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THE ROLE OF RMB ON FDI BETWEEN CHINA AND EUROPEAN
ECONOMIES

SIYU CHEN

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SUPERVISION:

JOSÉ RICARDO BORGES ALVES

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Acknowledgments

As I reflect upon my journey, I realize how time slips through our fingers like silk, quietly revealing the approaching cadence of farewell. With these words, I witness the curtain descending on my master's program.

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As the Mater chapter concludes, new horizons beckon. Long long is the way, but nothing will my effort arrest. May we all navigate life's currents with wisdom and grace.

Table of Contents

The Role of RMB on FDl between China and European Economies

Siyu Chen

July 2025

Abstract

This study investigates the impact of RMB exchange rate fluctuations on bilateral foreign direct investment (FDI) between China and Europe, addressing critical gaps in understanding institutional-exchange rate interactions amid persistent EU-China investment asymmetries. Despite deepening economic ties, structural imbalances endure: EU investments in China remain concentrated in traditional sectors, while Chinese strategic investments face market access barriers in renewable energy and digital technologies. Concurrently, evolving frameworks like the Comprehensive Agreement on Investment (CAI) and RMB internationalization create unexamined policy synergies. Utilizing panel data from 26 European countries (2000-2022), we employ a multivariate log-linear regression model integrated with institutional change theory. The three-dimensional "exchange rate-institution-geography" framework reveals that RMB appreciation significantly curtails eurozone FDI due to unified monetary vulnerability, while BRI infrastructure mitigates geographical constraints for landlocked economies. Findings demonstrate that coordinated exchange rate marketization and institutional alignment can optimize investment structures. Policy recommendations include accelerating RMB market-oriented reforms, enhancing BRI financial connectivity, and leveraging CAI provisions for bilateral high-tech openness. This research provides theoretical foundations for rebalancing Sino-European investment under China's "dual circulation" strategy.

JEL: E22; E52; F14; G15
Keywords: RMB Exchange Rate; Foreign Direct Investment; Exchange Rate Reform; EU-China Investment; Institutional Coordination

Índice

O papel do RMB no Investimento Direto Estrangeiro entre a China e as Economias Europeias

Siyu Chen

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Resumo

Este estudo investiga o impacto das flutuações da taxa de câmbio do RMB no investimento direto estrangeiro bilateral entre a China e a Europa, abordando lacunas críticas na compreensão das interações entre instituições e taxas de câmbio diante de assimetrias persistentes no investimento UE-China. Apesar do aprofundamento dos laços económicos, desequilíbrios estruturais persistem: os investimentos da UE na China concentram-se em setores tradicionais, enquanto os investimentos estratégicos chineses enfrentam barreiras de acesso ao mercado em tecnologias renováveis e digitais. Simultaneamente, quadros evolutivos como o Acordo Abrangente de Investimento e a internacionalização do RMB criam sinergias políticas inexploradas. Utilizando dados em painel de 26 países europeus (2000-2022), empregamos um modelo de regressão log-linear multivariada integrado com a teoria da mudança institucional. A estrutura tridimensional "taxa de câmbio-instituição-geografia" revela que a apreciação do RMB reduz significativamente o IDE da zona euro devido à vulnerabilidade monetária unificada, enquanto a infraestrutura da Iniciativa Cinturão e Rota mitiga restrições geográficas para economias sem litoral. Os resultados demonstram que a coordenação entre reformas cambiais de mercado e alinhamento institucional pode otimizar estruturas de investimento. Recomendações políticas incluem acelerar reformas de mercado do RMB, reforçar a conectividade financeira da BRI e alavancar disposições do CAI para abertura bilateral em alta tecnologia. Esta pesquisa fornece bases teóricas para reequilibrar o investimento sino-europeu sob a estratégia chinesa de "circulação dupla".

1.Introduction

Against the backdrop of profound shifts in the global economic landscape and accelerating regional cooperation, the interplay between exchange rate policies and cross-border investment has emerged as a central theme in international economics. China and the European Union (EU), as two major global economies, have witnessed substantial growth in bilateral direct investment over the past two decades. However, structural asymmetries persist: EU investments in China remain concentrated in traditional sectors, while Chinese investments in strategic EU domains such as renewable energy and digital technologies face persistent market access barriers and regulatory constraints. Concurrently, institutional innovations—including China's progressive reforms toward RMB exchange rate flexibility and the EU's evolving frameworks such as the Comprehensive Agreement on Investment (CAI) and third-market cooperation under the Juncker Plan—have reshaped the rules governing bilateral economic engagement. These dynamic interactions between institutional evolution and investment practices challenge conventional FDI theories rooted in static equilibrium assumptions, necessitating a nuanced analytical approach to decipher the complexities of Sino-European investment relations.

This study introduces a novel three-dimensional framework—"exchange rate flexibility, institutional coordination, and geographical constraints"—to unravel the heterogeneous mechanisms through which RMB exchange rate dynamics influence FDI flows. Leveraging panel data from 28 European countries over the 2000–2022 period, the analysis employs advanced econometric techniques, including dynamic Generalized Method of Moments (GMM) and quantile regression, to capture temporal and structural variations. Key findings reveal that RMB appreciation against the euro significantly curtails FDI inflows from eurozone countries, underscoring the amplified transmission of exchange rate risks under unified monetary regimes. Furthermore, the Belt and Road Initiative (BRI) demonstrates a transformative role in mitigating geographical barriers for landlocked economies, facilitating FDI through reduced transaction costs and institutional friction. Crucially, the synergy between RMB exchange rate reforms and institutional frameworks like the CAI enhances the share of high-technology FDI, highlighting the complementary role of policy coordination in fostering industrial upgrading.

1

By elucidating the interplay between exchange rate policies, institutional alignment, and spatial factors, this research offers actionable insights for addressing Sino-European investment asymmetries. For instance, integrating intellectual property protections under the CAI with the cross-border RMB payment system (CIPS) could lower technology transfer risks for EU firms, while BRI-driven logistics innovations provide replicable models for overcoming geographical constraints. These contributions not only advance the theoretical understanding of FDI determinants in evolving institutional contexts but also inform strategic policy design under China's "dual circulation" paradigm, balancing openness with economic security.

The remainder of this paper is structured as follows: Section 2 reviews relevant literature, Section 3 outlines the theoretical framework, Section 4 presents the empirical analysis, and Section 5 concludes with policy implications.

2.Literature Review

Foreign direct investment plays a pivotal role in shaping global economic development. Fundamentally, FDI entails the transnational transfer of capital in the form of financial resources. For host countries, this influx of capital enhances the aggregate supply of domestic capital, modifies the allocation structure of domestic capital, and consequently influences the composition of domestic industries (Dunning, 1977). Conversely, for home countries, outward foreign direct investment (OFDI) mitigates issues associated with excess domestic capital while concurrently promoting the expansion of domestic enterprises on a global scale. Historically, the majority of FDI originated from developed regions, such as Europe and North America, with developing countries primarily acting as recipients. However, with the rapid economic growth of developing nations, these countries have transitioned from being mere recipients to becoming significant exporters of capital. This transformation underscores the evolving dynamics of global economic development and highlights the increasingly prominent role of developing countries in international investment activities.

The traditional theory of direct investment posits that foreign direct investment (FDI) occurs because certain domestic assets gain increased value when under foreign control (Caves, 1982). Early economic thought maintained that exchange rates did not influence asset values, resulting in limited research on the impact of exchange rate fluctuations on direct investment. According to the traditional exchange rate theory (Hymer, 1976), in a

fully integrated capital market, variations in exchange rates do not affect international direct investment, which is viewed primarily as a strategic decision from the perspective of firms. The traditional location advantage theory conceptualizes FDI as a pursuit of comparative cost advantages, grounded in the theory of factor endowment. It asserts that the international flow of capital aims to exploit the benefits of another country's abundant and inexpensive resources that are not internationally mobile, referred to as location advantage (Dunning, 1977).

Early scholars posited that a decline in the host country's exchange rate level increases FDI inflows, while a rise in the exchange rate level decreases them. In the 1980s, economists demonstrated through various methods that exchange rates affect asset values under conditions of incomplete capital markets. They proposed that exchange rates influence FDI through the relative cost-of-production effect (Cushman, 1985), emphasizing the impact of exchange rate changes on production costs in the host country. Cushman identified four main factors critical to the production operations of multinational corporations: the source of raw materials, the location of production, the location of sales, and the source of funds for production operations. All else being equal, currency depreciation in a host country reduces local production costs, particularly labour costs, thereby stimulating FDI inflows, whereas currency appreciation reduces these inflows.

To further explore how geographical conditions moderate the exchange rate－FDI relationship, recent studies have begun to use "coastal location" as an important grouping dimension. Sercu & Vanhulle (1992) noted a significant interaction between transportation costs, infrastructure accessibility, and exchange rate risk: in coastal countries, lower fixed costs for international trade amplify the marginal impact of exchange rate fluctuations on investment decisions; whereas inland countries, which naturally rely on cross-border land/rail networks, may have their sensitivity to exchange rates diluted by higher logistics costs. Similarly, Goldberg & Klein (1997) found in their empirical analysis of Southeast Asia and Latin America that the distance-exchange rate elasticity is significantly negative in economies with seaports, while it tends toward zero in landlocked countries. These conclusions provide direct theoretical support for distinguishing between "coastal" and "landlocked" EU countries in Table 6 of this paper-testing whether geographical constraints weaken the inhibitory effect of RMB

3

appreciation on EU-China FDI, thereby addressing the shortcomings of traditional literature that focuses solely on macro exchange rates or institutional variables while ignoring spatial heterogeneity.

Froot and Stein (1989) found through theoretical modelling that the large influx of FDI into the United States between 1974 and 1987 was attributable to the depreciation of the dollar. They identified the "wealth effect" of exchange rate changes, arguing that currency depreciation in the host country increases the relative wealth of transnational corporations (TNCs), facilitating their mergers with domestic enterprises and promoting FDI inflows. Harris and Ravenscraft (1991), using a sample of 127 foreign-acquired firms in the United States from 1970 to 1987, reached a similar conclusion: an increase in the host country's exchange rate level inhibits foreign investors from acquiring domestic firms, while a decrease facilitates such mergers and acquisitions.

Since the 1990s, scholars have increasingly examined the relationship between exchange rate fluctuations and FDI using data from various countries. Goldberg and Kolstad (1995) conducted an empirical analysis of bilateral FDI data between the United States, the United Kingdom, Canada, and Japan. Their research highlighted that investors with different risk preferences make varying FDI decisions in response to short-term exchange rate fluctuations. For risk-neutral investors, exchange rate volatility has no impact on investment decisions. However, for risk-averse investors, increased exchange rate volatility heightens their desire for FDI, leading to higher inflows into host countries. Blonigen (1997) observed that the depreciation of the U.S. dollar encouraged Japanese firms to engage in mergers and acquisitions in the United States, particularly targeting firms with firm-specific assets, thereby promoting FDI inflows. Similarly, Beak and Okawa (2001) analysed Japan's outward FDI in six Asian countries and nine industries, finding that currency depreciation relative to the Japanese yen facilitated FDI inflows into export-oriented sectors, such as machinery and electronics. Kiyota and Urata (2004) conducted a comparative analysis of Japan, the United States, and OECD countries, concluding that a decline in exchange rate levels increased FDI inflows, while high exchange rate volatility inhibited such investments.

Dixit (1989) was among the first scholars to apply option pricing theory to analyze investment decision-making behaviour. He posited that foreign direct investment can be viewed as an option held by multinational corporations, with the exercise of this option equating to the choice of FDI over export trade. Dixit considered the expected future

return on foreign investment as the underlying asset, with exchange rate fluctuations influencing this expected return. Campa (1993), using the United States as a case study, examined the relationship between expected real exchange rate fluctuations, sunk costs of investment across various industries, and FDI in the U.S. His findings indicated that for risk-neutral multinational corporations, greater volatility in the expected exchange rate negatively impacts foreign investment decisions, leading to a decrease in FDI inflows. From a long-term perspective, the expected return on outward foreign direct investment by multinational corporations significantly influences their investment decisions. A more stable host country currency enhances the expected return on investment, thereby attracting more FDI inflows, demonstrating that exchange rate levels have a significant positive effect on FDI.

Görg and Wakelin (2002) investigated the impact of exchange rate levels, volatility, and expectations on bilateral FDI between the United States and 12 developed countries. His research revealed a positive relationship between U.S. outward FDI and the appreciation of the host country's currency, while a negative relationship was observed between foreign FDI inflows to the U.S. and the appreciation of the U.S. dollar. Chukwurah & Okonnkwo(2019) conducted a study in Nigeria, categorizing the effects of exchange rates on investment into short-term and long-term impacts. Over time, a rising exchange rate was shown to promote an increase in investment. Similarly, Alfalih and Hadj (2020) found that real exchange rate levels positively influenced Saudi Arabia's inward investment flows. Additionally, factors such as market size, legal stability, and law enforcement were identified as crucial in attracting outward investment.

Brzozowski (2006), in his study of 19 emerging markets and 13 transitional economies, found that exchange rate uncertainty and volatility significantly deter foreign investors, with uncertainty acting as a major barrier to FDI inflows. Similarly, Rzozowski (2006) demonstrated that host country exchange rate uncertainty inhibits FDI inflows, with nominal exchange rate uncertainty having the most pronounced effect.

Arratibel et al. (2011) examined data from Central and Eastern European EU member states between 1995 and 2008, discovering that high exchange rate volatility reduces multinational firms' investments in host countries, while low volatility encourages such investments. Dewenter (1995), focusing on OECD countries, found that exchange rate volatility negatively impacts FDI inflows. However, he also noted

that the rapid development of financial markets and the introduction of financial derivatives could mitigate the adverse effects of exchange rate volatility on multinational enterprises.

Nguyen and Cielik (2021) explored the determinants of FDI certainty from Europe to Asia using an intellectual capital model. Their study, which analysed data from 38 European and 24 Asian countries between 1995 and 2013, revealed that similar market sizes and total incomes incentivize horizontal FDI, while differences in skilled labour endowments positively influence vertical FDI. However, not all factors have a positive impact; investment costs in Asian countries, trade costs between source and host countries, and exchange rate volatility are all negatively associated with FDI outflows from Europe to Asia.

Aizenman(1992) concluded that under nominal variable shocks, exchange rate volatility is positively associated with FDI levels. Goldberg and Klein (1997) examined FDI inflows in developing countries, revealing that real depreciation of South American currencies against the Japanese yen increased FDI from Japan, while decreasing FDI from the United States. This outcome was attributed to Southeast Asian countries pegging their currencies to the US dollar, leading to differentiated FDI responses based on exchange rate regimes. Sung and Lapan (2000) developed a model analysing how monopolistic firms adapt their production decisions to exchange rate fluctuations. They found that stable exchange rates encourage firms to continue production in the home country, reducing FDI inflows to the host country, while large fluctuations incentivize firms to expand production in the host country, boosting FDI. Cushman (1985, 1988) highlighted that exchange rate volatility allows US investors to acquire foreign assets at relatively low prices, thereby encouraging outward investment. Similarly, Itagaki (1981), Chakrabarti and Scholnick (2002) presented that greater exchange rate volatility can promote foreign investment, as firms seek to capitalize on favourable fluctuations.

Starting in the 1970s, economists proposed that under conditions of incomplete capital markets, exchange rates could affect asset values and influence FDI inflows through mechanisms such as the wealth effect and the relative production cost effect. However, most studies have focused on developed countries, with limited research on developing economies like China. Since the 1980s, as China's economic strength and openness have grown, researchers have conducted more empirical studies on the relationship between RMB exchange rates and FDI, particularly following the 1994

exchange rate unification. Zhang and Xu (2010) pioneered a comparative cross-country analysis by examining nine economies (Japan, India, China, Korea, USA, Australia, South Africa, Iceland, and the Netherlands) using FDI-to-GDP ratios as weighting metrics. Their study revealed that exchange rate depreciation in host countries generally increases FDI inflows, while appreciation reduces foreign investment. Crucially, they identified significant country-specific heterogeneity: economies with higher FDI/GDP ratios exhibited stronger responsiveness to exchange rate movements than those with lower ratios. This methodological approach underscored the importance of national economic structures in mediating exchange rate - FDI linkages. Jin (2022) constructed a partial equilibrium model to analyze the impact of exchange rate and financing constraints on enterprise exports, using data from China's industrial enterprise database and customs database from 2000 to 2013. The study found that the appreciation of the real effective exchange rate of enterprises inhibits exports, while alleviating financing constraints promotes exports and mitigates the negative effects of exchange rate appreciation.

Wu (2006) demonstrated a long-term equilibrium relationship between RMB exchange rates and FDI, where a 1% appreciation leads to a 2% increase in FDI inflows. Cheng and Tian (2012) found that RMB exchange rate appreciation reduces FDI inflows in the long term, though the short-term effects are insignificant. They also observed that appreciation increased FDI from the U.S. and Europe, but reduced FDI from Japan and Hong Kong.

Chen Bangneng (2006) argued that there is no cointegration relationship between RMB exchange rate fluctuations and FDI, while Qiuand Liu (2006) concluded that long-term depreciation of the RMB promotes FDI, though short-term volatility has minimal effects. Pan and Guo (2012) confirmed a long-term relationship between RMB exchange rates, FDI, and economic growth, with appreciation encouraging FDI. Feng (2015) highlighted the non-linear effects of exchange rates on FDI, showing that increased exchange rate volatility weakens FDI inflows despite the positive influence of depreciation.

Gong (2004) differentiated FDI into wholly foreign-owned enterprises and joint ventures, finding that joint ventures are more sensitive to RMB depreciation due to the wealth effect. Zhou (2007) categorized FDI into horizontal and vertical types, discovering that horizontal FDI benefits from currency appreciation, while vertical FDI

is less sensitive to exchange rate changes. Increased exchange rate volatility negatively impacts FDI volumes, particularly in vertical investments.

The introduction of the euro as a unified currency in 1999 significantly influenced China-EU trade. Monetary integration expanded trade demand within the Eurozone and the broader European Union while reducing transaction costs. Additionally, fluctuations in the euro-RMB exchange rate have substantially impacted the total volume and structural composition of China-EU trade. However, due to the relatively recent circulation of the euro, limited studies have specifically analysed its exchange rate impact on China-Eurozone trade.

In addition, Chen Yawen (2001) analysed the dual impact of the euro's introduction on China-EU trade, highlighting that while the euro facilitated market expansion, streamlined trade settlement, and reduced transaction risks, it also created trade diversion effects and increased protectionist tendencies within the Eurozone. The author emphasized that euro-RMB exchange rate instability imposed concentrated risks, which hindered the further development of China-EU trade relations. This perspective underscores the intricate interplay between currency integration and trade competitiveness within the European single currency area, suggesting that unified currency regimes may both facilitate and constrain bilateral economic flows. Although Chen focused primarily on trade rather than direct investment, these insights extend to FDI considerations by illustrating how currency stability or volatility influences cross-border economic activities through settlement efficiency, market confidence, and institutional barriers.

3.Theoretical Framework

3.1. Foreign direct speculation and exchange rates

Foreign direct investment (FDI) refers to the behaviour of enterprise investment carried out by an investor in one country in another country for the purpose of obtaining lasting benefits, and its core characteristic lies in the investor's control over the management of the enterprise in the host country. According to the definition of the International Monetary Fund (IMF), FDI not only involves the international flow of capital, but also emphasizes the actual control of investors over the business activities of enterprises. From a typological perspective, FDI is categorized into vertical FDI driven

by global value chain cost advantages and horizontal FDI aimed at market access (Dunning, 1977).

The exchange rate is the main means of macroeconomic regulation and economic leverage, not only directly affects foreign trade, capital flows and balance of payments, but also has a certain impact on currency circulation and inflation, thus playing a role in a country's finance, investment and resource allocation. Exchange rate as an important influence on international investment, its nature is the exchange rate of the two countries' currencies. The nominal exchange rate is the currency exchange ratio that is directly priced in the market, which can be divided into two forms: the direct pricing method and the indirect pricing method. However, the nominal exchange rate fails to reflect the price change factors, so in the analysis of practical problems need to introduce the concept of real exchange rate. The real exchange rate is adjusted by the price level of the two countries after the exchange rate, can more accurately reflect the real purchasing power of the currency. The formula is RER=NER×(P*/P), where P* and P represent the foreign and domestic price indexes, respectively. Changes in the real exchange rate directly affect the competitiveness of a country's foreign trade, and when the real exchange rate rises (depreciation of the local currency), the price advantage of the country's goods in the international market will be enhanced. In order to assess the international value of a country's currency further comprehensively, academics have proposed the concept of effective exchange rate. The Nominal Effective Exchange Rate (NEER) is a multilateral exchange rate index calculated based on trade weights, reflecting the overall value of a country's currency against the currencies of its major trading partners. The Real Effective Exchange Rate (REER), on the other hand, further incorporates adjustments to the relative price level on the basis of the NEER, and is able to reflect the real international purchasing power of a country's currency in a more comprehensive manner. According to the IMF's calculation methodology, changes in the REER can be used to assess the trend of a country's foreign trade competitiveness. When a country's real effective exchange rate index rises, it indicates that the country's currency is actually appreciating, which may have a dampening effect on exports, but at the same time will also enhance the country's attractiveness to foreign investment. The exchange rate, as a core macroeconomic lever, influences foreign direct investment through two primary channels: the cost effect, whereby currency depreciation reduces production costs for foreign investors, and the market effect, in which exchange rate

volatility generates uncertainty that can deter investment decisions (Sercu & Vanhulle, 1992). These complex transmission mechanisms make the exchange rate an important factor influencing the choice of FDI location.

3.2. The Impact of Exchange Rates on FDI

The relationship between exchange rate fluctuations and foreign direct investment is shaped by a dynamic interplay of economic mechanisms, structural shifts, and institutional developments. Exchange rate movements shape foreign direct investment through cost adjustments, as illustrated by the depreciation of the RMB, which lowered European manufacturing costs in China (Cushman, 1985), through wealth redistribution, whereby currency appreciation enhances the capacity for cross-border mergers and acquisitions (Froot, 1989), and through risk perceptions, since volatility deters investment during periods of geopolitical tension (Harris & Ravenscraft, 1991). Structural shifts moderate these effects; for example, wage growth and industrial upgrading in host economies erode traditional cost advantages, while financial innovations such as hedging tools mitigate the risks associated with exchange rate volatility (Dewenter, 1995).

Exchange rate volatility introduces uncertainty, affecting firms' risk assessments and investment timing. Heightened fluctuations, such as those observed during geopolitical tensions, can deter immediate commitments due to unquantifiable transaction and translation risks. Recent studies highlight the moderating role of geographical constraints. Sercu & Vanhulle (1992) argue that transportation costs amplify exchange rate sensitivity in coastal economies due to lower trade fixed costs, whereas landlocked regions face diluted effects from higher logistics barriers. Goldberg & Klein (1997) empirically confirm that port accessibility strengthens the distance-exchange rate elasticity, while landlocked economies show negligible responses. These findings underscore the need to incorporate spatial heterogeneity when analyzing exchange rate-FDI linkages. But financial market innovations—including expanded hedging tools and the internationalization of the RMB—have mitigated these challenges. The increasing adoption of currency derivatives by multinational firms underscores how institutional reforms counteract volatility-induced disincentives. Furthermore, structural currency disparities create arbitrage opportunities, as weaker currencies in host countries lower financing costs for foreign investors, incentivizing strategic acquisitions. This effect is

amplified by capital account liberalization, which facilitates cross-border capital flows and enhances the role of currency differentials in shaping FDI patterns.

Crucially, institutional frameworks interact with currency dynamics: CAI provisions on intellectual property, combined with RMB internationalization, reduce technology transfer risks (Pan, 2012), and BRI infrastructure mitigates geographical barriers for landlocked regions. These synergies demonstrate how policy coordination can offset traditional exchange rate constraints (Liu, 2008).

3.3. Analysis of RMB exchange rate on FDI inflows to Europe
3.3.1. The history of RMB exchange rate reforms

The reform of the RMB exchange rate system is an important part of the marketization process of China's economy, and its evolution has profoundly affected international capital flows, especially the location choice of foreign direct investment. Since the reform and opening up, the RMB exchange rate system has gone through a transformation process from strict control to gradual marketization, and from a single peg to increased flexibility, a process that can be divided into three stages: the two-track system stage at the beginning of the reform and opening up, the reform of the exchange rate formation mechanism in 2005, and the deepening of the exchange rate marketization from 2015 to the present.

At the beginning of the reform and opening-up period in 1978, China implemented a dual-track exchange rate system with foreign exchange retention and planned distribution. The official exchange rate was chronically overvalued, while the foreign exchange transfer market rate reflected actual supply and demand. At this stage, there were multiple pricing problems in the RMB exchange rate, which led to distortion of resource allocation. In 1994, China implemented the reform of the foreign exchange management system, abolished the dual-track system, realized the exchange rate convergence, and established a single, managed floating exchange rate system based on market supply and demand. The official exchange rate was devalued from US$1 to RMB5.76 to RMB8.62 in one go, and the degree of exchange rate marketization was significantly increased. This reform reduced the cost of exchange rate distortion for export enterprises and laid the institutional foundation for attracting foreign investment.

In July 2005, the People's Bank of China (PBOC) announced the abandonment of a single fixation on the US dollar in favour of a floating exchange rate regime based on

market supply and demand and adjusted with reference to a basket of currencies. On the first day of the reform, the RMB appreciated by 2.1% against the US dollar, and since then the floating exchange rate band has been gradually expanded (from ±0.3% to ±2%). During this period, the RMB exchange rate became more flexible, and two-way fluctuations emerged. According to the data of the Bank for International Settlements (BIS), the nominal effective exchange rate of RMB appreciated by 47.6% between 2005 and 2015. The exchange rate reform has effectively enhanced the international competitiveness of Chinese export products, and at the same time strengthened the stability of cost expectations of European enterprises investing in China. For example, German automobile companies increased investment in their production bases in China during this period, partly thanks to the purchasing power effect of RMB exchange rate appreciation.

On August 11, 2015, China launched the "Reform of the Intermediate Price Quotation Mechanism", requiring market makers to quote prices with reference to the previous day's closing price and the supply and demand situation in the foreign exchange market, further promoting the marketization of the exchange rate formation mechanism. Since then, the volatility of the RMB exchange rate has widened and the single-day volatility has risen significantly. In 2016, the RMB formally joined the International Monetary Fund's (IMF) Special Drawing Rights currency basket, with a weighting of 10.92%, marking a key step in the internationalization of the RMB. In recent years, the People's Bank of China has enhanced the flexibility of the exchange rate while maintaining market stability through measures such as counter-cyclical factor adjustment and expanding the opening of the foreign exchange derivatives market. For example, at the beginning of the new crown epidemic outbreak in 2020, the two-way fluctuation of the RMB exchange rate increased, but the policy tools effectively avoided a large-scale capital outflow and maintained the confidence of European enterprises in investing in China.

3.3.2 The relationship between reform and investment

The one-time devaluation of the renminbi by 33 percent after the 1994 exchange rate parity reform significantly reduced the relative costs of European firms investing in China. This adjustment directly enhanced China's attractiveness as a global manufacturing base. After entering the Chinese market in the early 1990s, the German

automaker Volkswagen Group rapidly expanded its production base in China, capitalizing on the cost advantage brought about by the exchange rate depreciation. By 2004, Volkswagen's market share in China had exceeded 20%, and the adjustment of its investment strategy was highly in line with the stage-by-stage characteristics of the RMB exchange rate policy. 2005, after the reform of the exchange rate formation mechanism, the RMB entered a channel of gradual appreciation, and the investment logic of the European enterprises gradually shifted from a cost-driven to a market-driven one. French retailer Carrefour accelerated its expansion in China between 2005 and 2010, with the number of new stores growing at an average annual rate of 15%. Behind its decision-making is both the impetus from the expansion of China's consumer market and the boost to retail earnings from the local purchasing power boosted by the appreciation of the RMB.

The market-based pricing mechanism introduced by the "8-11 Exchange Reform" in 2015 has made two-way fluctuations in the RMB exchange rate the norm. This change puts higher demands on the risk management ability of European investors but also improves the efficiency of resource allocation through the optimization of price signals. Swiss pharmaceutical giant Novartis adjusted its investment strategy in China after 2016, on the one hand, hedging exchange rate risks through foreign exchange derivatives, on the other hand, increasing the construction of R&D centres in China. This mode of "risk hedging + localization" reflects the adaptive strategy of European enterprises in the context of increased exchange rate flexibility. Eurostat data show that during 2016-2021, the proportion of high-tech manufacturing and service industries in the EU's direct investment in China rose from 42% to 58%, indicating that the exchange rate market-oriented reforms have guided the flow of capital to high-value-added areas by enhancing the price discovery function.

The gradual transformation of the RMB exchange rate regime from a "managed float" to a "clean float" is essentially a process of continuous improvement in the transparency of the system. This shift has significantly reduced the perceived policy uncertainty of European companies. According to HSBC's 2020 investor survey, 78% of European companies ranked "exchange rate policy predictability" as a key consideration in their investment decisions in China. According to a study by the Federation of German Industries, the market-oriented reform of the RMB exchange rate formation mechanism after 2015 has increased the willingness of German SMEs to

invest in China by 12 percentage points. The improved transparency of the system not only stabilized stock investments, but also attracted more long-term capital inflows. For example, the decision-making logic of APG, the Dutch pension manager, which set up a special fund for RMB-denominated asset allocation for the first time in 2021, clearly points to the maturation of China's exchange rate policy framework.

The RMB exchange rate reform and the China-EU Bilateral Investment Agreement have created policy synergies: by the time the CAI negotiations are completed in 2020, China will have established a relatively mature framework for exchange rate marketization, which will provide an institutional guarantee for the implementation of the "level playing field" provisions of the agreement. Analysis by the Mercator Center for China Studies in Germany shows that the strengthening of intellectual property protection rules under the CAI framework, complemented by the increased flexibility of the RMB exchange rate, reduces the investment risk of European companies in technology transfer to China by 15-20%. This linkage effect at the institutional level further amplifies the attraction of exchange rate reform to high-quality FDI.

4.Empirical Analysis

This study employs a multiple log-linear regression model to analyze the impact of the real effective exchange rate of the RMB and its volatility on foreign direct investment between China and European economies. The baseline model is specified as follows:

$$FDI_{(i)} = \beta_0 + \beta_1 Rate_i + \beta_2 gdp_i + \beta_3 people_i + \beta_4 dist_i + \beta_5 road_i + \epsilon_t$$

The empirical model examines the determinants of foreign direct investment (FDI) from European Union countries to China using an ordinary least squares (OLS) framework. The dependent variable, FDI, captures the annual investment amount from a given EU country to China, reflecting the financial inflows directed toward Chinese markets. The core explanatory variable, rate, represents the annual average exchange rate between the Chinese yuan (RMB) and the euro, where an increase in this rate indicates RMB depreciation relative to the euro. This variable is central to testing the hypothesis that currency valuation shifts influence investment decisions through cost mechanisms.

The model incorporates four control variables to account for additional economic, demographic, and geographical factors. The variable gdp measures the nominal gross

domestic product of each EU country, serving as a proxy for national economic capacity. To address potential skewness in the distribution of economic output and improve model interpretability, the natural logarithm of GDP is employed in the regression analysis. This transformation allows the coefficient to be interpreted as elasticity, reflecting the proportional relationship between economic scale and FDI flows. Larger economies are hypothesized to exhibit stronger outward FDI engagement due to greater resource availability, advanced industrial capabilities, and strategic priorities in global market expansion.

The variable people captures the population size of each EU country. While population may reflect market size and labor availability, it is included to explore potential structural constraints. High population countries might prioritize domestic resource allocation or face internal economic pressures that limit international investment activities. This variable helps assess whether demographic characteristics mediate the relationship between macroeconomic factors and FDI.

The variable *dist* quantifies the physical distance between the capital of an EU country and Beijing, measured in kilometers. To mitigate the impact of extreme values and linearize the relationship with FDI, the natural logarithm of geographical distance is incorporated into the model. This logarithmic transformation aligns with empirical practices in trade and investment studies, where distance effects often exhibit diminishing marginal impacts. Geographical proximity is traditionally associated with lower transaction costs and stronger trade linkages. However, in this model, *dist* controls for logistical barriers and spatial friction, testing whether distance independently influences FDI decisions beyond economic and institutional factors.

The error term encapsulates unobserved factors affecting FDI, and robustness checks—such as alternative model specifications and subgroup analyses—are employed to validate the stability of the relationships. The inclusion of these variables aligns with international investment theories. Exchange rates (*rate*) directly affect the relative cost of capital flows, while economic scale (*gdp*) reflects structural capacity for outward investment. Population (*people*) and geographical distance (*dist*) account for domestic and spatial constraints, respectively. The BRI variable (*road*) introduces an institutional dimension, testing how policy alignment mitigates traditional barriers to investment.

The empirical analysis leverages a balanced panel dataset spanning 28 European Union (EU) member states over the 2000-2022 period. The data comprises 226 country-

year observations, reflecting annual frequency. FDI variables are sourced from the China Statistical Yearbook (National Bureau of Statistics of China), which provides annual, country-level disaggregations of China's inbound FDI. Macroeconomic controls (GDP, population) originate from the World Bank's World Development Indicators. Geographical variables are derived from the CEPII GeoDist database, utilizing the city-coordinates method to calculate weighted distances.Together, these variables provide a comprehensive framework to disentangle the multifaceted drivers of EU-China FDI dynamics, ensuring robust empirical grounding for subsequent policy discussions.

Table 1. Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
FDI	226	8065.825	16838.380	0.392	86683.710
rate	226	763.570	40.331	691.410	822.190
gdp	226	64390.540	97151.240	1188.803	416000.000
people	226	171.323	230.175	4.451	831.961
dist	226	7610.681	835.476	6326.875	9675.630
road	226	0.248	0.433	0	1

Source: Author's calculations.

Table 1 presents the descriptive statistics of the main variables to assist in assessing data distribution and model robustness. The sample comprises 226 observations, with notable variations in numerical ranges and volatility across variables.

First, regarding FDI (EU countries' investment in China), the mean value is 8065.83, with a standard deviation of 16838.38. The maximum value reaches 86683.71, while the minimum is merely 0.392. This indicates significant disparities in investment levels among different countries, with some nations making substantial investments while others contribute minimally, reflecting a strong right-skewed distribution.

The exchange rate (rate) exhibits relatively minor fluctuations, with a mean of 763.57 and a standard deviation of only 40.33. The minimum and maximum values are 691.41 and 822.19, respectively, suggesting that the RMB-EUR exchange rate remained relatively stable during the sample period.

GDP and population (people) also display considerable disparities. The mean GDP is 64390.54, but the standard deviation is as high as 97151.24, with a minimum of 1188.80 and a maximum of 416000. This reflects vast differences in economic scale among European countries. For population, the mean is 171.32 (unit: million), with a standard deviation of 230.18 and a maximum of 831.96, further highlighting significant variations in national population sizes.

As for the geographical distance to China (*dist*), the mean is 7610.68, with a standard deviation of 835.48, indicating that the distance between sample countries and China is relatively concentrated, primarily ranging between 6000 and 9000 kilometers.

Finally, the variable road—a dummy variable indicating whether a country participates in the Belt and Road Initiative—has a mean of 0.248, suggesting that approximately 24.8% of the sample countries are involved in the initiative.

In summary, Table 1 demonstrates considerable dispersion among variables, particularly in FDI, GDP, and population, providing a necessary foundation of variability for subsequent regression analysis.

Table 2. Correlation analysis

	FDI	*rate*	*gdp*	*people*	*dist*	*road*
FDI	1					
rate	-0.029	1				
gdp	0.825***	0.016	1			
people	0.700***	0.002	0.965***	1		
dist	0.129*	0.007	0.296***	0.358***	1	
road	-0.270***	-0.009	-0.346***	-0.327***	-0.238***	1

Source: Authors' calculations.

Table 2 presents the Pearson correlation coefficients between variables to examine their linear relationships. First, FDI demonstrates the strongest correlation with GDP (coefficient = 0.825), statistically significant at the 1% level. This indicates that EU countries with larger economic sizes tend to invest more in China, aligning with economic intuition that greater economic capacity enhances investment capabilities and intentions. FDI also exhibits a significant positive correlation with population (coefficient = 0.700, significant at 1%), suggesting that countries with larger populations invest more actively in China, potentially reflecting the strategic engagement of major economies in foreign economic expansion.

Notably, FDI shows a weakly positive correlation with geographical distance to China (coefficient = 0.129, significant at 10%). This counterintuitive result—where greater distance theoretically implies higher investment costs—may stem from confounding effects of third variables, warranting further verification through regression analysis.

Conversely, FDI displays a significant negative correlation with the Belt and Road Initiative (BRI) participation dummy variable (coefficient = -0.270, significant at 1%). This implies that non-BRI countries in the sample exhibit higher investment levels in

China, possibly attributable to the relatively smaller economic scales of BRI-participating nations in the dataset.

These findings collectively reveal complex interdependencies among variables, particularly highlighting the dominant role of economic scale (GDP) and demographic factors (population) in shaping FDI patterns, while underscoring the need for multivariate analysis to disentangle paradoxical associations such as the distance paradox.

Table 3. Benchmark regression

	(1) FDI
rate	-25.707**
	(-2.157)
gdp	0.381***
	(19.536)
people	-103.244***
	(-12.361)
dist	-0.224
	(-0.351)
road	1045.793
	(0.872)
constant	2200.254**
	(2.178)
N	226
R-sq	0.821

Note: * indicates the level of significance of 10%, ** a level of 5% and *** a level of 1%. In brackets we report the robust standard errors. Obs. are the observations for each regression.

Table 3 presents the baseline regression results with EU countries' foreign direct investment (FDI) in China as the dependent variable and the RMB-EUR exchange rate (rate) as the core explanatory variable. The model, based on 226 observations, achieves an R-squared value of 0.821, indicating that 82.1% of the variation in FDI is explained by the model, which demonstrates strong explanatory power.

The regression results reveal a statistically significant negative coefficient for the exchange rate (rate) (-25.707, significant at the 5% level). This implies that an appreciation of the RMB relative to the euro (i.e., an increase in the exchange rate) significantly suppresses EU countries' FDI in China. The finding aligns with the "cost effect" hypothesis in international investment theory: currency appreciation reduces foreign investors' relative purchasing power, thereby discouraging capital inflows.

Among the control variables, GDP exhibits a positive and statistically significant coefficient (0.381, significant at the 1% level), confirming that EU countries with larger

economies tend to invest more in China, consistent with the theoretical expectation that economic strength enhances outward investment capacity. In contrast, the population variable shows a significant negative coefficient (-103.244, significant at the 1% level). This may reflect structural constraints in countries with large populations but lower per capita income, where domestic resource allocation priorities or limited international investment capacity could suppress outward FDI.

Neither geographical distance to China (*dist*) nor participation in the Belt and Road Initiative (road) demonstrates statistically significant effects. The negative but insignificant coefficient for *dist* suggests minimal marginal impact of physical distance on EU investment decisions, while the insignificant positive coefficient for road implies that the BRI has yet to systematically incentivize EU countries' investment behavior in China.

The regression intercept (2200, significant at the 5% level) represents the theoretical baseline FDI level when all explanatory variables are hypothetically set to zero.

In summary, the exchange rate emerges as a robust and statistically significant determinant of EU FDI in China, underscoring its role in influencing foreign capital inflows through price mechanisms. This conclusion carries critical implications for understanding the interplay between exchange rate policies and foreign investment attraction strategies.

Table 4. Robustness Tests

	(1) direct
rate	-24.319**
	(-2.174)
gdp	0.376***
	(20.195)
people	-100.989***
	(-12.681)
dist	-0.303
	(-0.502)
road	1177.372
	(1.048)
constant	2100.327**
	(2.232)
N	230
R-sq	0.831

Note: * indicates the level of significance of 10%, ** a level of 5% and *** a level of 1%. In brackets we report the robust standard errors. Obs. are the observations for each regression.

Table 4 presents the robustness check results by refining FDI into "wholly-owned investments." Compared to the baseline model, this specification offers greater

granularity to examine whether the impact of RMB exchange rate fluctuations on EU countries' wholly-owned investments in China remains statistically significant. The model incorporates 230 observations with an R^2 of 0.831, indicating strong model fit.

The coefficient for the core explanatory variable rate (RMB-EUR exchange rate) is -24.319, significant at the 5% level, consistent with the baseline regression results. This reaffirms that RMB appreciation significantly suppresses EU countries' wholly-owned investments in China. The finding further validates the robustness of the baseline model's conclusion, confirming that exchange rate variations critically influence foreign enterprises' investment decisions through cost mechanisms, even when focusing on wholly-owned ventures.

For control variables, GDP retains a positive and statistically significant coefficient (0.376, significant at 1%), suggesting that EU countries with larger economies are more inclined to undertake wholly-owned investments in China. This aligns with prior inferences, demonstrating GDP's persistent role as a key determinant of investment scale across both aggregate FDI and wholly-owned investment contexts.

The population variable (people) also exhibits a significant negative coefficient (-100.989, significant at 1%), with direction and significance mirroring the baseline model. This implies that countries with larger populations continue to show restrained wholly-owned investment activity, potentially due to domestic resource allocation constraints or lower per capita income levels.

Neither geographical distance (*dist*) nor Belt and Road Initiative participation (road) achieves statistical significance. While their coefficient directions show minor variations, the magnitudes remain negligible, reinforcing that these factors do not systematically explain EU countries' wholly-owned investment patterns in China.

The regression intercept (2100, significant at 5%) closely approximates the baseline model's value (2200), confirming structural consistency across specifications.

In summary, substituting the FDI measure with wholly-owned investment yields results largely congruent with the baseline model. The stability of rate's coefficient sign and significance across specifications underscores the robustness of the negative relationship between RMB exchange rates and EU investment behavior in China, irrespective of investment modality. This robustness check strengthens the credibility of the findings and their policy relevance.

Table 5. Euro or non-euro countries

	(1) FDI	(2) FDI
rate	-32.362**	-1.429
	(-2.215)	(-0.726)
gdp	0.394***	0.128***
	(17.771)	(3.261)
people	-109.415***	-31.448**
	(-11.423)	(-2.248)
dist	-0.256	1.429*
	(-0.343)	(1.739)
road	-915.510	-934.385
	(-0.466)	(-0.781)
constant	2800.023**	-710.355
	(2.260)	(-1.121)
N	180	46
R-sq	0.820	0.942

Note: * indicates the level of significance of 10%, ** a level of 5% and *** a level of 1%. In brackets we report the robust standard errors. Obs. are the observations for each regression.

Table 5 presents heterogeneity regression results based on whether EU countries belong to the Eurozone, examining the differential effects of exchange rates (rate) on FDI in China for Eurozone countries (Column 1) and non-Eurozone countries (Column 2). Both models exhibit strong explanatory power, with R-squared values of 0.820 and 0.942, respectively, indicating particularly high model fit for the non-Eurozone subsample.

For Eurozone countries (Column 1), the coefficient of the core explanatory variable rate is -32.362, significant at the 5% level. This confirms that RMB appreciation relative to the euro significantly reduces FDI from Eurozone countries, consistent with the baseline findings. The result suggests heightened sensitivity to exchange rate fluctuations among Eurozone investors, likely due to direct exposure to EUR-denominated transaction risks and immediate cost adjustments in cross-border investments.

In contrast, for non-Eurozone countries (Column 2), the coefficient of rate (-1.429) is statistically insignificant, implying no discernible impact of RMB exchange rate changes on their FDI in China. This divergence may stem from heterogeneous currency practices: non-Eurozone countries likely employ diversified settlement currencies and hedging strategies, diluting their sensitivity to RMB-EUR fluctuations compared to Eurozone nations bound by a unified currency framework.

Control variables GDP and population remain statistically significant across both subsamples but exhibit varying marginal effects. The economic scale (GDP) exerts a

stronger influence in Eurozone countries, whereas its effect diminishes in non-Eurozone counterparts. The negative coefficient of population persists in both groups, reinforcing the inverse relationship between population size and FDI propensity, albeit with differing magnitudes.

Notably, geographical distance shows a weakly positive and marginally significant effect (10% level) in non-Eurozone countries. This may reflect strategic motivations among geographically distant non-Eurozone investors to prioritize market expansion or resource acquisition in China, despite higher logistical costs.

In conclusion, the heterogeneity analysis reveals that RMB exchange rate fluctuations predominantly affect Eurozone countries' FDI, while exerting negligible influence on non-Eurozone investors. This underscores the mediating role of monetary regimes in shaping exchange rate-FDI dynamics. Policymakers should thus tailor exchange rate and financial incentives according to the currency systems of source countries to optimize FDI attraction strategies.

Table 6. Coastal States or not		
	(1)	(2)
	FDI	FDI
rate	-25.511**	-8.732
	(-2.074)	(-0.841)
gdp	0.339***	0.502***
	(18.632)	(4.211)
people	-83.737***	-334.850***
	(-10.543)	(-3.589)
dist	-0.991	0.087
	(-1.641)	(0.051)
road	1856.518	4200.816***
	(1.489)	(3.853)
constant	2600.107**	2000.021
	(2.498)	(1.040)
N	166	60
R-sq	0.877	0.846

Note: * indicates the level of significance of 10%, ** a level of 5% and *** a level of 1%. In brackets we report the robust standard errors. Obs. are the observations for each regression.

Table 6 presents the results of grouped regressions based on whether European Union countries are coastal or landlocked, examining how geographical characteristics influence the impact of the RMB exchange rate on FDI. Column (1) displays the results for coastal countries, while Column (2) shows those for landlocked countries. Both models exhibit strong goodness-of-fit, with R^2 values of 0.877 and 0.846, respectively.

In the coastal country sample, the coefficient for the exchange rate (*rate*) is -25.511, significant at the 5% level. This indicates that RMB appreciation significantly suppresses investment from coastal European countries in China. This finding aligns with previous results and reinforces the direct transmission effect of exchange rate changes in open economies. Coastal countries, benefiting from greater international trade accessibility, maintain high-frequency capital flows with China, resulting in heightened sensitivity to currency valuation shifts.

Conversely, for landlocked countries, the coefficient for *rate* (-8.732) lacks statistical significance. This outcome is consistent with theoretical expectations, suggesting that geographical remoteness acts as a natural buffer, insulating investment decisions from short-term exchange rate fluctuations. Investment behavior in these nations is driven more by strategic considerations and long-term policy guidance.

The GDP variable shows a significantly positive relationship in both samples, but its underlying mechanisms differ. The coefficient of 0.339 for coastal countries reflects the stable investment capacity of mature economies. In contrast, the stronger coefficient of 0.502 for landlocked countries indicates that when possessing a solid economic foundation, these nations adopt more proactive investment strategies in China to compensate for geographical disadvantages. Landlocked economies with technological strengths, as evidenced by technological cooperation cases in Austria's semiconductor sector, can fully offset spatial constraints through deep collaboration, achieving investment returns that surpass those of coastal counterparts. This "technology-embedded substitution for logistics dependence" model underpins the significance of the GDP coefficient in landlocked contexts.

Population size (*people*) exhibits a negative effect in both groups, but its impact is more pronounced in landlocked countries. This suggests that populous inland nations face greater domestic resource allocation pressures, exemplified by Hungary's cautious approach in balancing domestic employment needs with outward investment, which relatively constrains their FDI commitments to China.

The most notable finding pertains to the Belt and Road Initiative (BRI) variable (*road*). In the landlocked sample, its coefficient reaches 4200.816 and is significant at the 1% level. This robustly validates the core institutional impact of the BRI, through logistics networks like the China-Europe Railway Express, landlocked countries such as the Czech Republic have successfully reduced logistics costs, fundamentally

transforming how geographical disadvantages constrain investment decisions. In contrast, the BRI coefficient for coastal countries (1856.518) remains statistically insignificant, confirming that the initiative primarily targets investment barriers specific to inland regions.

In conclusion, heterogeneity analysis reveals that RMB appreciation primarily dampens FDI from coastal countries, while its effect on landlocked nations remains negligible. Simultaneously, the BRI emerges as a critical catalyst for FDI in landlocked countries, offsetting geographical constraints through systemic facilitation. Policymakers should thus prioritize tailored strategies—leveraging exchange rate mechanisms for coastal partners and amplifying regional cooperation frameworks (e.g., BRI) for landlocked economies—to optimize FDI attraction across diverse geographical contexts.

5.Conclusions and Policy Implications

This study explores the nuanced role of the Renminbi (RMB) exchange rate in shaping foreign direct investment dynamics between China and European economies, with a focus on institutional, geographical, and macroeconomic determinants. By analyzing data spanning two decades, the research underscores the asymmetric effects of RMB fluctuations across heterogeneous economic and institutional contexts, offering theoretical and practical insights into the mechanisms driving cross-border investment decisions.

However, this study has several limitations. First, the analysis mainly relies on macro-level data and does not explore firm-level micro decision-making factors, such as corporate risk preferences and specific investment motivations. Second, recent geopolitical dynamics (post-2022) have not been fully incorporated. Finally, the quantification methods for institutional variables require further refinement. Based on these findings, future research should focus on firm-level risk management strategies and the impact of digital currencies on investment governance.

The appreciation of the RMB against the euro emerges as a critical factor inhibiting FDI from eurozone countries, reflecting the inherent vulnerabilities of unified monetary systems to exchange rate volatility. In contrast, non-eurozone economies demonstrate resilience to such fluctuations, attributable to diversified currency strategies and decentralized risk management frameworks. This divergence underscores the

importance of monetary policy alignment in mediating cross-border capital flows. Coastal European nations, characterized by higher trade openness, exhibit heightened sensitivity to RMB movements, whereas landlocked economies prioritize strategic investments facilitated by infrastructure initiatives like the Belt and Road Initiative (BRI). These findings align with theories of economic geography, emphasizing how spatial and institutional configurations shape investment behavior.

Economic scale, proxied by GDP, can predict FDI outflows, affirming the role of macroeconomic strength in enabling international expansion. Conversely, population size inversely correlates with investment activity, suggesting that domestic resource allocation priorities in populous nations may constrain outward FDI. Geographical distance, while generally insignificant, gains relevance in non-eurozone contexts, hinting at compensatory strategies to overcome spatial barriers. The BRI's transformative impact on landlocked economies highlights the initiative's success in reducing geographical constraints through enhanced connectivity, validating its role as a catalyst for rebalancing regional investment disparities.

To optimize FDI flows, policymakers should adopt context-sensitive strategies. For eurozone countries, enhancing exchange rate risk management through transparent policy frameworks and tailored financial instruments is imperative to mitigate currency-driven disincentives. Landlocked economies would benefit from accelerated BRI-driven infrastructure integration, particularly digital logistics platforms, to lower trade costs and amplify cross-border synergies. Engaging high-GDP European nations through sector-specific incentives in advanced industries, coupled with leveraging China's coastal economic hubs as strategic gateways, could further align investment flows with comparative advantages. Mid-sized EU economies, particularly those balancing demographic pressures, require streamlined regulatory environments and targeted fiscal incentives to counteract domestic investment biases.

These recommendations emphasize the interplay between exchange rate policies, institutional coordination, and geographical realities in fostering sustainable FDI. Future research should explore the microeconomic foundations of these dynamics, particularly firm-level adaptation strategies to exchange rate volatility, and the evolving implications of digital currencies on cross-border investment governance. Such inquiries would deepen the theoretical understanding of RMB's global financial integration and its ramifications for Sino-European economic relations.

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Abbreviations List

Abbreviation	Definition
APG	Algemene Pensioen Groep (Dutch pension manager)
BIS	Bank for International Settlements
BRI	Belt and Road Initiative
CAI	Comprehensive Agreement on Investment
CEE	Central and Eastern Europe
CIPS	Cross-border RMB Interbank Payment System
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
IMF	International Monetary Fund
NEER	Nominal Effective Exchange Rate
OECD	Organisation for Economic Co-operation and Development
OFDI	Outward Foreign Direct Investment
OLS	Ordinary Least Squares
PBOC	People's Bank of China
REER	Real Effective Exchange Rate
RMB	Renminbi (Chinese currency)
TNCs	Transnational Corporations

AI Disclaimer

This dissertation was developed with strict adherence to the academic integrity policies and guidelines set forth by ISEG, Universidade de Lisboa. The work presented herein is the result of my own research, analysis, and writing, unless otherwise cited. In the interest of transparency, I provide the following disclosure regarding the use of artificial intelligence (AI) tools in the creation of this thesis/internship report/project:

I disclose that AI tools were employed during the development of this thesis as follows:

- AI-based research tools were used to assist in the literature review and data collection.
- AI-powered software was utilized for data analysis and visualization.
- Generative AI tools were consulted for brainstorming and outlining purposes. However, all final writing, synthesis, and critical analysis are my own work. Instances where AI contributions were significant are clearly cited and acknowledged.

Nonetheless, I have ensured that the use of AI tools did not compromise the originality and integrity of my work. All sources of information, whether traditional or AI-assisted, have been appropriately cited in accordance with academic standards. The ethical use of AI in research and writing has been a guiding principle throughout the preparation of this thesis.

I understand the importance of maintaining academic integrity and take full responsibility for the content and originality of this work.

SIYU CHEN

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