

“Do new quality productivity and international trade have a positive impact on common prosperity?”


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DO NEW QUALITY PRODUCTIVITY AND INTERNATIONAL TRADE HAVE A POSITIVE IMPACT ON COMMON PROSPERITY?

Abstract

This study addresses the critical need to understand how emerging economic drivers can facilitate common prosperity by empirically examining the mechanisms by which new quality productivity and international trade facilitate common prosperity. The aim is to identify and compare the respective roles of these two forces in promoting common prosperity. Using panel data from 11 prefecture-level cities in Zhejiang Province, China, covering the period 2014–2023, the study finds that new quality productivity exerts a significant positive influence on common prosperity in Zhejiang Province (the coefficient of new quality productivity to common prosperity is 0.79), serving as the primary driving force behind this endeavor. International trade also exerts a significant positive impact on common prosperity (the coefficient of international trade to common prosperity is 0.19). Both forces jointly propel common prosperity in Zhejiang Province, with new quality productivity serving as the core engine and international trade providing crucial support. Heterogeneity analysis indicates that the effect is stronger in the coastal areas of eastern Zhejiang (regression coefficient is 0.629) than in the inland regions of western Zhejiang (regression coefficient is 0.438). This study provides theoretical foundations and policy references for Zhejiang Province to advance common prosperity by synergistically developing new quality productivity forces and international trade.

Keywords

new quality productivity, international trade, common prosperity, promoting effect, Zhejiang Province, China

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INTRODUCTION

Nowadays, the global economy faces challenges such as insufficient growth momentum and the resurgence of trade protectionism. As a powerful engine driving future development, new quality productivity has become a core area of competition among nations. New quality productivity is characterized by revolutionary technological breakthroughs, innovative allocation of production factors, and deep industrial transformation and upgrading, injecting new vitality into high-quality economic development. China has positioned the development of new quality productivity as a key driver for economic transformation and upgrading, aiming to achieve sustainable economic growth through technological innovation and industrial transformation.

International trade serves as a vital link connecting the domestic and international dual circulation, playing a pivotal role in resource allocation, technology dissemination, and economic growth. As a major foreign trade province in China, Zhejiang achieved a total import and export value of 5.26 trillion yuan in 2024, accounting for 12% of the national total. With a trade dependency ratio of 58.4%, internation-

al trade has become a vital pillar supporting Zhejiang's economic development. Meanwhile, Zhejiang Province has been entrusted with the significant mission of establishing a demonstration zone for common prosperity and exploring effective pathways toward shared prosperity. In 2024, the province's per capita disposable income reached 67,000 yuan, with the urban-rural income ratio standing at 1.83:1 – below the national average. However, issues such as regional disparities and income gaps remain to be further addressed.

Against this backdrop, examining how new quality productivity and international trade jointly influence common prosperity in Zhejiang Province holds significant practical implications for advancing the province's high-quality economic development and achieving its common prosperity goals.

1. LITERATURE REVIEW AND RESEARCH HYPOTHESES

In existing research, the theoretical framework for new quality productivity remains in its formative stage, with further exploration needed into its connotations, measurement methods, and socio-economic impacts. While theoretical studies on common prosperity are relatively mature, discussions on the interplay between new products, international trade, and common prosperity remain insufficient.

At the same time, contemporary economic literature increasingly emphasizes the need to integrate productivity dynamics with inclusive development paradigms. Recent studies argue that the transition from traditional productivity growth models toward “quality-oriented productivity” reflects a broader structural shift in the global economy, where innovation, digitalization, and sustainability jointly determine long-term welfare outcomes. This perspective aligns with the concept of common prosperity, which extends beyond income growth to encompass equitable distribution, social cohesion, and multidimensional well-being.

1.1. Common prosperity

Research on common prosperity focuses on defining its connotation, establishing evaluation systems, and identifying implementation pathways. Zhang (2023) argues that common prosperity encompasses two aspects: the production and distribution of social wealth. Liu et al. (2021) stressed that the essence of common prosperity lies in all the people, under the safeguards of the socialist

system with Chinese characteristics, jointly creating increasingly advanced, world-leading productive forces and sharing an increasingly happy and fulfilling life. Zhang (2021) interprets common prosperity at two levels (general and specific connotations), arguing that it represents prosperity where material and spiritual civilization are coordinated, exhibiting asynchronous development.

From a broader theoretical standpoint, common prosperity can be interpreted as a multidimensional construct closely related to inclusive growth, social justice, and sustainable development (Al-Smadi & Al-Smadi, 2024; Hernández-Medina et al., 2024). International research increasingly links prosperity not only to income equality but also to access to opportunities, human capital accumulation, and institutional quality. In this regard, the concept overlaps with the frameworks of inclusive development and capability expansion, where the focus is placed on enabling individuals to fully participate in economic and social life (Das, 2025).

Xue et al. (2023) argue that the synergy between favorable macroeconomic conditions (FDI, GDP, exchange rate) and investments in sustainable rural development creates a foundation for large-scale infrastructure projects, transforming natural resources into a stable source of national welfare.

A cross-country panel analysis by Paiva and Soares (2025) expands the understanding of national prosperity by demonstrating the positive impact of economic freedom not only on profits but also on the Human Development Index (HDI). The authors emphasize that free international trade and the protection of property rights are fundamental prerequisites for improving the quality of life, as

they generate resources for investments in education and healthcare, which form the basis of long-term sustainable development.

Moreover, empirical evidence from cross-country studies suggests that institutional factors such as governance quality, regulatory efficiency, and social protection systems play a decisive role in translating economic growth into shared prosperity (Dogan, 2025). Without such institutional mechanisms, economic expansion may lead to increased inequality, thereby undermining the very foundations of common prosperity.

Liu et al. (2021) designed an evaluation framework for common prosperity tailored to China's national conditions, based on the dual dimensions of holistic prosperity and shared development. Chen (2023) employed principal component analysis and a geometric synergy model to measure the levels of digital economic development and the achievement of common prosperity in China's 265 prefecture-level cities during 2012–2020, and constructed corresponding evaluation indices.

W. Wang (2024) constructed an evaluation index system for common prosperity based on three dimensions (development, equity, and sustainability) using panel data from 30 Chinese provinces covering the period 2005–2022 and employed the entropy method to measure the level of common prosperity.

Research by Shi et al. (2026) reveals that low-carbon city pilots act as a catalyst for corporate environmental spending, a critical component in developing a new quality of productive forces. The study underscores that policy-driven economic greening promotes the integration of sustainable technologies and bolsters national economic resilience, ensuring competitiveness in the face of the global energy shift and increasingly rigorous international environmental trade regulations.

The study identifies strategic priorities for the sustainable development of amalgamated territorial communities, emphasizing the importance of effective resource management to enhance the social well-being of the population. Tarasenko et al. (2021) demonstrate that the implementation of evidence-based community development strategies

is a key tool for overcoming economic inequality and ensuring long-term social stability within regions.

The publication by Mishenin et al. (2024) identifies the key directions and proves that harmonizing food security with public health preservation creates a sustainable foundation for long-term socio-economic development and societal well-being.

Liu et al. (2021) argue that achieving common prosperity must focus on addressing the issues of unbalanced and inadequate development. The primary approach should be to ensure that all people can fairly accumulate human capital, fairly obtain opportunities for participation, and fairly share in the fruits of development. The main starting point should be to expand the middle-income group and enhance its level of prosperity, while continuously raising per capita income levels and narrowing disparities among different population groups, regions, and between urban and rural areas throughout the process of high-quality development.

1.2. New quality productivity

Since its introduction, the concept of new quality productivity has garnered extensive attention within academic circles.

Conceptually, new quality productivity represents a shift from factor-driven and investment-driven growth toward innovation-driven and efficiency-oriented development. It integrates digital technologies, green transformation, and advanced human capital as key production factors, thereby redefining the traditional boundaries of productivity theory (Liu et al., 2025). This transformation reflects the emergence of a knowledge-based economy, where intangible assets, data, and technological capabilities become central to value creation.

J. Wang (2024) notes that while fundamentally falling within the category of productive forces, new quality productivity exhibits unique attributes within the context of the new development paradigm. They represent a distinct form of productive forces that align with high-quality economic development and possess distinctive characteristics.

Chen et al. (2025) argue that digital trade, as a product of the deep integration of digital technology and international trade, can promote the formation and development of new quality productivity through pathways such as enhancing scientific and technological innovation capabilities, driving the digital transformation of trade structures, and accelerating the spatial and virtual aggregation of human capital. Specifically, digital trade accelerates critical and disruptive technological innovation through three channels: innovation driven by consumer demand, innovation spurred by corporate competition mechanisms, and integration into the global innovation system. At the same time, digital trade helps cultivate new quality productivity and shape a new pattern of human capital accumulation.

A systematic review of how digital technologies and artificial intelligence (AI) have been transforming cross-border trade volumes demonstrates that trade digitalization doubles export intensity for small and medium-sized enterprises (SMEs), a factor that is critical to overall national prosperity (Sina & Muhammad, 2025).

Qiu et al. (2024) systematically elucidate the formation mechanism of new quality productivity from the perspective of artificial intelligence (AI) innovation. The study indicates that AI innovation empowers the formation of new quality productivity through three dimensions: the supply side (structural adjustments in the allocation of production factors), the demand side (the expanding marginal effect of consumption duality under platform-driven conditions), and the technological side (readjustment of the labor force's skill structure).

Goldberg and Ruta (2025) analyze how participation in global value chains facilitates technology transfer and institutional change in developing countries through mechanisms of structural transformation and global market access. At the same time, the authors emphasize that in the face of digital transformation, protectionism, and geopolitical instability, traditional models of export-oriented growth are losing their effectiveness, compelling states to seek new pathways to prosperity through trade in services and the green transition.

Ji et al. (2024), using panel data from 30 Chinese provinces covering 2013–2022, found that economic, educational, policy, and resource factors significantly affect new quality productivity. Specifically, the level of domestic economic development, the level of foreign trade, the overall level of educational investment, the level of higher education development, and the level of policy attention all have a positive impact on new quality productivity.

Kong et al. (2024) constructed an evaluation index system for new quality productivity based on three subsystems: new types of workers, new types of means of production, and new types of objects of labor. They used the degree of coupling and coordination among these subsystems to measure the level of development of new quality productivity.

Xu et al. (2025) systematically constructed a comprehensive evaluation index system for the development level of new quality productivity based on the new development philosophy, encompassing digital productive forces, collaborative productive forces, green productive forces, open productive forces, and shared productive forces. Li (2023) suggests that fostering the development of new quality productivity forces requires a two-pronged approach: strengthening the leading role of scientific and technological innovation while accelerating the cultivation and expansion of emerging industries.

1.3. New quality productivity and common prosperity

Huang (2025) examines the enabling effects of new quality productivity on common prosperity from both theoretical and empirical perspectives. The study indicates that technological productivity, digital productivity, and green productivity are the primary channels through which these effects are realized. Empirical analysis based on provincial panel data from 2013 to 2022 reveals that new quality productivity has a significant positive impact on common prosperity, with regional heterogeneity characterized by higher levels in the east and lower levels in the west.

Theoretically, the relationship between new quality productivity and common prosperity can be explained through several transmission mecha-

nisms, including income effects, employment structure transformation, and public goods provision (Cui & Du, 2025). On the one hand, productivity gains increase overall economic output and fiscal capacity, enabling greater redistribution and social investment. On the other hand, structural changes driven by innovation may generate both opportunities and risks, particularly in terms of labor market polarization and skill-biased technological change.

Chen et al. (2025) examined the impact of new quality productivity on common prosperity and the mediating effect of industrial structure upgrading using provincial panel data from 2012 to 2021. The study found that new quality productivity significantly and positively promote common prosperity, with structural differences observed; the rationalization and upgrading of industrial structure play a partial mediating role in this process. Heterogeneity analysis indicates that the promotional effect of new quality productivity on common prosperity is strongest in the central regions, followed by the eastern regions, while it is not significant in the western regions.

The annual Economic Freedom of the World report (Gwartney et al., 2025) empirically confirms the critical role of international trade freedom as one of the five fundamental pillars of national prosperity. It is argued that countries with low trade barriers, convertible currencies, and minimal administrative interference in foreign economic activity not only demonstrate higher GDP growth rates but also provide a significantly higher income level for the poorest 10% of the population compared to closed economies.

International trade provides the necessary resource inflow for prosperity. However, without the implementation of new quality productive forces and inclusive fiscal policy (as evidenced, for example, by the Chilean experience), these resources fail to foster harmonious societal development. Thus, while international trade serves as an essential source of national wealth, the case of Chile (Garrido & Morales, 2023) demonstrates that without a transition to new quality productive forces, trade openness may only widen the gap between income quintiles instead of converting economic growth into general national prosperity.

1.4. International trade and common prosperity

He et al. (2024) found that cross-border e-commerce can significantly promote common prosperity within enterprises by increasing the share of labor income through three channels: facilitating cross-border trade, expanding markets, and creating jobs. W. Wang (2024) found that export trade has a significant positive impact on China's level of common prosperity. Y. Wang (2024) uses the ratio of total imports and exports to GDP to measure the degree of foreign trade openness.

From a theoretical perspective, international trade affects common prosperity through multiple channels, including resource allocation efficiency, technology diffusion, and income distribution. Classical and new trade theories suggest that openness enhances productivity by exposing firms to global competition and innovation (Yeboah et al., 2025). However, recent empirical studies also highlight that the distributional effects of trade are uneven, often benefiting skilled workers and competitive regions more than others.

Blanchard and Olney (2017) investigate how shifts in export structure incentivize the population to invest in education. Their study demonstrates that high-tech trade generates demand for a skilled workforce, which in the long run fosters the 'intellectual prosperity' of the nation.

Consequently, the impact of international trade on common prosperity is inherently conditional and depends on the structure of exports, the level of technological development, and the inclusiveness of domestic institutions (Mirzaye & Mohiuddin, 2025). Countries that successfully integrate into global value chains while upgrading their industrial structure are more likely to transform trade gains into widespread social welfare improvements.

The authors of the publication identified a paradoxical negative correlation between excessive reliance on land-border trade and economic growth, emphasizing the necessity of developing high-quality infrastructure and public governance to overcome this barrier (Tandra et al., 2025).

Bondarchuk (2025) views international trade not merely as a source of foreign exchange earnings but as a strategic driver of structural reforms, innovation activity, and production modernization, which are critical for strengthening national economic competitiveness. She argues that, sustainable prosperity is only achievable through a combination of high-value-added exports, the development of institutional infrastructure, and effective public-private partnerships in response to the challenges of digitalization and the ‘greening’ of global markets.

Despite the growing body of literature on common prosperity, the theoretical and empirical interplay between new quality productivity, international trade, and common prosperity remains insufficiently explored. To bridge this research gap, the primary aim of this study is to investigate the individual and synergistic impacts of new quality productivity and international trade on the achievement of common prosperity. By taking Zhejiang Province as the specific research context, this study seeks to quantify these relationships, elucidate their underlying mechanisms, and provide targeted empirical evidence and policy recommendations for regional high-quality development.

Based on the preceding literature review and the stated research aim, this study proposes the following hypotheses:

H1: New quality productivity exerts a significant positive effect on common prosperity in Zhejiang Province.

H2: International trade exerts a significant positive effect on common prosperity in Zhejiang Province.

H3: New quality productivity and international trade collectively constitute the driving force for common prosperity.

2. METHODS

2.1. Data sources and sample selection

This study utilizes panel data from 2014 to 2023 across 11 prefecture-level cities in Zhejiang Province (Hangzhou, Ningbo, Wenzhou, Shaoxing, Huzhou, Jiaxing, Jinhua, Quzhou, Zhoushan, Taizhou, and Lishui) as the research sample. Data sources include the Zhejiang Statistical Yearbook, municipal statistical bulletins, and the EPS database. Partially missing data were imputed using linear interpolation, and all variables underwent standardization to eliminate dimensional effects.

2.2. Variable selection and measurement

2.2.1. Dependent variable: Common Prosperity Index (CO)

Building upon the preceding overview of the definition of common prosperity and existing research, an evaluation index for common prosperity is constructed across three dimensions: material prosperity, spiritual prosperity, and urban-rural disparities (Table 1). The entropy weight method is employed to calculate the level of common prosperity development.

2.2.2. Core explanatory variable: New quality productivity (NQP)

New quality productivity is primarily manifested in three dimensions: technological productiv-

Table 1. Evaluation indicators for common prosperity

Primary indicators	Secondary Indicators	Indicator Calculation	Positive/negative
Common prosperity	Material prosperity	Per capita GDP (ten thousand yuan)	+
		Per capita consumer expenditure of residents (10,000 yuan)	+
		Disposable income of residents (10,000 yuan)	+
	Spiritual prosperity	Number of sports facilities (units)	+
		Number of regular higher education institutions (units)	+
		Education Expenditures (10,000 yuan)	+
	Urban-rural disparities	Ratio of per capita disposable income between urban and rural residents (%)	-

ity, green productivity, and digital productivity. Therefore, a comprehensive evaluation system for new quality productivity (Table 2) was constructed. The entropy weight method was employed to assign weights to each indicator, thereby determining the level of new quality productivity across cities in Zhejiang Province.

2.2.3. Core explanatory variables: International trade (TRADE)

The international trade variable includes:

- Trade Scale (TS): Total imports and exports as a percentage of GDP (%).
- Trade Efficiency (TE): Measured using the Trade Competitiveness Index (TC), where $TC = (Exports - Imports) / (Exports + Imports)$.
- Trade Scale (TS) and Trade Efficiency (TE) are synthesized into a composite indicator using the entropy method.

2.2.4. Control variables

Drawing on existing research, the following control variables are selected:

- Industrial Structure Upgrading (UIS), represented by the ratio of tertiary industry value-added to secondary industry value-added.
- Government Intervention Level (GOV), measured by the ratio of general fiscal expenditure to regional GDP.

- Regional Innovation Capacity (RCY), assessed through the logarithm of regional patent application approvals.

2.3. Model specifications

2.3.1. Benchmark regression models (Testing H1 and H2)

To examine the direct effects of new quality productivity and international trade on common prosperity, benchmark regression models (1) and (2) are constructed:

$$CO_{it} = \alpha_0 + \alpha_1 NQP_{it} + \alpha_2 Cons_{it} + \varepsilon_{it}, \quad (1)$$

$$CO_{it} = \beta_0 + \beta_1 TRADE_{it} + \beta_2 Cons_{it} + \theta_{it}, \quad (2)$$

where i represents the 11 prefecture-level cities in Zhejiang Province, t denotes the year, and CO_{it} is the common prosperity index for city i in year t ; NQP_{it} is the level of new quality productivity for city i in year t ; $TRADE_{it}$ is the level of international trade for city i in year t ; $Cons_{it}$ is the control variable; and ε_{it} and θ_{it} are the random disturbance term.

2.3.2. Collaborative promotion mechanism model (Testing H3)

We constructed a complete model incorporating two core explanatory variables (3):

$$CO_{it} = \gamma_0 + \gamma_1 NQP_{it} + \gamma_2 TRADE_{it} + \gamma_3 Cons_{it} + \mu_{it}. \quad (3)$$

Table 2. Evaluation indicators for new quality productivity

Primary indicators	Secondary Indicators	Indicator Calculation	Positive/negative
Technological productivity	Technology professionals	Number of college students as a percentage of the total population (in ten thousand)	+
		Number of personnel engaged in scientific and technological activities (in ten thousand)	+
	Technology funding	Technology expenses (10,000 yuan)	+
	Labor productivity	Average wage of active employees (10,000 yuan)	+
Green productivity	Exhaust gas concentration	Industrial sulfur dioxide emissions/GDP (%)	-
	Wastewater intensity	Industrial wastewater generation/GDP (%)	-
	Solid waste density	Industrial smoke (dust) emissions/GDP (%)	-
Digital productivity	Digital communications	Telecommunications service revenue (10,000 yuan)	+
	Digital network	Number of fixed broadband internet access subscribers (in 10,000s)	+

3. RESULTS

3.1. Descriptive statistics

Table 3 shows that the mean value of the common prosperity level (CO) is 0.367 with a standard deviation of 0.236, indicating significant variations in common prosperity levels across prefecture-level cities in Zhejiang Province. The mean value of the new quality productivity level (NQP) is 0.256 with a standard deviation of 0.256, reflecting uneven development of new quality productivity across these cities. The mean value of the international trade level (TRADE) is 0.236, falling within the 0-1 theoretical range at a moderate level, indicating that Zhejiang Province's comprehensive international trade development still has considerable room for improvement. With a standard deviation of 0.18 and a coefficient of variation of 76.3%, combined with the significant disparity between the minimum value of 0.063 and the maximum value of 0.885, this reflects severe imbalances in international trade development among prefecture-level cities within Zhejiang Province.

3.2. Analysis of benchmark regression results

Prior to conducting the benchmark regression analysis, multicollinearity tests were performed to examine whether the control variables and explanatory variables were linearly correlated (Table 4). The results indicate that the maximum VIF value be-

tween explanatory variables and control variables was 2.101, while the average VIF was well below 10. This suggests that no multicollinearity issues exist between the control variables and explanatory variables selected for this study.

Table 5 shows that in Model (1), the coefficient of new quality productivity for common prosperity is 0.79 and significant at the 1% level, indicating that new quality productivity has a significant positive effect on common prosperity, thus validating Hypothesis H1. In Model (2), when examining the independent effect of international trade alone, its coefficient is 0.091 and statistically insignificant ($t = 0.73$), thus rejecting hypothesis H2. This indicates that increased trade openness by itself does not directly translate into outcomes of common prosperity. However, this conclusion underwent a fundamental shift after controlling for other key variables. When the variable for new-quality productivity was introduced into Model (3), the coefficient for international trade not only increased substantially to 0.190 but also became highly significant at the 1% level ($t = 3.01$). This dramatic change reveals the underlying mechanism through which international trade exerts its effects: international trade must be integrated with domestic technological innovation and industrial upgrading to effectively promote common prosperity.

The regression results of the models indicate that during the stepwise addition of control variables, both Model (4) Model (5) and Model (6) showed

Table 3. Descriptive statistics

Indicator Name	Observed values	Mean	Sample Standard Deviation	Minimum Value	Maximum Value
Common Prosperity (CO)	110	0.367	0.236	0.031	0.967
New Quality Productivity (NQP)	110	0.256	0.256	0.009	0.997
International Trade (TRADE)	110	0.236	0.18	0.063	0.885
Industrial Structure Upgrading (UIS)	110	1.19	0.342	0.769	2.478
Government Intervention Level (GOV)	110	0.163	0.063	0.081	0.357
Regional Innovation Capacity (RCY)	110	9.831	1.038	7.515	11.716

Table 4. Multicollinearity test

Indicator Name	VIF	1/VIF
New Quality Productivity (NQP)	2.811	0.356
Industrial Structure Upgrading (UIS)	2.306	0.434
Regional Innovation Capacity (RCY)	2.203	0.454
Government Intervention Level (GOV)	2.124	0.471
International Trade (TRADE)	1.06	0.944
VIF Mean	2.101	

Table 5. Benchmark regression results

	(1)	(2)	(3)	(4)	(5)	(6)
	CO	CO	CO	CO	CO	CO
NQP	0.790*** (17.25)		0.801*** (18.08)	1.010*** (21.50)	0.864*** (16.42)	0.875*** (15.64)
TRADE		0.091 (0.73)	0.190*** (3.01)	0.215*** (4.13)	0.178*** (3.70)	0.182*** (3.73)
UIS				-0.248*** (-7.10)	-0.153*** (-4.05)	-0.151*** (-3.99)
GOV					-0.806*** (-4.77)	-0.866*** (-4.39)
RCY						-0.007 (-0.59)
_cons	0.165*** (9.95)	0.345*** (9.27)	0.117*** (5.20)	0.353*** (9.27)	0.417*** (11.21)	0.492*** (3.72)
N	110	110	110	110	110	110
R ²	0.734	0.005	0.755	0.834	0.863	0.864
Adj. R ²	0.73	-0.00	0.75	0.83	0.86	0.86

Note: ***p < 0.01, **p < 0.05, *p < 0.10.

new quality productivity coefficients of 1.01, 0.864, and 0.875, respectively, significant at the 1% level, while international trade coefficients were 0.215, 0.178, and 0.182, respectively, also significant at the 1% level. The model fit index R² progressively increased from 0.734 in Model (1) to 0.864 in Model (6), indicating enhanced explanatory power with the addition of variables. This fully substantiates that new quality productivity and international trade jointly drive common prosperity, confirming hypothesis H3.

A comparative analysis of driving strengths based on Model (6) reveals that the impact intensity of new quality productivity is approximately 4.81 times that of international trade (0.875/0.182). This indicates that new quality productivity serves as the primary driving force for common prosperity, while international trade provides crucial supplementary support.

3.3. Heterogeneity analysis

Based on the geographical locations of Zhejiang Province’s 11 prefecture-level cities, Hangzhou, Ningbo, Jiaxing, Huzhou, Shaoxing, and Zhoushan are classified as Northeast Zhejiang; Southwest Zhejiang comprises Wenzhou, Jinhua, Quzhou, Taizhou, and Lishui. This framework is used to examine the spatial heterogeneity of new quality productivity in promoting common prosperity across Zhejiang Province, followed by benchmark regression analysis.

Table 6. Results of heterogeneity tests

Indicators	(1)	(2)
	Northeast Zhejiang	Southwest Zhejiang
NQP	0.629*** (11.97)	0.438*** (3.53)
N	60	50
R ²	0.923	0.874
Adj. R ²	0.92	0.86

Note: The value in parentheses indicates the t-value; ***p < 0.01, **p < 0.05, *p < 0.10.

As shown in Table 6, the regression coefficient for Northeast Zhejiang is 0.629, which is higher than the 0.438 for Southwest Zhejiang. This indicates that new quality productivity plays a more significant role in promoting common prosperity in Northeast Zhejiang. This may be attributed to the stronger economic foundation and more mature international trade development in the coastal areas of East Zhejiang, where the effects of new quality productivity are more pronounced.

4. DISCUSSION

The empirical results of this study offer novel insights into the complex relationship among new quality productivity, international trade, and common prosperity, particularly in the context of Zhejiang Province.

First, the finding that new quality productivity exerts a significant and primary positive effect

on common prosperity (validating H1) strongly aligns with recent theoretical and empirical studies. The benchmark regression results indicate that new quality productivity is the core engine for common prosperity, with an impact intensity approximately 4.81 times that of international trade. The findings of this study are consistent with those of Huang (2025) and Chen et al. (2025), further corroborating the view that new quality productivity plays a significant positive role in promoting common prosperity. Specifically, Huang (2025) noted that new quality productivity primarily empowers common prosperity through three pathways: technological productive forces, digital productive forces, and green productive forces; Chen et al. (2025), meanwhile, revealed the mediating role played by the rationalization and upgrading of industrial structure in the process by which new quality productivity promote common prosperity.

Second, the study reveals a nuanced, conditional mechanism regarding the impact of international trade on common prosperity, offering a critical departure from some existing literature. While previous studies, such as W. Wanqiao (2024) and He et al. (2024), found that export trade and cross-border e-commerce independently and significantly promote common prosperity, the results of our Model (2) indicate that international trade itself does not produce a particularly significant direct effect; only when new quality productivity is introduced (Models 3-6) do the coefficients for international trade become highly significant.

This suggests that in the current developmental stage of Zhejiang Province, simple trade expansion (e.g., low-end manufacturing exports) is no longer sufficient to drive common prosperity. Instead, international trade must be deeply integrated with domestic technological innova-

tion and industrial upgrading. This empirical evidence perfectly resonates with the theoretical framework proposed by Chen et al. (2025), which posits that new quality productivity requires an open environment, and trade must be upgraded through digital and technological integration to generate spillover effects that benefit the broader population.

Third, the confirmation of the synergistic effect (H3) highlights that new quality productivity and international trade collectively drive common prosperity. The progressive increase in explanatory power (R^2 rising from 0.734 to 0.864) underscores that these two factors are mutually reinforcing. International trade expands market boundaries and facilitates technology spillovers, which in turn nurture new quality productivity, echoing the findings of Ji et al. (2024) regarding the positive impact of foreign trade on the formation of new quality productivity. Together, they create a sustainable mechanism for wealth creation and distribution. Finally, the spatial heterogeneity analysis reveals that the new quality productivity promotional effect on common prosperity is more pronounced in Northeast Zhejiang compared to Southwest Zhejiang. This finding supplements the broader discussions on regional disparities in common prosperity by scholars like Liu et al. (2021). Northeast Zhejiang (e.g., Hangzhou, Ningbo) possesses a mature digital economy foundation and high-level international trade infrastructure, allowing the new quality productivity to circulate more efficiently. In contrast, the mountainous terrain and relatively weaker industrial base in Southwest Zhejiang limit the immediate transformative power of new quality productivity, underscoring the necessity for optimized regional innovation layouts and targeted policy interventions to bridge the intra-provincial gap.

CONCLUSION

This study empirically investigates the individual and synergistic impacts of new quality productivity and international trade on common prosperity, utilizing data from Zhejiang Province. Based on the rigorous empirical analysis, the main conclusions are as follows.

First, the new quality productivity serves as the core engine driving common prosperity in Zhejiang Province. The benchmark regression results demonstrate that new quality productivity exerts a highly significant and dominant positive effect on the level of common prosperity (validating H1). Notably, the

impact intensity of new quality productivity is substantially greater than that of international trade, indicating that the cultivation of advanced productive forces (characterized by technological innovation and digital transformation) is the most fundamental pathway to achieving regional wealth creation and equitable sharing.

Second, international trade and new quality productivity exhibit a strong synergistic effect, collectively driving common prosperity. The empirical results reveal a critical nuance: international trade alone does not exert a direct, significant positive impact on common prosperity. Instead, its positive effect is fully activated and becomes highly significant only when integrated with the development of new quality productivity (validating H3). This confirms that traditional, low-end scale expansion of trade is insufficient for advancing common prosperity. The two factors are mutually reinforcing; higher-level openness facilitates technology spillovers, which in turn nurture new quality productivity and upgrade the trade structure, thereby generating broader socioeconomic benefits.

Third, the impact of new quality productivity on common prosperity exhibits significant regional heterogeneity within the province. The sub-sample regression analysis indicates that the promotional effect of new quality productivity is markedly stronger in Northeast Zhejiang compared to Southwest Zhejiang. This divergence reflects the underlying disparities in digital infrastructure, industrial foundations, and innovation capacities. Northeast Zhejiang leverages its mature digital economy to maximize the dividends of new quality productivity. In contrast, the mountainous terrain and relatively weaker high-tech industrial base in Southwest Zhejiang limit the immediate transformational power of these new productive forces.

Based on the empirical analysis, the following policy implications are drawn. To advance common prosperity, efforts should focus on strengthening new quality productivity through increased investment in technological innovation, digital–real economy integration, green transformation, and optimized regional innovation collaboration between coastal and inland areas. International trade should be enhanced by upgrading trade quality, innovating trade methods, and improving trade service systems. Additionally, inclusive development should be promoted through equitable income distribution, improved public services, and enhanced human capital investment.

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