index by roughly 0.09 units. Parallel trends, placebo, PSM-DID, and winsorization checks all support this result. Rural and non-severely disabled families gain more-precisely where formal care is scarce and family burden heavy. This pattern confirms LTCI's role as targeted bottom-line protection.

Two mechanisms drive the effect. LTCI expands formal care supply, cuts out-of-pocket costs, and directly improves physical function and quality of life. It also reshapes household resource allocation, reducing reliance on children's financial transfers. This eases intergenerational care pressure while keeping emotional bonds intact-burden relief without care loss. Freed-up family time further boosts elderly social participation, creating an indirect well-being channel.

Several policy recommendations follow from these findings. Nationwide rollout should be accelerated with unified financing and benefit rules. Rural care networks need prioritization. Assessment thresholds for severely disabled families ought to be lowered, and intergenerational ties can be supported through community activities and psychological services. This study only covers the first pilot batch and four CHARLS waves. Future work should include all 49 pilots or national samples and refine well-being index weighting.

Overall, LTCI reshapes household resource flows and elderly living conditions through institutionalized social care, offering empirical support for high-quality LTCI development and common prosperity.

References

- [1] Lu, J., & Gu, Y. (2024). The realistic positioning, key issues, and transformation path of Chinese-style elderly care. *Population and Economics*, (5), 1-12.
- [2] National Bureau of Statistics. (2023). *China Statistical Yearbook 2023*. Beijing: China Statistics Press.
- [3] Wang, Z. (2025). The Chinese path of long-term care security: From pilot exploration to full establishment. *Social Security Review*, 9(4), 1-19.
- [4] National Medical Security Administration. (2020). *Guidance on expanding the pilot of long-term care insurance system*.
- [5] Lu, J., & Guo, R. (2023). The impact of filial piety categories on parental well-being. *Zhejiang Gongshang University Journal*, (01), 135-146.
- [6] Ni, C., et al. (2023). Volunteer service participation and elderly well-being. *Chinese Journal of Population Science*, 37(02), 68-83.
- [7] Wang, J., & Xu, Q. (2020). Living arrangements, intergenerational support and elderly subjective well-being. *Social Development Research*, 7(03), 193-208.
- [8] Zhang, R., et al. (2018). Pension capital, strategies and well-being of Chinese elderly. *Journal of Xi'an Jiaotong University (Social Sciences)*, 38(04), 72-83.
- [9] Li, M., et al. (2025). Informal care cost estimation for China's elderly population. *Population and Economics*, (3), 39-53.
- [10] He, M. (2024). Long-term care insurance and elderly family wealth inequality. *Economics and Management*, 38(04), 84-93.
- [11] Yu, Y., et al. (2017). Impact of elderly care on caregivers' medical service utilization. *Labor Economics Research*, 5(06), 13-35.
- [12] He, S., et al. (2019). Comparative study on financing mechanisms of LTCI pilots. *China Health Resources*, 22(01), 28-34.
- [13] Cai, W., et al. (2021). Long-term care insurance, care choice and intergenerational support. *Economic Perspectives*, (10), 48-63.
- [14] Zhu, M., et al. (2023). Disability risk, LTCI and persistent poverty. *Economic Perspectives*, (09), 111-130.
- [15] Chen, F., & Wang, R. (2024). Common prosperity effects of long-term care insurance. *World Economy*, 47(04), 154-183.
- [16] Shu, Z., & Han, Y. (2022). Long-term care insurance and intergenerational support. *Population and Development*, 28(04), 143-154.
- [17] Wang, Y., et al. (2024). Long-term care insurance and intergenerational transfers. *Financial Review*, 16(1), 130-153.
- [18] Guo, J., et al. (2024). Welfare effects of China's LTCI system. *Price Theory and Practice*, (02), 63-70.
- [19] Kim, B. H., & Lim, W. (2015). Long-term care insurance, informal care, and medical expenditures. *Journal of Public Economics*, 125, 128-142.
- [20] Wang, Z., & Feng, J. (2021). Substitution effect of LTCI on medical expenses. *China Economic Quarterly*, 21(2), 557-576.