DOI: 10.53469/jgebf.2026.08(02).04

How Big Data Shapes New Consumption: Mechanisms and Impacts

Pengwu Lang

School of Economics and Management, Zhejiang Ocean University, Zhoushan 316022, Zhejiang, China

Abstract: ***The 2025 Government Work Report highlighted the imperative to "accelerate the development of digital, green, and intelligent new consumption." This study constructs an index system for new consumption and utilizes the national big data comprehensive pilot zone policy as a quasi-natural experiment, applying the Difference-in-Differences (DID) method to empirically assess big data's impact on new consumption development. Results reveal that the policy significantly fosters new consumption growth, expands consumption areas, and optimizes consumption models, with long-term positive effects. The policy's promotion effect is more pronounced in eastern regions, municipal districts, and medium to large cities. Mechanism analysis identifies human capital accumulation, innovation stimulation, and information asymmetry reduction as key drivers. Consequently, we recommend big data application, strengthening digital talent cultivation, expanding technological spillovers, and implementing differentiated development strategies to promote new consumption.***

Keywords: New Consumption, Consumption Upgrade, Big Data, National Big Data Comprehensive Pilot Zone.

1. Introduction

The 2025 Government Work Report explicitly emphasized the need to implement a special action plan to boost consumption, with particular emphasis on "accelerating the development of new types of consumption such as digital, green, and intelligent consumption." New forms of consumption have played a significant role in meeting the growing needs of the people for a better life, stimulating consumption potential, and comprehensively expanding domestic demand (Zuo Ximei, 2023). Academic research on new types of consumption has undergone a process of continuous deepening. Liao Hongwei and Zhang Li (2019) argued that new consumption involves both the transformation and upgrading of traditional demands and the strong pull of emerging demands. Mao Zhonggen et al. (2020) suggested that new consumption is a behavioral process driven by digital technology to meet people's needs for informatization, intelligence, and multi-dimensional integration services. Liu Na (2023) proposed that new consumption, against the backdrop of substantial development in China's economy and society, is driven by the upgrading of consumer demand (Li Weili, Li Qian, 2024), leveraging information and media technologies to expand consumption space and reshape consumption relationships, thus forming a new pattern of consumer behavior. Existing studies consider new types of consumption as a prominent feature of the digital economy era, providing important references for this article. The policy of establishing comprehensive big data pilot zones at the national level represents the first pilot policy targeting the digital economy, promoting further integration of big data with economic and social activities, which plays an essential role in fostering the development of new types of consumption. This paper uses the policy of national comprehensive big data pilot zones as a quasi-natural experiment, employing DID to examine the mechanisms and pathways through which big data influences the development of new types of consumption, offering support and references for promoting new types of consumption, unleashing consumption potential, and comprehensively expanding domestic demand.

2. Policy Background and Theoretical Analysis

2.1 Policy Background

The National Comprehensive Pilot Zones for Big Data represent the first pilot policy at the national level aimed at advancing the practical application of big data development. In 2015, the State Council issued the Action Plan for Promoting Big Data Development, and in 2016, Guizhou Province became the first approved National Comprehensive Pilot Zone for Big Data. In the same year, in October, seven regions including Beijing-Tianjin-Hebei, the Pearl River Delta, Shanghai, Henan, Chongqing, Shenyang, and Inner Mongolia were designated as the second batch of National Comprehensive Pilot Zones for Big Data. Since the implementation of the pilot policy, digital infrastructure has continuously improved, digital industrialization and industrial digital transformation have accelerated, and digital governance efficiency has become more prominent, further securing the supply base for the development of new types of consumption. The level of new consumption development has steadily increased, and its development potential has significantly improved.

2.2 Theoretical Analysis

The National Comprehensive Pilot Zones for Big Data promote the development and innovation of big data through institutional innovation, data openness, industrial clustering, and international exchange (Sun Weizeng et al., 2023), breaking down barriers to the utilization and transmission of data resources and strengthening the construction of network infrastructure (Wang Jing, 2023), playing a crucial role in promoting the development of new types of consumption.

First, the policy of comprehensive pilot zones for big data enhances residents' new consumption capacity, reduces the cost of new consumption, and unleashes new consumption potential. On one hand, national big data pilot zones promote the agglomeration of digital industries, digital talents, and digital elements, improving the average digital level, digital capability, and digital literacy of local residents, which is conducive to the emergence and rise of new consumption and

provides human resources support for the development and transformation of new industries and emerging enterprises. On the other hand, the pilot zone policy reduces economic activity costs and consumption costs, encouraging consumers to shift more towards new consumption. Due to the inherent characteristics of low diffusion cost and high diffusion speed of data elements (Cai Yuezhou, Ma Wenjun, 2021), the search cost and transaction cost of new consumption are further reduced.

Second, the policy of national big data comprehensive pilot zones promotes the upgrading of traditional industries and gives rise to new consumer business models, offering consumers more choices and promoting the horizontal expansion of new consumption. On one hand, big data optimizes resource allocation and promotes industrial structure upgrading, driving the development of new consumption. The pilot zone policy accelerates the value release of data elements, which helps further amplify, overlap, and multiply the functions of data elements on other production factors, promoting the digital transformation of traditional industries and providing a realization basis for the development of new consumption. On the other hand, the pilot zone policy aims at promoting data application and innovation, focusing on the development, agglomeration, and innovation of the digital industry, advancing the application of digital technology, promoting industrial digital transformation, giving birth to new consumer business models, and broadening the richness of residents' new consumption.

Third, the national big data pilot zones break through traditional consumption boundaries and optimize the consumption environment, solidifying the external conditions and guarantees for new consumption development, improving the consumption experience, and promoting new consumption development. On one hand, new consumption relying on big data development can not only break the limitations of traditional consumption boundaries but also help create immersive virtual consumption scenarios, promoting the diversified development of consumption methods and consumption models. On the other hand, the establishment of the pilot zones innovates the application of information technologies such as the Internet of Things and cloud computing, promotes the openness and sharing of big data, breaks market segmentation, and alleviates consumers' information asymmetry. Meanwhile, the establishment of the pilot zones also provides the public and consumers with more diversified ways and channels to understand and supervise enterprises, forcing companies to continuously improve consumer service capabilities and optimize service content, ensuring the healthy and orderly development of new consumption.

3. Model Specification and Variable Selection

3.1 Model Specification

Baseline regression model. Referring to the research by Nunn and Qian (2011), DID is used to test the impact of relevant pilot policies on new consumption. On the basis of controlling other variables, the differences in the level of new consumption development between the treatment group and the control group before and after the implementation of the pilot policy are examined. The model specification is as follows:

$$nc_{i,t} = \alpha_0 + \beta_1 DID_{i,t} + \beta_2 control_{i,t} + \eta_1 + \mu_t + e_{i,t(DL(i,t))} I_{(DL(i,t))}$$

Among them, nc is the new consumption index, which is the explained variable in this paper. DID represents the policy implementation variable of the national big data comprehensive pilot zone and is an interaction term, DID=treat x period. If it is the experimental group, treat equals 1; otherwise, it equals 0. Before the policy implementation, treat equals 0, and after the policy implementation, treat equals 1. η and μ_t are the individual fixed effects and time fixed effects, respectively, and $\epsilon_{i,t}$ is the error term.

Mechanism test. To examine the mechanism by which the policy of the national big data comprehensive pilot zone affects new consumption, the following model is constructed:

$$Med_{i,t} = \gamma_0 + \gamma_1 DID_{i,t} + \gamma_2 control_{i,t} + \eta_1 + \mu_t + \epsilon_{i,t} (1)$$

Among them, $Med_{i,t}$ is the mechanism variable, η_i and μ_t are the individual and time fixed effects, respectively, and $\epsilon_{i,t}$ is the error term.

3.2 Variable Selection

Explained variable. Combining existing research, a "trinity" comprehensive evaluation index system for the development of new consumption is constructed from three dimensions: new consumption potential, new consumption areas, and new consumption models. This includes indicators such as consumption capacity, comprehensive digital capability, digital consumption, green consumption, online consumption, and new retail. Among these, comprehensive digital capability is a comprehensive indicator and an important factor affecting consumption (Mao Lulu, 2024). Digital capability is the ability to adapt to "digital existence" and is one of the most important survival skills for residents in the digital economy era (Yin Zhichao, Wu Zishuo, 2024). Based on this, the entropy weight method is used to measure the new consumption index. The new consumption index measured based on the entropy weight method (sss_nc) assesses the overall level of regional new consumption development, including three sub-indexes: new consumption potential (nc_1), new consumption areas (nc_2), and new consumption models (nc_3). When conducting robustness analysis, the explained variable is replaced with the new consumption index measured using principal component analysis (yz_nc).

Core explanatory variable. The core explanatory variable for testing the effect of the national big data comprehensive pilot zone policy is the national big data comprehensive pilot zone policy (data). If it belongs to the pilot city of the corresponding policy, the value will be 1 from the year of policy implementation and thereafter; for non-pilot cities and before the policy implementation, the value will be 0. The national big data comprehensive pilot zones were implemented in two batches in 2016, totaling 8 national big data comprehensive pilot zones.

Control variables. Referring to existing research, the control

variables selected in this paper mainly include the economic development level (lngdp), measured by the logarithm of regional GDP; the servitization of industrial structure (structure), measured by the ratio of the added value of the tertiary industry to that of the secondary industry in the region; the financial development level (lnfina), measured by the logarithm of the number of regional financial institution outlets; the technological development level (tech), measured by the proportion of scientific and technological personnel in the total workforce; fiscal expenditure (lncz), measured by the logarithm of government fiscal spending; infrastructure (tra) measured by road network density, which is the ratio of road mileage to urban area; and population (lnpo), measured by the logarithm of the total regional population.

Mechanism variables. First, the policy of national big data comprehensive pilot zones enhances residents' digital capabilities and levels, thereby increasing their perceived ease of use and perceived usefulness of new forms of consumption, encouraging more participation in such consumption. That is, the policy promotes new consumption through a human capital effect. Second, the policy fosters innovation, driving the digital transformation of traditional industries and the rise of new industries. This means the policy facilitates new consumption via an innovation effect. Third, the policy alleviates information asymmetry, reducing the cost of new consumption for residents and optimizing the new consumption experience, thus promoting new consumption. In other words, the policy fosters new consumption through human capital effects, innovation effects, and mitigating information asymmetry. These mechanisms are measured respectively by the depth of digital finance usage (usage_depth), the level of digitization (digi_level), telecommunications business revenue (tele_inc), and postal and telecommunications business revenue (post_inc).

3.3 Data Sources

The data measuring the development level of new consumption in the region is derived from the new consumption index measured using the entropy weight method and principal component analysis. This index measures the new consumption development level of 155 representative counties (districts) from 2013 to 2019, with a total of 1085 observation samples. Specifically, the data for each indicator in the new consumption index system comes from the China Family Panel Studies (CFPS), Wind database, Center for Global Environmental Research, World Intellectual Property Organization (WIPO), Baidu Index, NPP-VIIRS, etc. Based on the counties (districts) sampled in CFPS, areas with severe data loss are removed, resulting in the new consumption index for 155 representative counties (districts). Additionally, data on GDP, tertiary industry added value, secondary industry added value, total population, the proportion of science and technology professionals among employees, the ratio of road mileage to urban area, and regional government fiscal expenditure are sourced from the Wind database, as well as statistical yearbooks and statistical bulletins of various cities. The number of financial institution outlets in counties (districts) comes from the National Financial Regulatory Administration. The depth of digital finance usage and the level of digitization are sourced from the "Peking University Digital Inclusive Finance Index," with some missing data replaced by regional averages, see Table 1.

4. Empirical Test

4.1 Baseline Regression Results

Based on Equation (1), Table 2 reports the baseline regression results of the policy for national big data comprehensive pilot zones. Column (1) presents the regression results after including only the core explanatory variables, while controlling for individual fixed effects and time fixed effects. The coefficient of the core explanatory variable is 0.071, which is significant at the 1% level. This indicates that after the implementation of the big data comprehensive pilot zone policy, the new consumption index of the treatment group was significantly higher than that of the control group, meaning that the pilot policy significantly promoted new consumption in the pilot areas. Column (2) shows that even after controlling for other variables, the coefficient of the core explanatory variable remains significantly positive at the 1% level. This suggests that after excluding interference from other control variables, the big data comprehensive pilot zone policy still significantly promoted regional new consumption. Columns (3), (4), (5), (6), (7), and (8) respectively report the impacts of the national big data comprehensive pilot zone policy on new consumption potential, new consumption areas, and new consumption models, both without and with the inclusion of control variables. The results show that the big data comprehensive pilot zone policy significantly promoted the release of new consumption potential, the expansion of new consumption content, and the optimization and enhancement of consumption experience. Specifically, first, the establishment of big data comprehensive pilot zones reduced residents' transaction costs and search costs, improved their consumption capacity, and promoted the release of consumption potential. Second, big data empowered traditional factors, optimized resource allocation, and stimulated innovation, driving the upgrading and transformation of traditional consumption formats and giving rise to new consumption formats, thereby broadening the scope of new consumption development. Third, the national big data comprehensive pilot zone policy not only technically prompted companies to disclose more information but also provided consumers with more channels to learn about this information, urging companies to offer consumers more comprehensive and diversified services, protect consumer rights, and optimize the consumption experience.

4.2 Parallel Trend Test

Similarly, based on the difference-in-differences model, we examine whether the change trends of the treatment group and the control group are consistent by adding interaction terms between the dummy variables for each year before the policy and the grouping dummy variables. The test model is set as follows:

$$\begin{aligned} \mathrm{Nc}_{\mathrm{I,t}} = \alpha_0 + \sum j = 3^3 \beta_j \left(\mathrm{treat}_{\mathrm{I,t}} \times \mathrm{yperiod}_{\mathrm{t}}\right) \\ + \beta_2 \ \mathrm{control}_{\mathrm{I,t}} + \eta_{\mathrm{i}} + \mu_{\mathrm{t}} \ + \epsilon_{i,t} \end{aligned} \quad (2)$$

Where $j \in \{-3,-2,-1,0,1,2,3\}$, this paper selects 2015 (j=0-1) as the base group. t is the time when the big data comprehensive pilot zone was established, and yperiod is the constructed year dummy variable, which takes the value of 1

when t = j, otherwise it is 0.

The parallel trend test results are shown in Figure 1. It can be found that the regression coefficients before the policy shock are not significant, while after the policy shock, there is a clear difference in the change trends between the control group and the experimental group, passing the parallel trend test.

Furthermore, based on the parallel trend test in Figure 1, analyze the sustainability of the policy and whether there is heterogeneity in different years. From the trend of coefficient changes, it can be found that the comprehensive pilot zone policy started to have a significant effect in the later period of implementation, showing an enhanced effect, indicating that the policy has a long-term impact on the development of new types of consumption.

4.3 Robustness Test

1) Placebo test. To prevent estimation bias that may be caused by omitted variables, a new policy treatment group was constructed through random sampling. Similarly, using the new consumption index as the explained variable, the benchmark regression model was used to test the policy effect. This article conducted 500 random samplings, and the kernel density function of the estimated coefficients of the generated treatment group and the corresponding P-values are shown in Figure 2.

The dashed line in Figure 2 (1) represents the true estimated coefficient in the benchmark model. It can be found that the estimated coefficients from 500 random samplings are basically evenly distributed on both sides of 0, far from the true estimated coefficient of 0.062. At the same time, most of the estimation results from 500 random samplings shown in Figure 2 (2) are greater than 0.001. It can be considered that the regression results of this article passed the placebo test, with no significant omitted variable problem.

Table 1: Descriptive Statistics Table

Variable Type	Variable	Meaning	Mean	Standard Deviation	Range
Explained Variable	sss_nc	New Consumption Index Based on Entropy Weight Method	0.070	0.117	0.004-0.760
	nc_1	New Consumption Potential Index	0.015	0.012	0.001-0.113
	nc_2	New Consumption Field Index	0.014	0.019	0.001-0.184
	nc_3	New Consumption Model Index	0.041	0.095	0.000-0.576
	yz_nc	New Consumption Index Based on Principal Component Analysis	0.000	0.620	-0.813-2.648
Core Explanatory Variable	data	Big Data Comprehensive Pilot Zone	0.195	0.397	0-1
Control Variables	lngdp	Economic Development Level	5.398	1.296	1.700-9.452
	structure	Industrial Structure	2.313	4.345	0.092-51.860
	Infina	Financial Development Level	4.365	0.865	1.099-7.263
	tech	Technological Development Level	0.021	0.017	0.001-0.198
	tra	Infrastructure Construction Status	0.653	0.593	0.009-4.769
	lncz	Fiscal Expenditure Status	6.206	1.249	2.203-16.680
	Inpo	Population	3.953	0.805	1.570-6.952
Mechanism Variable	post_inc	Postal and Telecommunications Business Revenue	11.323	1.533	8.498-16.430
	usage depth	Digital Finance Usage Depth	191.5	58.2	70.400-332.000
	digi level	Digitization Level	237.9	50.0	111.500-340.000
	tele_inc	Telecommunications Business Revenue	0.106	0.174	0.001-1.400

Table 2: Benchmark Regression Results of the Big Data Comprehensive Pilot Zone Policy

	(1) sss_nc	(2) sss_nc	(3) nc_1	(4) nc_1	(5) nc_2	(6) nc_2	(7) nc_3	(8) nc_3
data	0.071	0.062	0.001	0.001	0.009	0.008	0.061	0.053
	(7.29)	(6.42)	(3.51)	(2.41)	(7.04)	(7.00)	(3.75)	(5.87)
Control variables	NO	YES	NO	YES	NO	YES	N0	YES
N	1085	1085	1085	1085	1085	1085	1085	1085
R^2	0.78	0.80	0.97	0.97	0.88	0.89	0.19	0.73
Individual fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES	YES	YES

Note: *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; the same applies to the table below.

2) PSM-DID. To address potential selection bias affecting regression outcomes, this paper draws on existing literature to use propensity score matching for reselecting the control group and constructs a difference-in-differences model (PSM-DID) for regression analysis (HeymanDetDal., 2007). A Logit model is applied to obtain the probability of regions becoming big data comprehensive pilot zones based on basic characteristics from the base period (2016), with consistent selection of base period features and control variables, including economic development level, industrial structure, fiscal expenditure, financial development level, technological development level, population, and other major economic variables. Columns (1), (2), and (3) of Table 3 report regression results using one-to-two nearest neighbor matching, kernel matching, and radius matching. Under different matching methods, the impact of pilot zones on regional new consumption development remains significantly positive, confirming the baseline regression results.

3) Adjusting the sample. The policy of comprehensive pilot zones has certain regional characteristics and may be influenced by city-specific features. Beijing, Shanghai, Tianjin, and Chongqing, which are outside provincial administrative regions, often have higher levels of new consumption development and might affect the baseline regression results in this paper. Therefore, regressions were conducted after excluding municipalities. Column (4) of Table 3 shows the regression results after removing samples from the four municipalities. It can be seen that the results

remain robust after excluding potentially influential special samples.

4) Replacing key variables. Furthermore, the explained variable was replaced with a new consumption index calculated using principal component analysis for regression (see column (5) of Table 3). After replacing the explained variable, the coefficient of the national big data comprehensive pilot zone policy remains significantly positive at the 1% level.

5) Excluding the influence of other policies. The "Broadband China" initiative is considered an important policy affecting information technology and digital economy development (Jiao et al., 2023) and may correlate with the comprehensive pilot zone policy, impacting the baseline regression results. Referring to Bu Han et al.'s (2023) research, a dummy variable for the "Broadband China" policy was included in the baseline regression model for re-estimation to exclude its potential effects (see column (6) of Table 3). Considering the influence of the "Broadband China" policy, the coefficient of the national big data comprehensive pilot zone policy remains significant at the 1% level, consistent with the baseline model results.

4.4 Heterogeneity Test

1) Heterogeneity analysis based on urban districts and counties. In view of the significant differences in the foundation and level of new consumption development between urban districts and counties, the impact of the pilot policy may vary. The sample is divided into urban districts and counties for grouped regression. Columns (1) and (2) of Table 4 show the results of the pilot policy's impact on new consumption in counties and urban districts. It can be found that the pilot policy significantly promoted new consumption development in urban districts at the 1% level, but significantly inhibited new consumption development in pilot counties at the 5% level. The pilot policy may lead to the concentration of quality resources, human resources, and materials in the central areas of pilot cities, promoting the development of new consumption in urban districts while inhibiting the development of new consumption in county areas through a suction effect.

2) Heterogeneity analysis based on regions. Similarly, the sample areas are divided into eastern regions and other regions for grouped regression (where the eastern region includes 9 provinces: Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, comprising 54 districts (counties); other regions include 16 provinces: Shanxi, Anhui, Jiangxi, Henan, Hubei, Hunan, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Shaanxi, Gansu, Liaoning, Jilin, and Heilongjiang, comprising 101 districts (counties). Columns (3) and (4) of Table 4 show the results of the pilot policy's impact on the new consumption development levels in the eastern region and other regions. It can be found that the pilot policy significantly improved the new consumption level in the eastern region at the 1% level, but its impact on the new consumption development level in other regions was not significant.

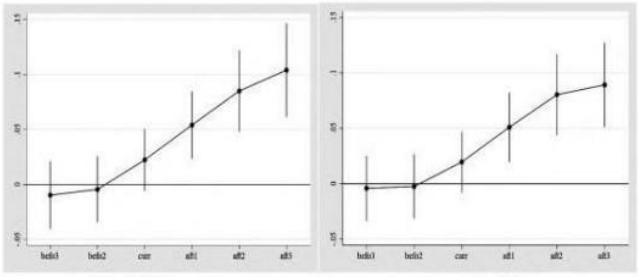

Figure 1: Parallel Trend Test of Big Data Comprehensive Pilot Zones

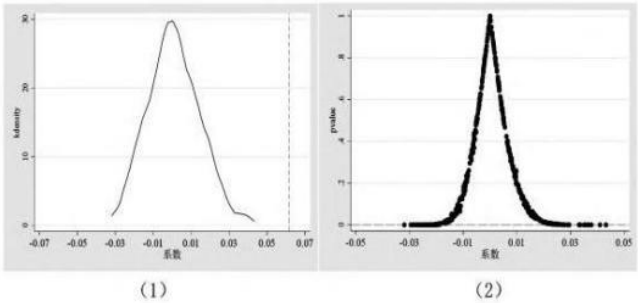

Figure 2: Placebo Test Results of Big Data Comprehensive Pilot Zones

Table 3: Robustness Test Results

Variable	(1)	(2)	(3)	(4)	(5)	(6)
data	0.018*	0.056	0.025***	0.018**	0.102***	0.061
	(1.70)	(5.40)	(2.94)	(2.35)	(5.13)	(6.36)
Control variable	YES	YES	YES	YES	YES	YES
broa	-	-	-	-	-	YES
N	482	1034	931	903	1085	1085
R^2	0.81	0.79	0.79	0.77	0.97	0.80
Individual fixed	YES	YES	YES	YES	YES	YES
Year fixed	YES	YES	YES	YES	YES	YES

Table 4: Qualitative Analysis Results

Variable	(1) County	(2) City district	(3) Eastern	(4) Other regions	(5) Small and medium-sized cities	(6) Large cities	(7) Mega cities
data	-0.001***	0.091***	0.112***	0.001	0.002*	0.000	0.112***
	(-2.32)	(5.32)	(6.81)	(0.16)	(1.79)	(0.02)	(4.88)
Control variables	YES	YES	YES	YES	YES	YES	YES
N	644	441	378	707	371	504	210
R^2	0.96	0.80	0.83	0.67	0.95	0.85	0.81
Individual fixed	YES	YES	YES	YES	YES	YES	YES
Year fixed	YES	YES	YES	YES	YES	YES	YES

Table 5: Mechanism Analysis Results

Variable	(1) usage_depth	(2) digi_level	(3) tele_inc	(4) post_inc
data	2.884***	17.032***	0.020***	0.080***
	(3.13)	(7.55)	(2.65)	(4.12)
Control variable	YES	YES	YES	YES
N	1085	1085	1085	1085
R^2	0.99	0.88	0.93	0.44
Individual fixed	YES	YES	YES	YES
Year fixed	YES	YES	YES	YES

3) Heterogeneity analysis based on the scale of regional cities. The impact of big data may also exhibit heterogeneity in cities of different sizes. According to the standards set out in the "Notice of the State Council on Adjusting the Criteria for Classifying City Sizes," this paper divides sample cities into small and medium-sized cities, large cities, and megacities based on population for grouped regressions. Columns (5), (6), and (7) of Table 4 respectively show the results of the impact of the comprehensive pilot zone policy on the development level of new consumption in small and medium-sized cities, large cities, and megacities. It can be found that the implementation of the pilot policy significantly affects the development level of new consumption in small and medium-sized cities at the 10% level, significantly affects the development level of new consumption in megacities at the 1% level, and does not significantly affect the development of new consumption in large cities.

4.5 Mechanism Analysis

Using usage_depth, digi_level, tele_inc, and post_inc to measure the mechanisms through which the pilot policy promotes the development of new consumption via human capital effects, innovation effects, and alleviating information asymmetry, as shown in Table 5. The results indicate that the comprehensive pilot zones significantly enhanced residents' ability to utilize digital technology at the 1% level, significantly promoted the digital transformation and development of regional industries at the 1% level, and significantly increased the volume of information flow in the region at the 1% level. It can be concluded that the big data comprehensive pilot zone policy has significantly promoted the development of new regional consumption through human capital effects, innovation effects, and alleviating information asymmetry.

5. Policy Recommendations

First, deepen the application of big data and strengthen the practical foundation for the development of new consumption. Vigorously promote digital industrialization and industrial digitalization, lead consumption upgrades with industrial upgrades, and drive industrial upgrades with consumption upgrades, forming a virtuous cycle where new consumption supply drives new consumption demand and new consumption demand pulls new consumption supply. Promote cross-industry, cross-category, and cross-demographic integrated development of new consumption, and foster the growth of new business models and modes such as "Internet + Health," "Internet + Elderly Care," "Internet + Tourism," and "Internet + Education."

Second, strengthen the cultivation of digital talent and the popularization of digital literacy education to enhance residents' capacity for new consumption. On one hand, reinforce the cultivation of digital talent teams. Accelerate the promotion of industry-academia-research integrated innovation to form a digital talent training system jointly run by the government, enterprises, society, and schools. On the other hand, promote digital skills education. Increase public education spending in rural and remote mountainous areas, focus on enhancing the human capital levels of underdeveloped regions and vulnerable groups, narrow the digital divide for elderly groups, those with low educational attainment, people in remote mountainous areas, and farmers compared to other groups, and avoid marginalizing certain groups in new consumption.

Third, focus on leveraging the spillover effects of digital technology development to promote the coordinated development of new consumption. Fully utilize the spillover effects of digital technology development in large cities and central urban areas to address practical constraints such as insufficient innovation momentum, inadequate innovation levels, and lower-end industrial structures in county and township areas. Through collaborative innovation and imitative innovation, maximize the benefits brought by technological spillover effects to drive the development of new consumption.

Fourth, implement differentiated big data development policies to promote the diversified development of new consumption. Progressively and purposefully advance the empowerment of consumption development through big data. Promote the aging-friendly transformation of new consumption products and services, develop products and services that meet the general and specific consumption needs of the elderly population, stimulate the interest of the "silver-haired" group, and enhance perceived ease of use and perceived usefulness.

References

[1] Zuo Ximei. How digitalization drives consumption upgrade - A mechanism study from the perspective of new consumption [J]. Commercial Economic Research, 2023 (18).

[2] Liao Hongwei, Zhang Li. New consumption promotes industrial structure transformation and upgrading [J]. People's Forum, 2019 (26).

[3] Mao Zhonggen, Xie Chi, Ye Xu. New consumption in a new era of China: Theoretical connotation, development characteristics, and policy orientation [J]. Economist, 2020 (9).

[4] Liu Na. The theoretical connotation, practical form, and innovative experience of new consumption [J]. Consumption Economy, 2023, 39 (3).

[5] Li Weili, Li Qian. The impact of modern circulation system construction on consumption upgrade from the perspective of new consumption [J]. Commercial Economic Research, 2024 (13).

[6] Sun Weizeng, Mao Ning, Lan Feng, Wang Li. Policy empowerment, digital ecosystem, and enterprise digital transformation - A quasi-natural experiment based on national big data comprehensive pilot zones [J]. China Industrial Economics, 2023 (9).

[7] Wang Jing. The impact of network infrastructure construction on the development of trade and commerce: Theoretical and empirical tests [J]. Commercial Economic Research, 2023 (18).

[8] Cai Yuezhou, Ma Wenjun. The impact of data elements on high-quality development and data flow constraints [J]. Quantitative & Technical Economics, 2021, 38 (3)

[9] Nunn IN, Qian IN. The [potato's] contribution [to population and urbanization]: Evidence from a historical

experiment [J]. The Quarterly Journal of Economics, 2011, 126 (2).
[10] Mao Lulu. Temporal and spatial characteristics and influencing factors of digital information consumption level [J]. Economic Geography, 2024, 44 (10).
[11] Yin Zhichao, Wu Zishuo. Can e-commerce going rural narrow the consumption inequality of rural households? - A quasi-natural experiment based on the policy of "Comprehensive Demonstration of E-commerce into Rural Areas" [J]. Chinese Rural Economy, 2024 (3).
[12] Heyman IF, Sjoholm DF, Tingvall P[G. Is] there I really [a] foreign ownership[lgell] premium? Evidence from [matched] employer-employee data[J]. Journal of International Economics, 2007, 73 (2).
[13] Jiao Hao, Cui Yu, Zhang Yamin. Digital Infrastructure Construction and Attracting High-skilled Entrepreneurial Talents in Cities [J]. Economic Research, 2023, 58 (12).
[14] Bu Han, Gao Yuandong, Xun Zhou. How Does Big Data Affect the Labor Income Share? — Evidence from National Big Data Comprehensive Pilot Zones [J]. South China Economy, 2023 (11).