

The Impact of the Belt and Road Initiative on the National Governance Level--Evidence from the Countries along the Belt and Road

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Abstract: The Belt and Road Initiative is the Chinese approach to improving global governance. Based on country-level panel data, the paper analyzes the promoting effect of the Belt and Road Initiative on the governance of countries along the route by using difference in difference method. First, our study finds that the implementation of the Belt and Road Initiative has significantly improved the governance level of the countries along the route, and this finding remains robust after a series of tests. Second, the mechanism study finds that the Belt and Road Initiative improves governance in Belt and Road countries by influencing Chinese outward foreign direct investment (FDI) and Internet penetration in the countries along the route. Finally, the moderating effect suggests that the Belt and Road Initiative has a more significant impact on governance in countries that are closer to China and receive more official development assistance. Further heterogeneity analysis reveals that the governance promotion effect of the policy is more pronounced for countries with lower levels of economic development, population density, merchandise trade, and FDI.

Keywords: The Belt and Road Initiative; Five-Pronged Approach; Governance; Difference-in-differences Model.

1. Introduction

In 2013, President Xi Jinping first proposed the major cooperation concept of the Belt and Road initiative, and over the past seven years, the construction of the Belt and Road has been transformed from concept to action and from vision to reality. At present, countries and regions along the Belt and Road have become the most important place for foreign investment inflows in the world, surpassing the North American Free Trade Area to become the second largest trade segment in the world after the European Union. The Belt and Road Initiative has created unlimited opportunities for the development of enterprises in China and other countries along the route, covering large-scale infrastructure development, trade cooperation, cultural exchanges and many other areas.

However, challenges and opportunities exist -- the sovereign credit ratings of some countries along the Belt and Road still need to be improved, and the level of national governance capacity is relatively low. In addition, covid-19 pandemic has triggered a world economic recession, globalization has been repeatedly reversed, the world has entered a period of turbulent changes, and the evolution of the unprecedented changes in a century has accelerated. Under the multiple shocks, global governance is in an unprecedented dilemma. In this environment, China insists on the principle of One Belt and One Road construction, carries out in-depth cooperation with countries along the route, and is committed to promoting the healthy development of all countries in the world, thus driving the construction of a community of interests, responsibilities and destiny, fully demonstrating its role as a world power. In October 2020, the Communiqué of the Fifth Plenary Session of the 19th CPC Central Committee and the recommendations of the 14th Five-Year Plan made important arrangements for "actively participating in the reform and construction of the global governance system" and put forward the goal of "promoting the development of the global governance system in a more just and reasonable direction. The goal is to "promote the

development of the global governance system in a more just and reasonable direction". Against the above background, it is important to accurately assess the effect of the "Belt and Road" policy initiative on the governance level of countries along the route, in order to help the development of countries along the route and promote the building of a community of human destiny.

The existing literature on the policy effects of the Belt and Road Initiative mainly focuses on trade, economic level, and investment (Zhang Xiaojing and Li Liang, 2015; He Min, 2016), and there is no empirical study that directly focuses on the impact of the Belt and Road Initiative on the governance of countries along the route. On the other hand, there are two main directions of research on national governance. One is how the level of national governance in host countries affects foreign direct investment (FDI). Wang Yongqin (2020) takes the countries along the Belt and Road as an example and finds that Chinese FDI is less concerned with the political system of the other country, but more concerned with government efficiency, regulatory quality and corruption control, and tends to avoid countries with strict legal systems. The second is an empirical study on the factors influencing the level of governance in the countries along the route, which focuses on the area of foreign direct investment (FDI). As capital inflows increase, multinational corporations gain bargaining power, become active participants in the political and economic activities of host countries, shape the institutional environment that changes the "game play", and directly influence the "rules of the game" (Dang, 2013; John Cantwell & John H Dunning, 2010). The effects of Chinese OFDI may differ because China is institutionally and culturally different from Western countries. Pan Chunyang (2017) uses a differential GMM approach to find a significant positive effect of Chinese OFDI on the governance of countries along the route.

This paper empirically examines the impact of the Belt and Road Initiative on the governance level of the countries along the route using a difference-in-differences model based on panel data of 119 countries from 2008 to 2019. The study finds that, first, the Belt and Road Initiative has improved the governance level of the countries along the route. This finding still holds after the parallel trend test and the placebo test. Second, the mechanism analysis shows that the Belt and Road Initiative promotes Chinese outward FDI and Internet penetration in the countries along the route, which in turn improves the level of governance in the host country. Finally, the baseline findings are subjected to moderating effects and heterogeneity analysis. Countries that are closer to China and receive more official aid have larger policy effects, which are conducive to the improvement of governance. For countries with lower levels of economic development, population density, merchandise trade, and FDI, the more significant is the role of the Belt and Road Initiative in raising the level of national governance.

The contribution of this paper is mainly in the following aspects: First, there is a lack of research on the contribution of the Belt and Road Initiative to the level of governance of the countries along the route. This paper treats the Belt and Road Initiative as a quasi-natural experiment and uses the difference-in-differences model to conduct an in-depth study of the relationship between governance and the Belt and Road Initiative from the perspective of post hoc analysis, and accurately assesses the heterogeneity of policy effectiveness and effects. Secondly, after studying the "what", we propose a more creative explanation of the "why" mechanism. Therefore, after examining the policy effects, this paper further investigates the inner mechanism of the Belt and Road Initiative's impact on the level of governance. Third, this paper adopts the WGI Global Governance Index to accurately measure the level of governance, which is different from most of the current theoretical studies on governance and has strong data support.

The following parts of the paper are organized as follows: the second part describes the theoretical foundations and presents the research hypotheses; the third part presents the data and model settings; the fourth part discusses the empirical results and robustness tests; the fifth part conducts the mechanism analysis; the sixth part presents the moderating effects and heterogeneity analysis; and the last part concludes the whole paper.

2. Literature review and research hypothesis

Governance refers to the use of government power to manage the institutional environment and is a combination of practices and institutions. This paper uses the World Bank Global Governance Indicators (WGI) to measure the level of governance.

2.1 Impact of the Belt and Road Initiative on the level of governance in countries along the route.

Since the implementation of the Belt and Road Initiative, the level of governance in the countries along the route has improved significantly. How is the initiative improving governance in countries along the route? As shown in figure 1, the impact mechanisms of the Belt and Road Initiative are described below in terms of Five-Pronged Approach .

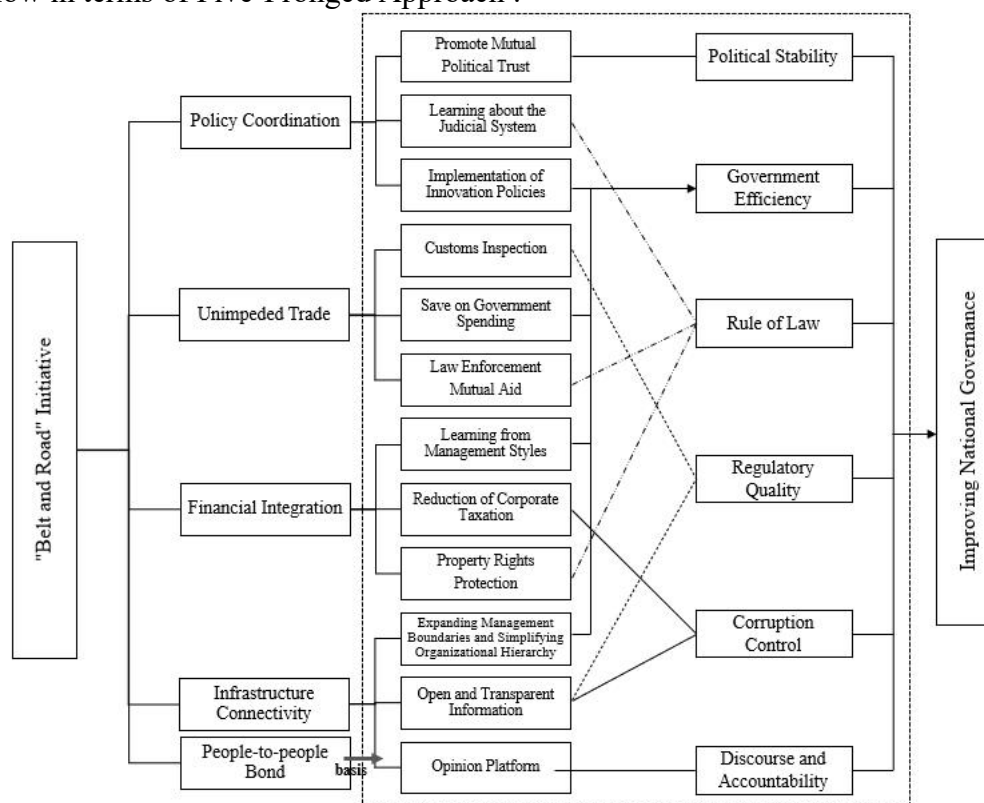


Figure1. Theoretical analysis framework

In terms of policy coordination, China and the countries along the route actively exchange and learn from each other, negotiate and formulate development strategies and policies, resolve conflicts and differences among countries, and promote common and coordinated regional development, which is conducive to improving the level of governance of the countries along the route. In terms of political stability, China and the countries along the route have enhanced mutual political trust through policy coordination, which has helped reduce conflicts and crises and challenges in the countries along the route, as well as the occurrence of xenophobic incidents in recent years, and promoted political stability in the countries along the route. In terms of the rule of law, China, Mongolia and Russia have formed a multi-level consultation and meeting mechanism to learn from each other's judicial systems, which is conducive to the improvement of the rule of law. In terms of government efficiency, policy coordination between China and the Belt and Road countries can promote the convergence and inclusion of various countries and regions along the route in terms of finance and human resources, which can help the countries along the route to effectively implement innovation policies, thus improving the efficiency of the governments along the route (Yin Chen et al., 2020).

In terms of unimpeded trade, China and countries along the route have broken down trade barriers and accelerated the establishment of a network of free trade zones, making full use of their respective advantages and creating mutually beneficial and win-win development opportunities. Some studies have shown that trade liberalization and facilitation are conducive to improving government governance, which can be shown in the following three aspects: first, in terms of government efficiency, with the promotion of unimpeded trade, the marketization level and the degree of openness of countries to the outside world have gradually increased, making it easier for enterprises to absorb advanced technological achievements from abroad and promoting the unobstructed flow of resource factors in various fields, which has a positive promotion, thus reducing excessive government intervention in the micro-economy and saving money for the government to provide high-quality public services (Benarroch & Pandey, 2008); second, in terms of regulatory quality, in order to accelerate the screening and inspection execution process and customs clearance efficiency, and to effectively implement the policies on customs, countries actively use technologies such as big data and Internet Plus to customs inspection process intelligently, effectively improving the accuracy of searches; third, in terms of the rule of law, the smooth flow of trade has promoted mutual assistance among countries in customs enforcement, improving the quality of enforcement in each country through joint efforts to combat smuggling, exchange intelligence clues such as money laundering and drug trafficking, and regulate administrative cooperation such as intellectual property protection.

In terms of financial integration, it will break down investment barriers between countries and diversify investment and financing channels along the route; it will support Chinese economic entities to issue RMB and foreign currency bonds abroad and encourage direct investment of the funds raised in these countries. Some studies have shown that Chinese OFDI helps to improve the governance level of host countries (Dominique & Claude, 2020; Roger et al., 2021). In terms of corruption control, OFDI and MNCs can increase market competition in the countries along the route, narrow the profitability of small enterprises, resulting in less taxation of local firms by corrupt governments, which reduces the level of corruption of local governments (Treisman, 2007); Kwok and Tadesse (2006) found that FDI reduced corruption in countries along the route by studying 140 countries. In terms of government efficiency, local governments can improve the efficiency of public administration by docking and exchanging with foreign enterprises and absorbing and learning from the mature management and service experience of foreign countries; the entry of multinational companies can bring knowledge spillover effects in many aspects, such as the enforcement methods of industry regulations and advanced concepts of business management (Kwok & Tadesse, 2006; Prakash & Potosky, 2007). In terms of rule of law, Ali et al. (2011) found that FDI can improve the compliance of property rights systems and the protection of property rights in countries along the route through a study of 70 countries, which is conducive to improving their rule of law. In addition, Pan Chunyang and Lu De (2017), using a differential GMM approach, conclude that Chinese OFDI can improve the quality of institutions in the countries along the route and are conducive to reducing corruption, improving government efficiency, promoting political stability, and improving the rule of law.

In terms of infrastructure connectivity, China and countries along the Belt and Road have carried out in-depth construction planning and quality and technical standards docking in various aspects of infrastructure, which can be divided into three main areas: transportation infrastructure, energy infrastructure, and communication infrastructure. Among them, communication infrastructure has a significant effect on government governance, which is reflected in the following four aspects. In terms of discussion and accountability, the application of ICT provides a platform for the public to express their opinions and put forward their views, simplifying the procedures for the public to exercise their rights of expression and supervision, while greatly reducing the cost of public participation in political life and being able to motivate more public participation. In terms of government efficiency, "Internet+" has expanded the boundaries of government management, and various resources can be integrated and connected, thus reducing costs (Bin et al., 2021); at the

same time, "Internet+" has simplified the hierarchy of government agencies and optimized government mechanisms; it can also increase the breadth and depth of interaction between the government and the public, deepen the government's understanding of people's needs, and improve the efficiency of government operations. In terms of regulatory quality, with the support of big data, platform sharing gives rise to diversified regulatory bodies, and "Internet+" promotes the flow of information among various levels of government departments, breaks down information barriers, and facilitates the joint efforts of various government departments to combat chaos in the process of regulation. In terms of corruption control, information and communication systems promote openness, transparency, and specificity of information, which are conducive to the operation of government power in the sunlight; and the speed, scope, and strength of network information dissemination reduces the probability of corruption.

People-to-people bond is the fundamental destination of "the Belt and Road" initiative. It requires China to strengthen cultural exchanges and cooperation with countries along the route, enhance understanding and deepen friendship, and increase understanding and support for the construction of the Belt and Road. People-to-people communication is one of the Five-Pronged Approach and provides a solid public and social foundation for the other "Four-Pronged Approach". For one thing, overseas investment enterprises can build a good relationship with the local society through social embedding, which will help to gain the social recognition of the people (Lingli et al., 2020). Mutual understanding and support among the people help promote interaction at the official level, allowing different governance mechanisms to learn from each other and improve the effectiveness of national governance. Secondly, from education and medical care to science and technology and culture, from civil society to political parties and parliaments, the multi-level and three-dimensional network of humanistic exchanges has increased people's trust in China and strengthened the social foundation of "the Belt and Road" construction in the countries along the route. To sum up, this paper proposes the following theoretical hypotheses.

Hypothesis 1a: The Belt and Road Initiative can improve the governance of countries along the route.

Hypothesis 1b: The Belt and Road Initiative can increase Chinese OFDI and thus improve governance in countries along the route.

Hypothesis 1c: The Belt and Road Initiative can promote the spread of the Internet and thus improve the governance of countries along the route.

2.2 The effects of official assistance on policy effects

ODA is a concessional loan with a grant or grant element of no less than 25 percent provided by economically more developed countries to countries on the list of eligible recipients. It helps enhance the well-being of local populations, contributes to national economic growth and social development, and has far-reaching implications for global governance. The World Bank argues that aid improves the welfare of recipient countries and helps stabilize volatile situations to achieve political stability and freedom from violence. Using data to estimate the impact of aid on violent conflict in recipient countries, Nielsen (2011) and others find that lower foreign aid leads to a rapid rise in violent conflict. In addition, countries that receive official aid tend to be those with lower levels of development and weaker levels of governance. Therefore, it is reasonable to expect that countries that receive more official aid have lower levels of basic governance and more room for improvement, and that participation in "the Belt and Road" Initiative will have a more significant impact on their own governance levels than those countries that receive less official aid. In summary, this paper proposes the following theoretical hypotheses.

Hypothesis 2a: "The Belt and Road" Initiative is more effective in improving governance for countries that receive more ODA.

3. Study design

3.1 Variable settings and data sources

In order to test the theoretical hypothesis proposed in the previous part and to explore the impact and heterogeneity of the implementation of the Belt and Road Initiative on the level of governance of the countries along the route, this paper conducts an empirical analysis using country-level panel data. Since the Belt and Road countries are mainly located in Asia, Africa, and Europe, and these countries are institutionally and culturally different from countries in North and South America. In order to ensure the accuracy and reliability of the results obtained by the difference in difference method, North and South American countries are not selected as the control group.

First, the explanatory variable is the level of governance of the country. The World Bank publishes the Global Governance Index (WGI) for each country every year, and the specific indicators of the six dimensions are government efficiency, rule of law, corruption control, regulatory quality, voice and accountability, and political stability and elimination of violence/terrorism. In order to better measure the level of governance of a country, this paper uses principal component analysis to obtain the level of governance of a country by downscaling the above six dimensions.

Second, in terms of control variables, with reference to the existing literature, this paper considers the level of economic development and demographics. For economic development, variables specifically includes $\ln(\text{GDP per capita})$, the value added of industrial industries, the net foreign investment, and the share of merchandise trade in GDP; for demographics, employment to population ratio (aged 15 years and above) and the ratio of the non-working age population to the number of working age population are controlled. Data is obtained from the World Bank.

Finally, to prevent outlier extremes from confounding the regression results, all continuous variables are winsorized by 1% up and down in this paper. The sample includes 119 countries from 2008 to 2019. There are 47 countries along the Belt and Road as the experimental group¹ and 72 countries as the control group. The descriptive statistics of the sample are shown in Table 1².

Table 1 Descriptive statistics

	N	Mean	St.Dev	min	Median	max
Level of National governance	1312	0	2.27	-4.454	-.525	4.573
Government Efficiency	1312	.078	.993	-1.776	-.07	2.437
Rule of Law Level	1312	.065	1	-1.897	-.141	2.1
Corruption Control	1312	.037	1.04	-1.673	-.232	2.446
Regulatory Quality	1312	.102	.957	-2.244	-.108	2.261
Voice and Accountability	1312	.004	.96	-2.208	-.023	1.738
Political Stability	1312	-.079	.972	-2.81	.014	1.656
$\ln(\text{GDP per capita})$	1312	8.563	1.571	5.29	8.382	11.685
$\ln(\text{Industrial value added})$	1312	23.132	2.246	17.17	23.082	28.137
Net foreign direct investment	1312	-.344	159.837	-721.822	-5.361	771.28

¹ In fact, 65 countries have participated in the Belt and Road Initiative Implementation, including 11 countries in Southeast Asia, Mongolia, 11 countries in CIS, 8 countries in South Asia, 17 countries in West Asia, 16 countries in Central and Eastern Europe, and 5 countries in Central Asia. However, in the actual data collection and collation process, some countries are missing variable indicators, so 47 countries are finally obtained as the treatment group of this paper.

² Data is from World Bank.

Merchandise trade as a share of GDP	1312	67.782	35.216	13.587	59.37	254.657
Employment to Population Ratio	1312	57.519	12.374	28.845	57.088	87.818
Ratio of the non-working-age population to the working-age population	1312	61.55	18.96	16.717	54.028	111.779

3.2 Model setting

The basic regression model of this paper is constructed as follows.

$$G_{it} = \alpha + \beta Post_t * Reform_i + X_{it}'\theta + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$$

where the subscripts i and t denote different countries and years, respectively. The explained variable G_{it} denotes the level of governance of country i in year t . In the baseline regression, the level of governance of country i is used as the core explanatory variable in this paper, which is constructed by principal component analysis. In the subsequent analysis, the impact of the Belt and Road Initiative on different governance dimensions of the countries along the route is also examined separately. $Post_t * Reform_i$ is the core explanatory variable in this paper. It is constructed as follows: $Reform_i$ takes 1 if country i is the Belt and Road country, and 0 otherwise; when the year is 2013 and later, $Post_t$ takes 1 and 0 otherwise. β is the core parameter to be estimated in this paper, which is expected to be positive according to the theoretical hypothesis. In addition, X_{it} is a series of time-varying control variables. μ_i and λ_t are country fixed effect and year fixed effect, respectively. ε_{it} is the stochastic disturbance term. Since we already control country fixed effect and year fixed effect in this paper, it is no longer necessary to add the primary term of the DID interaction term.

Before conducting the empirical regression analysis, correlations between main variables also need to be analyzed to prevent the emergence of multicollinearity problems among the control variables leading to unidentifiable models. The results of the Pearson correlation test for the control variables are shown in Table 2. As can be seen from Table 2, the correlation coefficients among the control variables are not large, so there is no cointegration problem. Among them, GDP per capita, which represents the level of national economic development, and the level of national governance have the highest correlation of 0.846, while the ratio of non-working age population to the number of working age population, and the level of national governance have a significant negative correlation.

Table 2 Matrix of Pearson correlation coefficients of variables

	Level of national governance	ln (GDP per capita)	ln Industrial value added	Net foreign direct investment	Merchandise trade as a share of GDP	Employment to Population Ratio	Ratio of the non-working-age population to the working-age population
Level of national governance	1.000						
ln (GDP per capita)	0.846***	1.000					
ln (Industrial value added)	0.407***	0.590***	1.000				
Net foreign direct investment	0.139***	0.139***	0.120***	1.000			

Merchandise trade as a share of GDP	0.29 1***	0.2 92***	0.10 4***	-0.0 38	1.00 0		
Employment to Population Ratio	-0.08 4***	-0.2 26***	-0.0 56**	0.00 7	-0.02 3	1.00 0	
Ratio of the non-working-age population to the working-age population	-0.50 5***	-0.6 87***	-0.4 14***	0.01 4	-0.40 0***	0.19 8***	1.000

Note:*** p<0.01, ** p<0.05, * p<0.1

4. Analysis of empirical results

4.1 Baseline regression results

Table 3 shows the baseline regression results of this paper. The explained variable is governance constructed through principal component analysis. In column (1), any control variables and fixed effects are not controlled, and in column (2), country fixed effect is added. Column (3) further controls year fixed effect, and column (4) controls all control variables and two-way fixed effects. The stepwise regression results in Table 3 show that the coefficients to be estimated for the core explanatory variables in all columns are statistically significant positive at the 1% level, indicating that participation in the Belt and Road Initiative can improve the overall governance of the country. In column (4), the estimated coefficient of 0.121 indicates that, other things being equal, participation in the Belt and Road Initiative will increase the country's governance level by 12.1% on average. This coefficient is both statistically significant and economically significant, and the previous hypothesis 1a is tenable.

Table 3 Baseline regression results

VARIABLES	(1) governance	(2) governance	(3) governance	(4) governance
$Post_t * Reform_i$	0.173*** (0.022)	0.175*** (0.022)	0.143*** (0.029)	0.121*** (0.028)
ln (GDP per capita)				0.586*** (0.069)
ln (Industrial value added)				-0.089** (0.041)
Net foreign direct investment				-0.000 (0.000)
Merchandise trade as a share of GDP				0.002*** (0.001)
Employment to Population Ratio				-0.005 (0.004)
Ratio of the non-working-age population to the working-age population				-0.005* (0.003)
Constant	-0.146 (0.205)	-0.042*** (0.009)	-0.041* (0.024)	-2.536*** (0.780)
Country fixed effects	N	Y	Y	Y
Year fixed effects	N	N	Y	Y
Observations	1,312	1,312	1,312	1,312
R-squared	0.049	0.049	0.057	0.134

Note: Observations are at the national level. The base period of the year in which the policy occurred is 2013, so when the year is greater than or equal to 2013. ***, **, * denote statistically significant at 1%, 5%, and 10% levels, respectively. y represents controlling for that fixed effect or

control variable, and n represents not controlling for the fixed effect or control variable, as in the following table.

4.2 Robustness test

4.2.1 Parallel trend test

From the results of the previous benchmark regressions, it is clear that the "Belt and Road Initiative" has a significant contribution to the governance level of the countries along the route. However, a prerequisite for the double difference method to hold is that the disposal group (that is to say, countries that participated in the Belt and Road Initiative during the sample period) and the control group (which means countries that did not participate in the Belt and Road Initiative during the sample period) have the same parallel time trend before the Belt and Road Initiative was proposed. If there are significant differences in the level of national governance between the two groups of control and disposal group countries prior to the introduction of the Belt and Road Initiative, then it is reasonable to suspect that there are unobservable and time-varying differences between the disposal and control group countries, thus making the causal analysis framework in this paper endogenous. Therefore, it is important to test whether ex ante parallel trends are satisfied.

Figure 2 shows a visualization of the parallel trend test. The solid line shows the mean difference in the level of governance for all countries in both the disposal and control groups, and the dashed line shows the 95% confidence interval. As can be seen, the dashed lines include zero until the year of the Belt and Road Initiative (i.e., 2013), indicating that there is no significant difference between the governance levels of all countries in the disposal and control groups before the Belt and Road Initiative was proposed. The parallel trend is confirmed by the fact that after the Belt and Road Initiative, the difference between the governance levels of the countries in the disposal and control groups becomes larger as the number of years increases. Therefore, Figure 2 also reflects that the Belt and Road Initiative has a significant contribution to the governance level of the countries along the route.

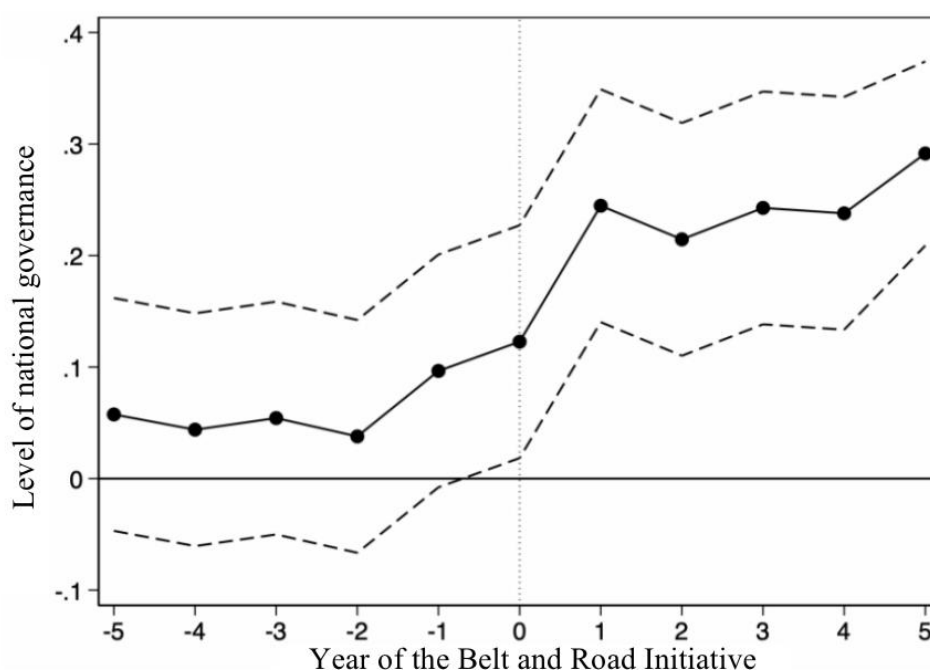


Figure 2 Parallel trend test

4.2.2 Placebo test

Further, a placebo test is conducted. In the analytical framework of this paper, the core idea of the double difference (DID) placebo test is to estimate the fictitious treatment group. If the coefficients of the "pseudo-policy dummy variables" remain significant in the fictitious case, then

the original estimates are likely to be biased and the explanatory variable --The change in the level of governance of the country is likely to be influenced by other policies or random factors.

In order to prevent endogeneity of the treatment group entry, 50 countries are randomly selected as the "pseudo treatment group" from 119 countries, which means the dummy 50 countries are assumed to participate in the Belt and Road Initiative, while the other unselected countries are the control group. The interaction terms of the pseudo-policy dummy variables are then generated for regression analysis under the DID framework. This random sampling process is repeated 500 times to generate 500 regressions, and the estimated coefficients, standard errors, and p-values of the "pseudo-policy dummy variables" are finally obtained, and the distribution of the estimated coefficients and corresponding p-values of the 500 "pseudo-policy dummy variables" are finally plotted. The distribution of the estimated coefficients of the 500 "pseudo-policy dummy variables" and the corresponding p-values are finally plotted to visualize the results of the placebo test.

Figure 3 shows the estimation results of the placebo test. The X-axis indicates the magnitude of the estimated coefficient of "pseudo-policy dummy", and the dashed line is the policy estimate of 0.121 in the baseline regression of this paper; the Y-axis indicates the kernel density value and p-value magnitude, the solid line is the kernel density distribution of the estimated coefficient, the blue dot is the p-value corresponding to the estimated coefficient, and the horizontal dashed line is the 10% significance level. Therefore, if the blue dots exceed the horizontal dashed line, it indicates that the results of this "pseudo-policy dummy" estimated variable are not significant. As can be seen from the figure, the estimated coefficients are mostly concentrated around the zero point, and the only and most of the estimates have p-values greater than 0.1, which means insignificant at the 10% level, a finding that suggests that the previous estimates are unlikely to have been obtained by chance and thus are unlikely to have been influenced by other policy or stochastic factors.

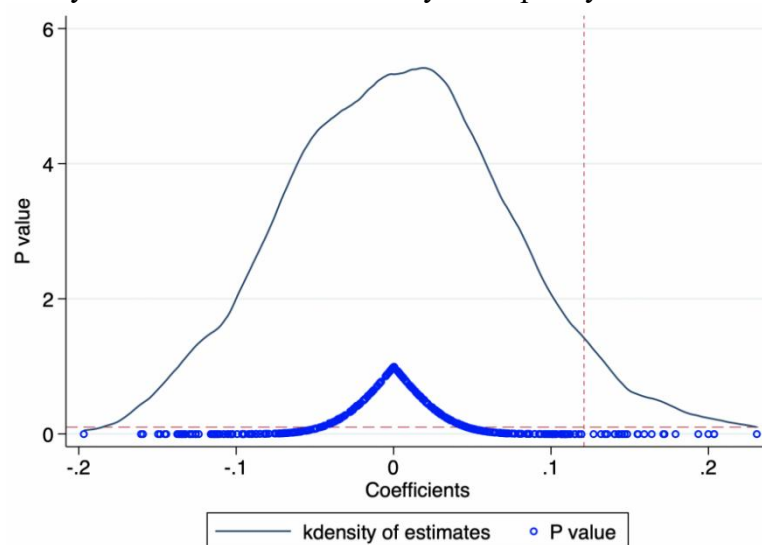


Figure 3 Placebo test

5. Mechanism analysis

The results of the above benchmark regressions and corresponding robustness tests show that the Initiative significantly contributes to the improvement of governance in the countries along the route compared to the countries not along the route. What are the intrinsic transmission mechanisms? Based on the theoretical and literature review in the previous section, this section will examine the mechanism of the effect around two channels, namely, financial integration and infrastructure connectivity.

5.1 Financial integration - China's OFDI

Drawing on Wang Guijun (2019), the interaction term of financial integration and Initiative dummy variables is added to the benchmark model as a way to test the impact mechanism of this channel. The stock of Chinese outward FDI is selected as the variable of funds financing, and the data are obtained from the China Outward Investment Bulletin. Column (1) of Table 9 shows the test results of the financial integration channel, the explanatory variable is the level of national governance, and the estimated coefficient of the core explanatory variable $Post_t * Reform_i$ * Chinese OFDI is significant at the 5% level. This result indicates that the financial integration channel is one of the influence mechanisms of the Initiative, and the Initiative promotes Chinese OFDI, which in turn improves the level of governance of the countries along the route.

5.2 Infrastructure connectivity - Internet Popularization

According to the previous theoretical analysis, in the facility connectivity channel, Initiatives can also significantly affect governance by increasing Internet penetration. In column (2) of Table 9, the number of fixed broadband Internet users per 100 people is used to measure Internet penetration, and the impact of the Initiative on Internet penetration is tested, with the explanatory variable being Internet penetration and the explanatory variable being the interaction term of the Initiative policy dummy variable, which passes the test at the 1% significance level. In other words, the Belt and Road Initiative significantly increases Internet penetration, and the impact mechanism exists.

Table 4 Results of the impact mechanism test

	(1)	(2)
VARIABLES	National Governance	Internet Popularity
$Post_t * Reform_i$	0.095*** (0.031)	2.173*** (0.224)
$Post_t * Reform_i OFDI$	0.001** (0.000)	
Control variables	Y	Y
Country fixed effects	Y	Y
Year fixed effects	Y	Y
Observations	1,284	1,264
R-squared	0.137	0.663

6. Further Discussion

6.1 Moderating effect

6.1.1 Official Development Assistance

The effect of ODA received by each country on the effect of the Belt and Road Initiative is examined by using the ratio of net ODA ODI to GNI. When the explanatory variable is national governance, the coefficient of the core explanatory variable $Post_t * Reform_i * \text{received ODA}$ is 0.016, which passes the significance test at the 5% level, indicating that aid makes the policy promotion effect more significant and hypothesis 2b holds. Specifically, for regulatory quality, voice and accountability, the coefficients to be estimated for the core explanatory variables are all statistically significant and positive at the 1% level; for rule of law level, the coefficients to be estimated for the core explanatory variables pass the significance test at the 5% level. The results indicate that ODA mainly affects the three dimensions of regulatory quality, discourse and accountability, and rule of law level.

Table 5 Analysis of the moderating effect of ODA on the effect of the Belt and Road Initiative

VARIABLES	(1) National Governance	(2) Government Efficiency	(3) Rule of Law Level	(4) Corruption Control	(5) Regulatory Quality	(6) Voice and Accountability	(7) Political Stability
Post _t * Reform _i	0.114** (0.045)	0.095*** (0.022)	0.022** (0.020)	0.094*** (0.024)	0.068*** (0.023)	-0.135*** (0.030)	0.136*** (0.047)
Official development assistance received	0.001 (0.003)	-0.001 (0.001)	-0.000 (0.001)	0.001 (0.002)	-0.004*** (0.002)	0.007*** (0.002)	0.001 (0.003)
Post _t * Reform _i Official development assistance received	0.016** (0.008)	0.000 (0.004)	0.007** (0.003)	0.005 (0.004)	0.010*** (0.004)	0.017*** (0.005)	-0.001 (0.008)
ln (GDP per capita)	0.456*** (0.086)	0.160*** (0.042)	0.171*** (0.038)	0.095** (0.045)	0.127*** (0.043)	0.073 (0.057)	0.518*** (0.090)
ln (Industrial value added)	-0.074 (0.048)	-0.057** (0.023)	-0.015 (0.021)	-0.004 (0.025)	-0.010 (0.024)	-0.019 (0.032)	-0.079 (0.050)
Net foreign direct investment	-0.001 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)
Merchandise trade as a share of GDP	0.003** (0.001)	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	0.002*** (0.001)	0.000 (0.001)	0.002* (0.001)
Total employed population rate 15 years and older	-0.003 (0.005)	0.000 (0.003)	-0.001 (0.002)	-0.001 (0.003)	0.000 (0.003)	-0.007* (0.004)	0.001 (0.006)
Ratio of non-working age population to the working age population	0.004 (0.005)	0.010*** (0.002)	0.002 (0.002)	0.004* (0.002)	0.009*** (0.002)	0.002 (0.003)	-0.021*** (0.005)
Constant term	-3.489*** (1.064)	-1.262** (0.519)	-1.626*** (0.476)	-1.433** (0.562)	-2.042*** (0.533)	-0.419 (0.704)	-1.373 (1.110)
Country fixed effects	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y
Observations	849	849	849	849	849	849	849
R-squared	0.174	0.155	0.180	0.120	0.163	0.119	0.101

6.2 Heterogeneity Analysis

Influenced by the law of diminishing marginal effects, the effect of the Belt and Road Initiative on the governance level of countries along the route may differ in countries with different location conditions. Countries with higher levels of economic development, higher population density, higher levels of commodity trade and more foreign direct investment have certain first-mover advantages, better human resources, relatively sufficient funds, higher technology levels and better

policies. The marginal contribution of the Belt and Road policy to the improvement of governance in these countries is likely to be low. It is assumed that the Belt and Road Initiative has a more significant effect on improving governance in countries with lower economic development, lower population density, lower level of commodity trade and lower foreign direct investment.

6.2.1 Economic Development Level

In this paper, three indicators, namely GDP per capita, GDP per employed population, and net national income per capita, are used as indicators to examine the differences in the effects of different levels of economic development in different countries. The regression results are shown in Table 7. Columns (2), (4), and (6) show that the coefficients of the core explanatory variables to be estimated are significant at 1% in the groups with low GDP per capita, GDP per employed person, and net national income per capita. The implementation of the Belt and Road Initiative can significantly improve the level of governance in the less economically developed countries along the route compared to the more economically developed countries along the route.

Table 6 Economic development heterogeneity

VARIABLES	(1) governance	(2) governance	(3) governance	(4) governance	(5) governance	(6) governance
	GDP per capita		GDP per capita of employed population		Net national income per capita	
	High	Low	High	Low	High	Low
$Post_t * Reform_i$	0.038 (0.033)	0.256*** (0.042)	-0.023 (0.034)	0.207*** (0.043)	-0.057 (0.042)	0.142*** (0.036)
Control variables	Y	Y	Y	Y	Y	Y
Country fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y
Observations	618	694	634	678	485	827
R-squared	0.163	0.235	0.186	0.225	0.195	0.180
Number of id	60	69	113	75	110	90

6.2.2 Population density

Columns (1) and (2) of Table 8 show the effect of country population density on policy effects. If the value of the indicator is higher than the average, it is a country with higher population density, and vice versa, it is a country with lower population density. From the results, the promotion effect of the policy is more significant for countries with low population density.

6.2.3 Commodity Trade

The differential impact of merchandise trade on the initiative effect is examined, specifically using the share of merchandise trade in GDP to measure the country's merchandise trade status. The results are shown in columns (3) and (4), where the initiative significantly enhances the governance of countries with lower levels of merchandise trade compared to those with high levels of merchandise trade.

6.2.4 Foreign Direct Investment

Columns (3) and (4) show the differential impact of the Belt and Road Initiative on countries with high FDI and low FDI. The empirical results show that the Belt and Road Initiative has a significant governance promotion effect on the countries with low FDI.

Table 7 Heterogeneity analysis of population, merchandise trade, and foreign direct investment

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	governance	governance	governance	governance	governance	governance
	Population density		Commodity Trading		Foreign Direct Investment	
	High	Low	High	Low	High	Low
Post _t * Reform _i	-0.046 (0.062)	0.150*** (0.033)	0.063 (0.044)	0.184*** (0.038)	-0.043 (0.059)	0.150*** (0.036)
Control variables	Y	Y	Y	Y	Y	Y
Country fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y
Observations	369	943	502	810	338	974
R-squared	0.281	0.143	0.176	0.153	0.263	0.144
Number of id	109	100	65	93	66	112

7. Conclusions and Policy Recommendations

Using data from 119 countries around the world from 2008 to 2019, this paper treats the implementation of the Belt and Road Initiative as a quasi-natural experiment and applies the double difference method to assess the governance-enhancing effects of the policy. The main findings are: first, the implementation of the Belt and Road Initiative significantly improves governance in the countries along the route, and the results pass a series of robustness tests including parallel trend tests, placebo tests, and individual and time fixed effects controls. Second, the mechanism analysis reveals that the positive contribution of the policy to the governance of the countries along the route is achieved by increasing Chinese outward FDI and Internet penetration in the countries along the route. Finally, the moderating effect suggests that the effect of the Belt and Road Initiative is more pronounced in Belt and Road countries that are close to China and receive more ODA. Further heterogeneity analysis shows that the governance-enhancing effects of the policy are more pronounced for countries with lower levels of economic development, population density, merchandise trade, and FDI.

The "Belt and Road" initiative is a new global governance solution proposed by China that integrates the domestic and international situations and adheres to the concept of a community of human destiny. The conclusions of this paper are rich in practical significance and policy implications: First, China should uphold the principle of co-business and co-construction to continuously promote the "Belt and Road" construction and create a better global governance environment. China should make full use of its own advantages to innovate and deepen reforms to build a higher quality "Belt and Road". With the initiative as a link, it will improve the "development deficit", unleash the development potential of its own country and countries along the route, and contribute Chinese solutions and wisdom to global governance. Secondly, we will actively carry out exchanges and cooperation with countries along the route in a cultural context, seek consensus in communication and cooperation, achieve more practical results in the "Five-Pronged Approach" such as policy coordination and unimpeded trade, and work together with other countries to build a human destiny.

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