Malaysian Journal of Social Sciences and Humanities (MJSSH) (e-ISSN : 2504-8562)
2024, Volume 9, Issue 10, e003020
DOI: https://doi.org/10.47405/mjssh.v9i10.3020

REVIEW ARTICLE

The Impact of FDI On Economic Growth: Evidence from Different Sectors and Economic Conditions

Zhang Haikun[1*], Taufik Abd Hakim[2], Abdul Aziz Lai Bin Mohd Fikri Lai[3]

[1]Faculty of Business Management, Universiti Teknologi Mara, Sabah, Branch, 88200, Kota Kinabalu, Sabah, Malaysia;
XinYu University, Xinyu Sunshine Road 2666, 338000, Jiang xi China
Email: 16753133@qq.com
[2]Faculty of Business Management, Universiti Teknologi Mara, Sabah, Branch, 88200, Kota Kinabalu, Sabah, Malaysia
Email: taufik4955@uitm.edu.my
[3]Faculty of Business Management, Universiti Teknologi Mara, Sabah, Branch, 88200, Kota Kinabalu, Sabah, Malaysia
Email: abdulazizlai@uitm.edu.my

CORRESPONDING AUTHOR (*):
Zhang Haikun
(16753133@qq.com)

KEYWORDS:
FDI
Economic Growth
Sector Analysis
Economic conditions

CITATION:
Zhang, H. et al. (2024). The Impact of FDI On Economic Growth: Evidence from Different Sectors and Economic Conditions. *Malaysian Journal of Social Sciences and Humanities (MJSSH), 9*(10), e003020. https://doi.org/10.47405/mjssh.v9i10.3020

ABSTRACT

The objective of this study is to examine how the foreign direct investment (FDI) influence China's economic expansion and evaluate its diverse role in various sectors and economic circumstances. This study uses multiple regression panel data Fixed Effects models with the robust standard errors to investigate further the potential significant impacts of both FDI inflows and outflows on economic development in China. The study employs panel data from 29 provinces in China, spanning the period from 2003 to 2021 for its analysis. This study found that FDI inflow contribute significantly and positively on growth in three different sectors, while outflow of FDI shows insignificant but positively correlated with growth. The results of coefficients reveal that FDI inflow in secondary sector has the strongest impact on growth, followed by primary and tertiary sector. Additionally, by including crisis in the models, the positive and significant impact of FDI inflow remain unchanged with the domestic investment became significantly and positively affect the economic growth. Hence, this study recommends the policy makers to promote and encourage more foreign investors to invest in China by giving some incentives such as reduction in capital gains taxes and more subsidies to the domestic firms especially in secondary sector.

Contribution/Originality: The paper's primary contribution is finding that FDI inflows significantly boost economic growth across sectors in China, with manufacturing seeing the most benefit. It also suggests policy incentives to attract more FDI, particularly in manufacturing.

1. Introduction

Foreign direct investment (FDI) can be considered as one of the important economic indicators in stimulating growth and economic development, in which both FDI inflow (IFDI) and FDI outflow (OFDI) experiencing consistent growth in the last twenty years. The expansion has significantly bolstered the economic progress of nations globally (Mehic et al., 2013; Aust et al., 2020).

However, some studies have shown that the positive impact of FDI on economic growth is conditional, Azman-Saini and Law (2010) argued that when the ratio of private sector credit to GDP exceeds 49.7 percent, the impact of FDI on economic growth is significantly positive.

Moreover, the economic consequences of FDI exhibit notable diversity, since past studies suggests that the growth outcomes of FDI vary significantly among various sectors (Chakraborty & Nunnenkamp, 2008). Wang (2009) reveals that the manufacturing sector's foreign direct investment (FDI) positively influences the economic growth of host nations. On the other hand, FDI inflows into non-manufacturing sectors have a less significant effect on economic growth. In contrast, certain research has indicated that the impact of foreign direct investment (FDI) on economic growth is not clearly observable (Alfaro et al., 2004; Zandile & Phiri, 2019).

FDI inflow and outflow are considered two interrelated levers that have contributed to China's rapid economic growth (Luo et al., 2021). According to data from the China Statistical Yearbook (2022), over a span of 25 years, from 1997 to 2021, China has emerged as the world's second-largest recipient of FDI. During this period, the country's Gross Domestic Product (GDP) has seen a remarkable increase from USD 962.74 billion to USD 17731.31 billion, with an average growth rate of 37.21%. Concurrently, the per capita GDP has soared from USD 730 to USD 12,550, marking an approximate thirteenfold increase over the 25-year period. Substantial capital investment has predicated this swift economic expansion, underscoring the importance of FDI as a prerequisite for economic expansion.

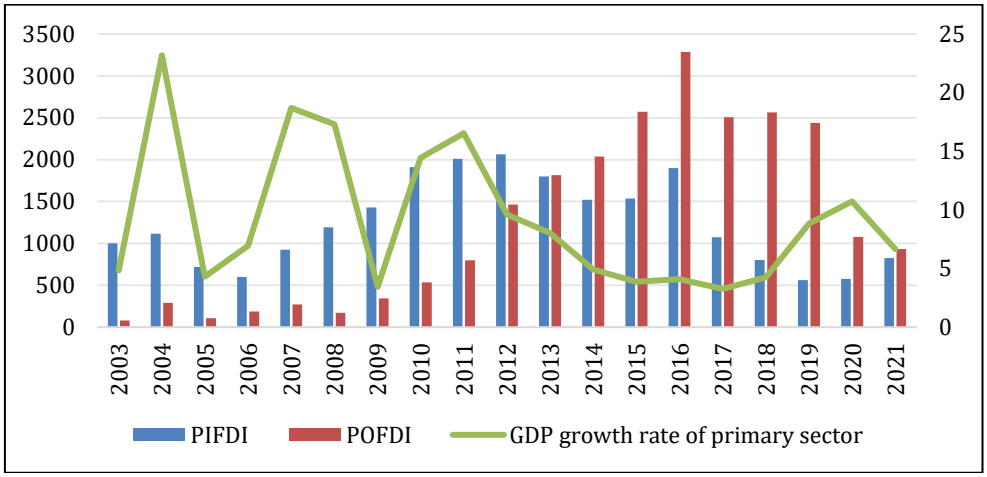
According to Deng et al. (2017), China's outward investment plays a crucial role in boosting the global competitiveness of its enterprises. Outward investment eases access to natural resources, broadens the market for Chinese products, and aids in the acquisition of advanced technologies and expertise, as well as collaborative research and development. According to the Statistical Bulletin on China's Outward Foreign Direct Investment (2017), from 2002 to 2016, China's overseas direct investment flow grew by 35.8% annually. The country's global ranking has ascended from the 26th position (0.5%) to the second (13.5%), making it the world's second-largest investor after the United States. A study conducted by Cozza et al. (2015) found that China's direct investment in Europe has spurred the upgrading of domestic industrial structures. However, there is a counterargument in the academic community, with scholars such as Gunby et al. (2017) suggests that the impact of IFDI and OFDI on China's economic growth is not as pronounced as others might contend.

1.1. The Trend of inflow and outflow of FDI and Growth

A deeper understanding of the relationship between FDI and economic growth can be gained by examining the influence of IFDI and OFDI at the sectoral level. Figure 1 shows

that FDI inflows into China's primary sector have been on a declining trend, falling from USD 1,008.4 million to USD 826.26 million, accounting for less than 2 per cent between 2003 and 2021 and less than 1 per cent between 2017 and 2020 (China Statistical Yearbook, 2023). This could be attributed to the unattractiveness of foreign investment due to long payback periods and low profit margins (Awunyo-Vitor & Sackey, 2018). Meanwhile, thanks to the Chinese government's policy of encouraging 'going out', primary outward foreign direct investment (POFDI) has been gradually rising since 2003, when it was USD 81.36 million, and the growth rate accelerated after 2009, surpassing USD 1 billion in 2011 and reaching a peak of USD 3,287.14 million in 2014. After the financial crisis in 2008 (China Statistical Yearbook, 2023). GDP growth in the primary sector declined and then rebounded rapidly, a fluctuation that demonstrated the positive impact of foreign investment on economic recovery (Chandio et al., 2019).

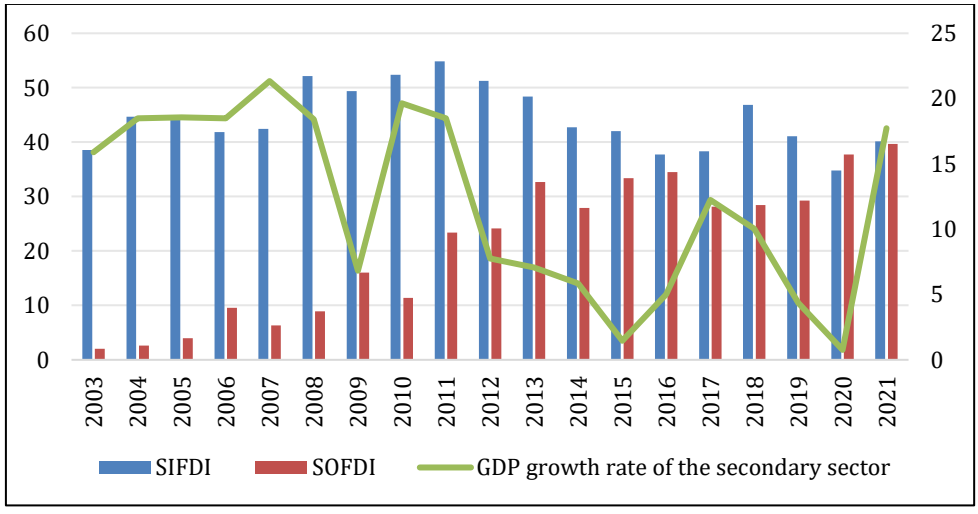
Figure 1: Trends of FDI Inflows (PIFDI) and FDI outflows (POFDI) and GDP growth rate in Primary Sector from 2003 to 2021 (USD million).



Source: China Statistical Yearbook (2023)

Figure 2 shows that between 2003 and 2021, FDI inflows to China's secondary sector were stable, increasing from USD 38.57 billion to USD 41.11 billion..

Figure 2: Trends of FDI Inflows (SIFDI), FDI outflows (SOFDI) and GDP growth rate in Secondary Sector from 2003 to 2021 (USD billion).

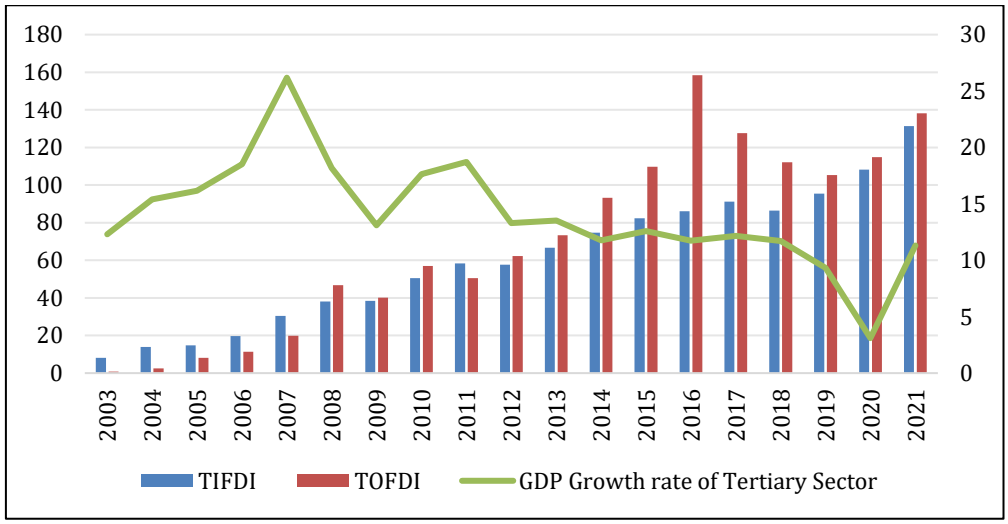


Source: China Statistical Yearbook (2023)

Outward investment has grown significantly, from USD 2.02 billion to USD 39.67 billion (China Statistical Yearbook, 2023). That at an average annual growth rate of 98 %, which may be related to the 'going out' and BRI policies. Fluctuating GDP growth rates in the secondary sector, which declined by 12% in 2008 after the financial crisis but rebounded rapidly in the following two years, reflecting the role of foreign investment in contributing to the economic recovery, and declined by 4% from 2011 to 2013 after the global economic crisis, the COVID-19 resulted in a decline in growth to 0.76 % by 2020, and rebounded in 2021 to 17.27% (China Statistical Yearbook, 2023).

Figure 3 shows that from 2003 to 2021, FDI in China's tertiary sector increased from USD 8.19 billion to USD 131.2 billion, with the share of foreign investment rising from 26.65% to 74.25%, surpassing the secondary sector for the first time in 2011. Foreign investment in the tertiary sector dominated the three main industries with a share of over 60 per cent, peaking at USD 158.347 billion in 2016 (China Statistical Yearbook, 2023). The tertiary sector's GDP growth rate averaged over 11 per cent, but was affected by the economic crisis and COVID-19, falling to 3.1 per cent in 2020, with tourism, hospitality and other industries hit hard (Ding et al., 2020).

Figure 3: Trends of FDI Inflows (TIFDI), FDI outflows (TOFDI) and GDP growth rate in Tertiary Sector from 2003 to 2021 (USD billion).

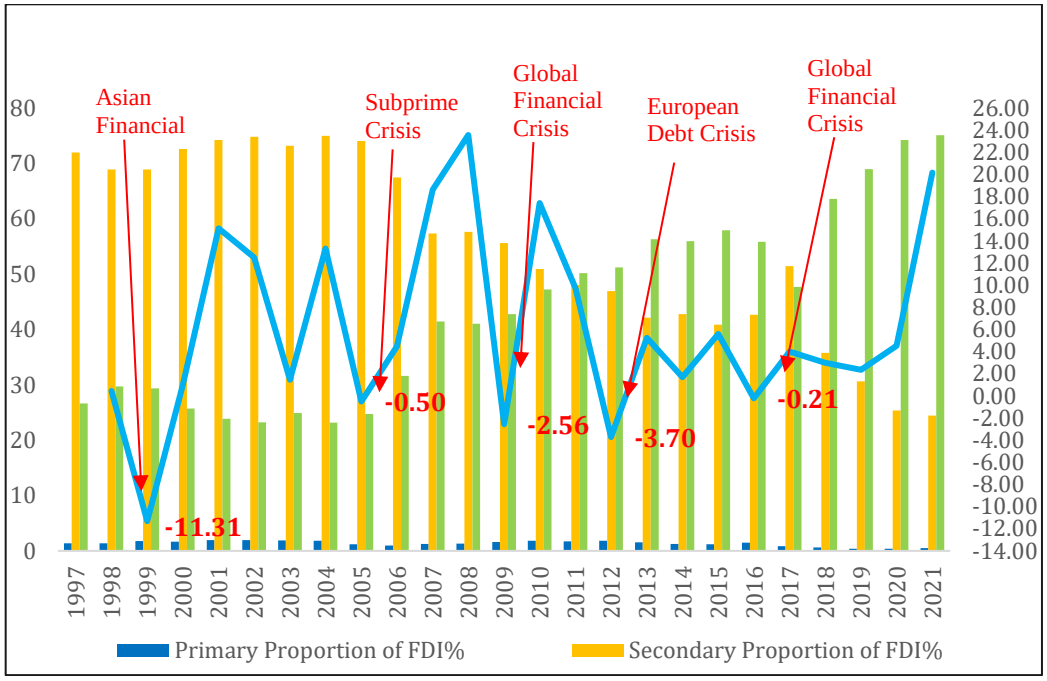


Source: China Statistical Yearbook (2023)

1.2. The trend of FDI during economic and financial crisis

The global economic crises have exerted profound impacts on foreign direct investment (FDI), particularly in developing economies such as China. Between 1997 and 2021, China's actual utilization of foreign capital experienced five instances of negative growth due to economic and financial turmoil. These include the 1999 Asian financial crisis with a contraction of (-11.31%), the 2005 U.S. subprime mortgage crisis with a decline of (-0.5%), the 2009 global financial crisis with a decrease of (-2.56%), the 2012 European debt crisis with a reduction of (-3.7%), and the 2016 global financial crisis with a slight decrease of (-0.22%). However, in recent years, growth has gradually stabilized, with China's FDI attraction maintaining a growth rate of 4% in 2017 and 3% in 2018. In 2021, China's actual use of foreign direct investment reached USD189.13 billion (China Statistical Yearbook, 2023), as illustrated in Figure 4.

Figure 4: Overall FDI inflows to China, 1997-2021.



Source: China Statistical Yearbook (2023)

During periods of economic crisis, the global economy experiences a slowdown that significantly impacts international trade, with a consequent decline in export demand. This situation disproportionately affects countries with economies heavily reliant on export activities, as noted by the Bank for International Settlements (BIS, 2009) and further emphasized by Ciobanu et al. (2020).

The COVID-19 pandemic has introduced unprecedented challenges to China. Initially, the crisis led to a supply shortage, as the pandemic's onset in China resulted in numerous enterprises facing disruptions in resuming production and business operations. Subsequently, as the pandemic spread globally, it precipitated a decline in external demand. The continuous spread of the virus abroad severely impacted the free flow of the world economy and trade, leading to a downturn in China's exports, weakened consumer spending, and a deceleration in economic growth. In 2019, China's Gross Domestic Product (GDP) grew by 6.1%, reflecting a relatively stable economic performance. However, in 2020, the economy experienced a more moderate growth rate of 2.3% (China Statistical Yearbook, 2023).

Economic expansion and FDI closely intertwine, making FDI a focal point of interest in the economic field. Over the past decades, numerous researchers have endeavored to ascertain the relationship between growth and FDI. The relative significance of FDI in growth literature has been a subject of considerable debate, with some studies found a positive correlation between FDI and economic growth (Simionescu, 2016; Chandio et al., 2019; Dinh et al., 2019), while others have indicated a negative impact (Ahmed & Ibrahim, 2019; Ingham et al., 2020). However, the majority of these studies are based on cross-country data analyses, which may mislead the accuracy of the results (Choe, 2003). Therefore, it could be beneficial to examine the impact of FDI inflows and outflows on China's economic growth using provincial panel data.

Existing studies that also discuss the impact of sectoral FDI on economic growth have reached inconsistent conclusions. Most studies Susilo (2018) and Dar et al. (2016) have argued for the positive contribution of FDI in the manufacturing sector to economic growth, while some have argued for the positive impact of FDI in the agricultural (primary) sector (Awunyo-Vitor & Sackey, 2018; Phuyal & Sunuwar, 2018). In addition, the study by Phuyal and Sunuwar (2018) also confirmed that FDI in the services sector has a positive impact on the economy, however, Alfaro (2003) argued that FDI in the services sector may have no impact or even a negative impact on economic growth. Therefore, the impact of FDI on economic growth may vary across sectors. The nature of this impact may also vary under different economic conditions. It is therefore important to examine whether sector-specific characteristics contribute to the positive impact of FDI during economic crises.

Despite extensive research on the impact of FDI on a country's economy, there are still significant gaps in understanding the impact of FDI on China's three major sectors during the economic crisis. Therefore, this paper utilises endogenous growth theory to determine the dynamic impact of FDI inflows and outflows in different industries on the Chinese economy during an economic downturn.

2. Research objective

i. To analyze the impact of FDI on China's economic growth and to evaluate its diverse role across various sectors and economic conditions.
ii. To employ multiple regression panel data Fixed Effects models with robust standard errors to further investigate the potential significant influence of both FDI inflows and outflows on economic development in China.

3. Literature review

The link among FDI and economic expansion has consistently been a central topic in the field of international economics. The prevailing assumption is that FDI brings with it capital, technology, and expertise, which can accelerate economic activity and foster growth (Simionescu, 2016). However, this relationship is not without its complexities and has faced criticism. The heterogeneity of FDI suggests that its impact on growth is not uniform due to variations across industries and the specific conditions of host countries (Ahmed & Ibrahim, 2019). This complexity underscores the need for a nuanced understanding of how FDI interacts with different economic sectors, particularly during periods of economic crisis.

3.1. Positive Correlation between FDI and Economic Growth

In line with the neoclassical growth theory by Solow (1956), economic growth is primarily driven by capital accumulation, labor force growth, and productivity improvements. As an inflow of external capital, FDI can directly increase the capital stock of the host country (Luo et al., 2021; Vu et al., 2008).

Koojaroenprasit (2012) finds a beneficial impact of FDI on economic expansion through OLS regression analysis using data from South Korea for 1980-2009. Dinh et al. (2019) in a study of 30 lower-middle-income countries for 2000-2014 also confirms the positive effect of FDI, noting that money supply promotes growth in the short run and that private credit may dampen growth in the long run. Phuyal and Sunuwar (2018)

finds that FDI boosts employment and economic welfare in their study in Nepal. Zeng and Zhou (2021) found that FDI positively affects economic growth and technological innovation through technology spillovers using GMM estimation using data from China for the period 2004-2016. These studies suggest that FDI promotes host country economic expansion via capital buildup and technological diffusion.

However, the results of these studies may be oversimplified or generalized and do not delve into the variability of the effect of FDI on a country's economy in different sectors or under different economic conditions.

3.2. Negative Impacts of FDI

Dependency theory, as proposed by Cardoso (1982) offers a critical perspective for analyzing international economic relations, particularly the unequal interactions between developing and developed countries. From this theory, FDI is considered to have a range of negative impacts that may promote dependency, crowd out domestic industries, and exacerbate income inequality.

In terms of empirical studies, Ahmed and Ibrahim (2019) found that FDI inflows and outflows negatively affected economic growth in France using data from 1980 to 2017, using autoregressive distributed lag (ARDL) models and panel data estimation methods.

Further research, such as a study by Ingham et al. (2020) on Egypt, also supports some aspects of dependency theory. They used a dataset from 1990 to 2007 to study the effect of FDI on Egypt's economic expansion. The results showed that the overall inflow of FDI negatively impacted Egypt's economic growth, potentially because it displaced more productive domestic investments.

After synthesizing these studies, we can conclude that empirical research has partially supported the hypotheses put forward by dependency theory. FDI is not always a positive factor promoting economic development. In this case, effects of FDI may vary depending on the country, period, and economic environment.

3.3. FDI in the Context of Economic Crises

Against the backdrop of the economic crisis, FDI, as an important component of global economic integration, has received much attention for its potential contribution to economic recovery in host countries. Existing literature is devoted to analyse the role of FDI in different economic crisis scenarios and its potential impact on economic recovery.

Simionescu (2016), using Bayesian techniques and based on the cases of 28 EU countries over the period 2008 to 2014, which found a positive correlation among FDI and economic expansion during economic crises. However, this relationship did not exist in all countries. Economic growth in some countries did not attract more FDI. This indicates that the influence of FDI on economic growth could differ across nations, depending on a combination of economic, social and political factors.

Ciobanu et al. (2020) investigated the possible effects of the COVID-19 pandemic on FDI and economic expansion by focusing on the Central and Eastern Europe (CEE). The findings reveal that FDI inflows have a notably positive influence on economic expansion, but with a lag.

Taking these studies together, we can conclude that FDI on host country economic expansion during economic crisis is complex a. A range of factors, including a country's economic fundamentals, social structure and policy environment, influence the capacity of FDI to stimulate economic development in a specific context.

3.4. Sectoral analysis of FDI

Analysing the effect of FDI on economic expansion by specific industries reveals a more complex picture. While FDI may contribute positively to growth in some sectors, such as manufacturing and services, its impact may be negative in others, such as agriculture (Emako et al., 2022). Alfaro (2003) attributes this variability to the varying absorptive capacities of industries and to the specific economic conditions of host countries.

Emako et al. (2022) studied FDI in 19 developments from 2005 to 2018, revealing that FDI in manufacturing and services may contribute positively to economic growth, while FDI in agriculture may have a negative impact. This discrepancy suggests that the positive or negative influence of FDI upon the characteristics of the specific sector and the economic environment of the host country. This view is further supported by (Miteski & Stefanova, 2017). Who using a fixed-effects regression model with data for the period 1998 to 2013, indicate that industrial and service sectors FDI contributed positively to the economic development of 16 countries in CESEE (Central, Eastern, and Southeastern Europe). On the contrary, the construction sector’s FDI appears to have no substantial contribution to economic growth.

Chandio et al. (2019) provide an opposite perspective, intensity the substantial positive effect of FDI in Pakistan's agricultural sector on long-term economic growth. This is in contrast to the findings of (Emako et al., 2022).

Some studies have delved into specific sectors to understand FDI's effects. Susilo (2018) analyzed the US economy from 2000 to 2017 and found that FDI in manufacturing, trade, information, and real estate boosted growth, but insurance and technical services FDI had a negative effect.

Phuyal and Sunuwar (2018) used a linear regression model to examine FDI's role in Nepal's development. They discovered that FDI in manufacturing, services, and tourism positively affected growth, while construction and mining showed little to no positive impact.

These studies clearly show that FDI may have a more complex impact during an economic crisis. This means that the impact of IFDI and OFDI on different sectors during economic crises needs to be examined more closely. Drawn from the existing literature, this study analyzes how FDI impacts the Chinese economy, especially during economic downturns, by focusing on three major sectors. The next part details the datasets employed for this analysis.

4. Research Methodology

4.1. Data

This study employs empirical analysis using provincial panel data on foreign direct investment (FDI) ratio to GDP for each of sector in China. 29 provinces included in the study, with data ranging from 2003 to 2021. The information was gathered from China Statistical Yearbook (2023). The dependent variable of this study is GDP growth rate (GROWTH) for each sector in China (Hossain & Hossain, 2023). Independent variables include FDI inflows and outflows ratio to GDP in the three major sectors (Phuyal & Sunuwar, 2018). Control variables are as follows: Domestic investment ratio to GDP (DI) (Miteski & Stefanova, 2017; Ali et al., 2019). The trade openness to GDP ratio (TRADE) (Hossain & Hossain, 2023). Government expenditure to GDP ratio (GOV) (Hossain & Hossain, 2023; Popescu & Diaconu, 2021). The labor force (LABOR) in China is gauged by the average years of secondary education, which indicates the workforce's quality and skill level (Koojaroenprasit, 2012). The private credit to GDP ratio (PRI) (Dinh et al., 2019), includes inflation (INFL) as a control variable (Miteski & Stefanova, 2017). The financial crisis (CRISIS) is represented by a binary variable, coded as 1 for years of financial crisis and 0r non-crisis years, following the methodology of (Budang & Hakim, 2019; Simionescu, 2016). Table 1 displays the corresponding data.

Table 1: Variable Description

Variables	Variable Symbols	Explanation
Real Growth of GDP	GROWTH	The term "growth" pertains to the real GDP, expressed as a percentage increase.
Primary FDI inflow/GDP of primary	PIFDI	Primary FDI inflow data refer to the inflow of direct investment in the primary. The variable is quantified based on primary GDP.
Primary FDI outflow/GDP of primary	POFDI	Primary FDI outflow data refer to the outflow of direct investment in the primary. The variable is quantified based on primary GDP.
Secondary FDI inflow/GDP of secondary	SIFDI	Secondary FDI inflow data refer to the inflow of direct investment in the secondary. The variable is quantified based on secondary GDP.
Secondary FDI outflow/GDP of secondary	SOFDI	Secondary FDI outflow data refer to the outflow of direct investment in the secondary. The variable is quantified based on secondary GDP.
Tertiary FDI inflow/GDP of tertiary	TIFDI	Tertiary FDI inflow data refer to the inflow of direct investment in the tertiary. The variable is quantified based on tertiary GDP.
Tertiary FDI outflow/GDP of tertiary	TOFDI	Tertiary FDI outflow data refer to the outflow of direct investment in the tertiary. The variable is quantified based on tertiary GDP.
Domestic investment/GDP	DI	Domestic investment is represented as a proportion of Gross Fixed Capital Formation within the GDP.
Tade openness/GDP	TRADE	Trade Openness is the average of export and import values as a percentage of GDP.
Average years of education	LABOR	Average years of schooling of the total population.
Government expenditure/GDP	GOV	Government Spending: Comprises general government final consumption expenditure as a percentage of GDP.
Private credit/GDP	PRI	Private sector credit (PRIVCR) is calculated as the credit provided to the private sector by financial intermediaries, excluding central and development bank credit, relative to GDP.

Inflation	INFL	Current price level minus base period price level divided by base period price level.
Financial Crisis	CRISIS	U.S. subprime mortgage crisis, the global financial crisis, the European debt crisis, and the Covid-19 crisis

Source: China Statistical Yearbook (2023)

4.2. Empirical methods

Considering the fact that the influence of FDI on economic expansion requires a particular lag period, the lagged value of FDI is included in this study. Determining the appropriate number of lagged values is informed by existing academic works (Ciobanu et al., 2020; Chaudhury et al., 2020). Incorporating lagged FDI helps to mitigate potential endogeneity concerns within the research model. This study is grounded in the theory of endogenous growth, which is measures the impact of FDI at the sectoral level and its impact on the economy development with the below specification of the empirical model:

$$Growth_{it}=\beta_0+\beta_1 FDIinflow^{j}_{it-m}+\beta_2 FDIoutflow^{j}_{it-m}+\beta_3 DI_{it-m}+\beta_4 TRADE_{it}+\beta_5 LABOR_{it}+\beta_6 GOV_{it}+\beta_7 PRIVATE_{it}+\beta_8 INFL_{it}+\varepsilon_{it} \quad (1)$$

where *Growth* is the growth rate of GDP, β_0 is the intercept, the dependent variable includes two types of FDI, FDI inflow and FDI outflow, ε_{it} is the error term, i stands for the province of China, and t represents the time in years, m represents the time lag, = (1,2,3...).
Control variables include DI、 TRADE、 LABOR、GOV、PRI and INFL. FDI inflows and outflows are represented by J for the primary, secondary and tertiary sectors.

Considering that China has experienced four economic and financial crises during the period 2003-2021, namely the U.S. subprime mortgage crisis, the global financial crisis, the European debt crisis, and the Covid-19 crisis, this study adopts a dummy variable to represent the crises that have affected China throughout the entire timeframe to measure the influence of financial and economic crises on economic expansion. Therefore, as stated in equation (2), the empirical model can be specified as:

$$Growth_{it}=\beta_0+\beta_1 FDIinflow^{j}_{it-m}+\beta_2 FDIoutflow^{j}_{it-m}+\beta_3 DI_{it-m}+\beta_4 TRADE_{it}+\beta_5 LABOR_{it}+\beta_6 GOV_{it}+\beta_7 PRIVATE_{it}+\beta_8 INFL_{it}+\beta_9 DUMMY(Crisis)_{it}+\varepsilon_{it} \quad (2)$$

The dummy variable CRISIS it assumes the value of 1 for the years 2004-2006, 2008-2010, 2011-2013 and 2020-2022 and 0 for the rest of the time. The subsequent section examines the empirical findings in accordance with the specified empirical model.

5. Research Findings

In examining the influence of IFDI and OFDI across China's three major sectors on economic growth, we initially present descriptive statistical results as shown in Table 2. The average quantified as GROWTH (0.130), PIFDI (0.108), SIFDI (0.208), TIFDI (0.295), POFDI (0.003), SOFDI (0.008), TOFDI (0.013), DI (0.502), TRADE (0.013), LABOR (7.004), GOV (0.255), PRI (0.346), INFL (0.102).

Table 2: Results of descriptive statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
GROWTH	551	0.130	0.061	-0.053	0.298
PIFDI	551	0.108	0.801	0.004	14.80
SIFDI	551	0.208	0.467	0.016	8.886
TIFDI	551	0.295	1.322	0.011	25.04
POFDI	551	0.003	0.007	0.000	0.085
SOFDI	551	0.008	0.012	-0.000	0.071
TOFDI	551	0.013	0.026	-0.000	0.180
DI	551	0.502	0.276	-0.038	1.676
TRADE	551	0.274	0.344	0.008	1.889
LABOR	551	7.004	1.810	1.153	13.29
GOV	551	0.255	0.193	0.084	1.354
PRI	551	0.346	0.154	0.079	0.946
INFL	551	0.102	2.347	-9.211	5.599

5.1. Regression analysis

This study attempts to analyse the economic influence of IFDI and OFDI in different sectors. Aiming to explore the nuances of including lagged domestic investment alongside economic crisis variables, a quartet of models was carefully formulated. Four models were developed to disentangle the effects of FDI inflows and outflows (with and without crisis) on growth in three different sectors: Model 1 with lagged Domestic investment (L. DI), Model 2 with L.DI and CRISIS, Model 3 with contemporaneous domestic investment (DI), and Model 4 combining DI and CRISIS.

Using fixed effects regression analysis, the study carefully adjusted for potential heteroskedasticity by using robust standard errors. A rigorous examination of multicollinearity, facilitated by the Variance Inflation Factor (VIF), yielded values below the threshold of 10, allaying concerns of significant multicollinearity. The p-value of F-test for all models was found to be less than 0.05 which indicates the refutation of the initial hypothesis, implying that the whole model is valid and there is no need to reconstruct the model. The p-value of Breusch-Pagan Lagrange Multiplier (BP-LM) tests less than 0.05, compelling the dismissal of the null hypothesis and advocating the consideration of applying the Random Effects (RE) or Fixed Effects (FE) estimation instead of Panel Ordinary Least Squares (POLS). A Hausman test yielding a p-value below 0.05 suggests the rejection of the initial hypothesis, necessitating the use of a fixed effects model. Additionally, to confirm the robustness of the regression outcomes, a modified Wald test was performed, which also showed a p-value below 0.05. This result dismissal of the null hypothesis of homoscedasticity, indicating the necessity for a robust standard error estimation to address the issue of heteroskedasticity.

Table 3 indicates the empirical results for lagged FDI (L. PIFDI) on growth in primary sector. The finding reveals that the inflow of FDI has considerably and favorably correlated with economic expansion in this sector for all models. This suggests that a 1% rise in the FDI-to-GDP ratio might lead to a 0.01% increase in growth. This finding supports studies by Chandio et al. (2019), Awunyo-Vitor and Sackey (2018) but contradicts with Emako et al. (2022). In Model 1 the impact of L.DI was not significant to affect the economic growth. However, by including crisis in model 2, we found that L.DI has significantly and positive correlated with economic growth. The coefficients suggests that 1% increase in L.DI leads to rise the economic growth by 0.02%. The

possible reason of this finding is due to during the economic crisis external demand declined, international investment was unstable and domestic investment became important to maintain economic stability, a finding that is consistent with Bakari (2018) which studied the case of Algeria. However, in Models 3 and 4, the impact of DI is statistically insignificant but still show a constructive impact on economic development, which echoing Koojaroenprasit (2012) examined the case of South Korea. This indicates that both FDI and DI need to have some times (lagged) to influence the growth significantly.

Table 3: Regression results of L.PIFDI

VARIABLES	(1) GROWTH	(2) GROWTH	(3) GROWTH	(4) GROWTH
L.PIFDI	0.0118***	0.0111***	0.0115***	0.0106***
	(0.0008)	(0.0008)	(0.0008)	(0.0008)
L.DI	0.0086	0.0190*		
	(0.0100)	(0.0097)		
TRADE	0.0019	0.0015	0.0018	0.0013
	(0.0060)	(0.0059)	(0.0061)	(0.0059)
LABOR	-0.0159***	-0.0131***	-0.0158***	-0.0130***
	(0.0020)	(0.0019)	(0.0020)	(0.0018)
GOV	-0.112	-0.102	-0.104	-0.0900
	(0.0748)	(0.0718)	(0.0718)	(0.0685)
PRI	-0.167***	-0.149***	-0.174***	-0.159***
	(0.0239)	(0.0223)	(0.0261)	(0.0247)
INFL	0.0105***	0.0113***	0.0105***	0.0112***
	(0.0006)	(0.0007)	(0.0006)	(0.0007)
CRISIS		0.0189***		0.0172***
		(0.0034)		(0.0031)
DI			0.0004	0.0054
			(0.0112)	(0.0109)
VIF test	1.260	1.310	1.280	1.310
F-statistic	4.080	3.450	4.020	3.360
p-value	0.000***	0.000***	0.000***	0.000***
BP-LM test	38.790	24.860	37.280	22.410
p-value	0.000***	0.000***	0.000***	0.000***
Hausman test	118.040	67.150	54.480	87.610
p-value	0.000***	0.000***	0.000***	0.000***
modified wald test	69.210	73.560	70.750	74.880
p-value	0.000***	0.000***	0.000***	0.000***
CD test	37.837	37.837	37.220	37.747
p-value	0.0000***	0.0000***	0.0000***	0.0000***
Constant	0.324***	0.278***	0.327***	0.286***
	(0.0164)	(0.0142)	(0.0166)	(0.0137)
Observations	522	522	522	522
R-squared	0.537	0.553	0.536	0.550
Number of code	29	29	29	29

Source: Original calculation of the authors. Note: *, **, *** indicates significant at 10%, 5% and 1% levels. Values in the parentheses are robust standard errors.

The results of other control variables mixed findings for all the model estimations, TRADE is not significant on economic expansion, LABOR is substantially negative on economic growth, which indicates that human capital exerts a notably adverse effect on economic growth. GOV is not significant on economic growth. This suggests that the

direct influence of government spending on economic growth is relatively minor. PRI is significantly negative on economic growth, which indicates that private investment has a substantially detrimental effect on economic expansion, probably due to the higher risk and uncertainty of private investment. INFL is significantly positive on economic growth, which indicates that Inflation exerts a notably positive effect on economic expansion, probably reason is the moderate inflation can stimulate consumption and investment. CRISIS is significantly positively correlated to economic growth in both Model 2 and Model 4, which suggests that financial crises have a markedly beneficial impact on economic development, possibly because post-crisis policy interventions and economic recovery drive growth. This finding aligns with the research of Simionescu (2016) on the EU28. The results of Table 4 illustrate the regression findings that assess the impact of lagged FDI in the primary sector on economic growth.

Table 4: Regression results of L.POFDI

VARIABLES	(1) GROWTH	(2) GROWTH	(3) GROWTH	(4) GROWTH
L.POFDI	0.0838	0.161	0.0477	0.0965
	(0.249)	(0.215)	(0.254)	(0.220)
DI			-0.0012	0.0044
			(0.0113)	(0.0111)
TRADE	0.0014	0.0009	0.0014	0.0009
	(0.0061)	(0.0059)	(0.0061)	(0.0060)
LABOR	-0.0161***	-0.0131***	-0.0159***	-0.0130***
	(0.0019)	(0.0019)	(0.0019)	(0.0018)
GOV	-0.112	-0.102	-0.105	-0.0906
	(0.0768)	(0.0742)	(0.0736)	(0.0704)
PRI	-0.166***	-0.148***	-0.172***	-0.158***
	(0.0242)	(0.0226)	(0.0263)	(0.0250)
INFL	0.0104***	0.0112***	0.0104***	0.0112***
	(0.0006)	(0.0007)	(0.0006)	(0.0007)
CRISIS		0.0196***		0.0180***
		(0.0035)		(0.0032)
L.DI	0.0060	0.0173*		
	(0.0100)	(0.0098)		
VIF test	1.2900	1.3300	1.3100	1.3400
F-statistic	3.8500	3.2800	3.8200	3.2000
p-value	0.0000***	0.0000***	0.0000***	0.0000***
BP-LM test	32.2400	20.9600	32.1700	19.2900
p-value	0.0000***	0.0000***	0.0000***	0.0000***
Hausman test	89.1500	60.5400	183.50000	72.4700
p-value	0.0000***	0.0000***	0.0000***	0.0000***
modified wald test	56.9400	50.6900	57.5100	52.7900
p-value	0.0015***	0.0076***	0.0012******	0.0044
CD test	38.8320	39.1070	38.5020	38.8820
p-value	0.0000***	0.0000***	0.0000***	0.0000***
Constant	0.327***	0.279***	0.330***	0.287***
	(0.0165)	(0.0144)	(0.0167)	(0.0141)
Observations	522	522	522	522
R-squared	0.528	0.546	0.528	0.543
Number of code	29	29	29	29

Source: Original calculation of the authors. Note: *, **, *** indicates significant at 10%, 5% and 1% levels. Values in the parentheses are robust standard errors.

The findings suggest that L. POFDI has a positive, but insignificant, coefficient across all models. This suggests that primary sector FDI may not have a big direct effect on economic expansion. Model (1) shows that the lagged term of domestic investment, (L.DI) is not significant on economic development, but model (2) indicate that the lagged term of domestic investment (L.DI) substantially and positively influences economic growth amidst economic downturns. The coefficient results indicate that an increment of 1% in the Lagged Domestic Investment (L.DI) to GDP ratio might lead to a 0.02% increase in the economic growth rate. One plausible explanation is that investment exerts a delayed impact on economic growth, and domestic investment strengthens productive capacity, aligning with Bakari's (2017) findings for Malaysia.

The result of Table 5 illustrates the regression analysis showing the lagged effect of FDI inflows in the secondary sector on economic growth. The coefficient analysis reveals that L. SIFDI is consistently positive and significantly impacts economic growth. Specifically, a 1% rise in the secondary sector's FDI-to-GDP ratio might contribute to a 0.03% increase in economic growth, which is greater than the impact observed in the primary sector, which is 0.01%. The impact of FDI in technology transfer, production efficiency enhancement, and employment increase may account for this positive correlation, particularly in the secondary sector, where it is markedly greater than in the primary sector. These results corroborate the findings of (Phuyal & Sunuwar, 2018; Emako et al., 2022).

Model (1) shows that the lagged term of domestic investment (L.DI) does not exert a favorable influence on economic growth, while model (2) shows that L.DI has a significant and positive effect on economic growth in the context of an economic crisis. A 1% rise in the Lagged Direct Investment (L.DI) to GDP ratio could result in a 0.03% boost to the economic growth rate, during which the government may promote domestic investment by increasing public expenditure or implementing fiscal stimulus measures. This conclusion is supported by Ingham et al. (2020) with a work of Egypt.

Table 5: Regression results of L.SIFDI

VARIABLES	(1) GROWTH	(2) GROWTH	(3) GROWTH	(4) GROWTH
L.SIFDI	0.0299***	0.0280***	0.0291***	0.0269***
	(0.0059)	(0.0056)	(0.0057)	(0.0054)
L.DI	0.0103	0.0205**		
	(0.0101)	(0.0098)		
TRADE	0.0019	0.0015	0.0018	0.0014
	(0.0060)	(0.0059)	(0.0061)	(0.0059)
LABOR	-0.0156***	-0.0128***	-0.0154***	-0.0127***
	(0.0020)	(0.0019)	(0.0020)	(0.0019)
GOV	-0.114	-0.104	-0.106	-0.0918
	(0.0744)	(0.0715)	(0.0716)	(0.0684)
PRI	-0.168***	-0.150***	-0.174***	-0.160***
	(0.0249)	(0.0234)	(0.0273)	(0.0259)
INFL	0.0105***	0.0112***	0.0105***	0.0112***
	(0.0006)	(0.0007)	(0.0006)	(0.0007)
CRISIS		0.0185***		0.0169***
		(0.0033)		(0.0031)
DI			0.0021	0.0069
			(0.0114)	(0.0110)
VIF test	1.280	1.330	1.290	1.330

F-statistic	3.980	3.450	3.900	3.350
p-value	0.000***	0.000***	0.000***	0.000***
BP-LM test	39.630	26.880	37.770	24.240
p-value	0.000***	0.000***	0.000***	0.000***
Hausman test	127.170	77.750	1146.900	103.780
p-value	0.000***	0.000***	0.000***	0.000***
modified wald test	72.050	76.410	74.690	79.380
p-value	0.000***	0.000***	0.000***	0.000***
CD test	36.740	37.159	36.579	37.171
p-value	0.000***	0.000***	0.000***	0.000***
Constant	0.317***	0.272***	0.320***	0.280***
	(0.0163)	(0.0139)	(0.0165)	(0.0135)
Observations	522	522	522	522
R-squared	0.541	0.557	0.540	0.554
Number of code	29	29	29	29

Source: Original calculation of the authors. Note: *, **, *** indicates significant at 10%, 5% and 1% levels. Values in the parentheses are robust standard errors.

The result presented in Table 6 is from the regression analysis that assesses the lagged effects of FDI outflows from the secondary sector on economic expansion. The coefficient for L. SOFDI is consistently positive, but statistically non-significant across all models, suggesting an indeterminate link between the SOFDI and economic expansion. In Models (1) and (2), L. DI's coefficient is positive yet statistically non-significant, indicating no clear association between the lagged term of domestic investment and economic development.

Table 6: Regression results of L.SOFDI

VARIABLES	(1) growth	(2) growth	(3) growth	(4) growth
L.sofdi	0.218	0.3144	0.247	0.355
	(0.309)	(0.2866)	(0.321)	(0.303)
L.di	0.0047	0.1540		
	(0.0098)	(0.0096)		
trade	0.0015	0.0012	0.0016	0.0012
	(0.0060)	(0.0059)	(0.0061)	(0.0059)
labor	-0.0162***	-0.0132***	-0.0161***	-0.0132***
	(0.0019)	(0.0019)	(0.0019)	(0.0019)
gov	-0.112	-0.1023	-0.106	-0.0915
	(0.0762)	(0.0733)	(0.0736)	(0.0702)
pri	-0.178***	-0.1656***	-0.187***	-0.179***
	(0.0270)	(0.0263)	(0.0285)	(0.0281)
infl	0.0104***	0.0112***	0.0104***	0.0112***
	(0.0006)	(0.0007)	(0.0006)	(0.0007)
di			-0.00248	0.00252
			(0.0112)	(0.0109)
crisis		0.0198***		0.0184***
		（0.0033）		(0.0031)
VIF test	1.500	1.510	1.520	1.510
F-statistic	3.840	3.290	3.820	3.230
p-value	0.000***	0.000***	0.000***	0.000***
BP-LM test	29.630	18.610	29.230	16.860
p-value	0.000***	0.000***	0.000***	0.000***
Hausman test	121.350	83.250	467.600	110.110
p-value	0.000***	0.000***	0.000***	0.000***

modified wald test	58.950	50.730	59.050	52.230
p-value	0.000***	0.008***	0.001***	0.005***
CD test	38.966	39.262	38.635	39.007
p-value	0.000***	0.000***	0.000***	0.000***
Constant	0.331***	0.331***	0.335***	0.294***
	(0.0169)	(0.0169)	(0.0169)	(0.0159)
Observations	522	522	522	522
R-squared	0.529	0.529	0.529	0.545
Number of code	29	29	29	29

Source: Original calculation of the authors. Note: *, **, *** indicates significant at 10%, 5% and 1% levels. Values in the parentheses are robust standard errors.

Table 7 shows the regression analysis outcomes of the lagged term of FDI in tertiary sector, in all models, the coefficient of L.TIFDI is affirmative and statistically significant, which indicates that there is a positive role of FDI in tertiary sector on economic expansion, for every 1% rise in the tertiary sector's FDI-to-GDP ratio, economic growth increases by 0.007%, which is smaller than that of primary sector (0.01%). This implies that the beneficial impact of FDI in the tertiary sector is less pronounced compared to its effects in the primary and secondary sectors. This is consistent with the studies of Phuyal and Sunuwar (2018) and Pečarić et al. (2021) based on Nepal and CEE countries respectively.

In model (1), the coefficient for the lagged domestic investment (L.DI) is positive yet not statistically significant. However, in model (2), which accounts for the economic crisis, the coefficient shows that L.DI significantly and positively affects the economy, with a 1% grow in the L.DI-to-GDP percentage leading to a 0.02% rise in the economic growth rate. This indicates that lagged domestic investment significantly and positively influences economic growth during times of financial and economic crisis, confirm to the findings of Ahmad et al. (2018) in their study on China.

Table 7: Regression results of L.TIFDI

VARIABLES	(1) GROWTH	(2) GROWTH	(3) GROWTH	(4) GROWTH
L.TIFDI	0.0078***	0.0073***	0.0076***	0.0070***
	(0.0007)	(0.0007)	(0.0007)	(0.0007)
L.DI	0.0086	0.0191*		
	(0.0100)	(0.0097)		
TRADE	0.0020	0.0016	0.0020	0.0015
	(0.0060)	(0.0059)	(0.0061)	(0.0059)
LABOR	-0.0160***	-0.0131***	-0.0158***	-0.0130***
	(0.0020)	(0.0019)	(0.0020)	(0.0018)
GOV	-0.112	-0.102	-0.104	-0.0901
	(0.0748)	(0.0718)	(0.0717)	(0.0684)
PRI	-0.171***	-0.153***	-0.178***	-0.163***
	(0.0236)	(0.0221)	(0.0257)	(0.0244)
INFL	0.0105***	0.0113***	0.0105***	0.0112***
	(0.0006)	(0.0007)	(0.0006)	(0.0007)
CRISIS		0.0189***		0.0173***
		(0.0033)		(0.0031)
DI			0.0002	0.0052
			(0.0112)	(0.0109)
VIF test	1.280	1.320	1.290	1.320
F-statistic	3.900	3.340	3.840	3.260

p-value	0.000***	0.000***	0.000***	0.000***
BP-LM test	34.770	22.940	33.020	20.600
p-value	0.000***	0.000***	0.000***	0.000***
Hausman test	68.250	26.630	74.660	22.150
p-value	0.000***	0.001***	0.000***	0.005***
modified wald test	68.760	72.580	70.080	73.530
p-value	0.000***	0.000***	0.000***	0.000***
CD test	37.398	37.763	37.137	37.665
p-value	0.000***	0.000***	0.000***	0.000***
Constant	0.325***	0.278***	0.328***	0.287***
	(0.0164)	(0.0141)	(0.0165)	(0.0136)
Observations	522	522	522	522
R-squared	0.537	0.553	0.537	0.551
Number of code	29	29	29	29

Source: Original calculation of the authors. Note: *, **, *** indicates significant at 10%, 5% and 1% levels. Values in the parentheses are robust standard errors.

Table 8 reports the regression findings on the lagged influence of FDI outflow of tertiary sector on economic expansion. The L.TOFDI coefficient is positive across all models, but statistically non-significant, indicating no clear relationship between the tertiary sector's outward investment and economic growth. In Models (1) and (2), the L.DI coefficient is positive yet statistically non-significant, suggesting an ambiguous link between domestic investment's lagged term and economic growth. In Models (3) and (4), the DI coefficient alternates between negative and positive, with neither achieving statistical significance.

Table 8: Regression results of L.TOFDI

VARIABLES	(1) GROWTH	(2) GROWTH	(3) GROWTH	(4) GROWTH
L.TOFDI	0.110	0.141	0.119	0.150
	(0.153)	(0.135)	(0.159)	(0.146)
L.DI	0.0048	0.0158		
	(0.0101)	(0.0097)		
TRADE	0.0014	0.0010	0.0015	0.0010
	(0.0060)	(0.0059)	(0.0061)	(0.0060)
LABOR	-0.0161***	-0.0131***	-0.0160***	-0.0130***
	(0.0020)	(0.0019)	(0.0020)	(0.0019)
GOV	-0.111	-0.101	-0.104	-0.0895
	(0.0753)	(0.0722)	(0.0724)	(0.0688)
PRI	-0.177***	-0.162***	-0.186***	-0.174***
	(0.0287)	(0.0262)	(0.0297)	(0.0278)
INFL	0.0104***	0.0112***	0.0104***	0.0112***
	(0.0006)	(0.0007)	(0.0006)	(0.0007)
CRISIS		0.0198***		0.0183***
		(0.0034)		(0.0031)
DI			-0.0025	0.0027
			(0.0111)	(0.0107)
VIF test	1.450	1.470	1.460	1.470
F-statistic	3.920	3.330	3.880	3.270
p-value	0.000***	0.000***	0.000***	0.000***
BP-LM test	34.430	22.160	33.360	20.240
p-value	0.000***	0.000***	0.000***	0.000***
Hausman test	60.670	42.240	54.650	42.520
p-value	0.000***	0.000***	0.000***	0.000***
modified wald test	60.330	51.400	60.360	53.260

p-value	0.001***	0.006***	0.001***	0.004***
CD test	38.877	39.128	38.525	38.863
p-value	0.000***	0.000***	0.000***	0.000***
Constant	0.330***	0.283***	0.334***	0.291***
	(0.0167)	(0.0150)	(0.0166)	(0.0144)
Observations	522	522	522	522
R-squared	0.529	0.547	0.529	0.545
Number of code	29	29	29	29

Source: Original calculation of the authors.Note: *, **, *** indicates significant at 10%, 5% and 1% levels. Values in the parentheses are robust standard errors.

6. Discussion

This research delves into China's provincial panel data spanning 2003 to 2021, assessing how FDI inflows and outflows affect economic expansion, including a particular emphasis on the secondary sector and the distinction between periods of economic stability and crisis. The findings reveal that FDI in the secondary sector exerts a more pronounced beneficial influence on China's economic development than the primary and tertiary sectors. Additionally, the study indicates that domestic investment exerts a notably constructive impact on economic expansion during crises. The role of FDI outflows on the economic increase of China is unclear and warrants further investigation.

Comparing the effect coefficient of FDI inflow on economic increase of the three major sectors, the coefficient of secondary sector is 0.03%, followed by 0.01% of primary sector and finally 0.007% of tertiary sector, which shows that FDI inflow in secondary sector contributes the great part of the growth of China's economy, which may be due to the fact that FDI inflow in manufacturing sector forms industrial chain with local enterprises through forward and backward linkages, which drives the development of related industries, thus generating positive externalities. Manufacturing tends to require a large number of workers, thus creating more employment opportunities and raising residents' incomes. Meanwhile, the Belt and Road Initiative (BRI) focuses on basic facilities investment, and since China is one of the main promoters and investors in the BRI, this will directly increase the FDI inflows to the secondary sector, which in turn may boost China's economic growth.

However, during crises, the beneficial effect of FDI inflows on the economy in the three sectors is significantly weaker than in non-crisis periods. This could be due to the global demand slump, market contraction and lowered investment return expectations during economic crises, which reduce the motivation of MNEs to invest abroad, leading to a reduction in FDI inflows to China. Moreover, during economic crises, domestic investment contributes significantly to the economic growth of the three sectors. This may be because in the midst of global economic turmoil, China uses policy and fiscal support to promote the development of primary sector, ensure the supply of food and basic resources, increase investment in infrastructure construction to stimulate economic growth, and directly promote the development of secondary sector. In addition, a series of stimulating policies such as tax cuts, subsidies and credit support will be introduced to support the service sector.

The study also finds that other economic variables, such as human capital and private credit, have significantly different effects on economic growth compared to FDI. For instance, human capital growth does not translate directly into economic growth, and

moderate inflation can stimulate consumption and investment, which contributes positively to economic expansion.

7. Conclusion

Based on the empirical findings, the following policy recommendations are suggested. For policy makers, it is crucial to optimise the structure and direction of FDI, especially to increase the inflow of foreign capital into the manufacturing sector. Incentive measures, such as reducing capital gains tax and providing more subsidies to domestic enterprises, should be implemented to encourage and attract more foreign investors to invest in China and to continuously promote industrial upgrading and technological innovation. To mitigate the effects of crises on China's economy, the government should focus on leveraging the stimulative effect of domestic investment on economic growth by increasing investment in infrastructure construction and implementing preferential policies such as tax cuts and fee reductions to stimulate domestic market demand.

Ethics Approval and Consent to Participate

Not applicable.

Acknowledgement

Part of this article was extracted from a doctoral thesis submitted to Universiti Teknologi MARA, Sabah.

Funding

This work received a funding agency : 2023 XinYu University Teaching and Learning Reform Project (Project No. XJJG-23-11).

Conflict of Interest

The authors declare no conflict of Interest.

References

Ahmad, N., Hdia, M., Li, H., Wang, J., & Tian, X. (2018). Foreign Investment, Domestic Investment and Economic Growth in China: Does Foreign Investment Crowd in or Crowd out Domestic Investment? *Economics Bulletin, 38*(3), 1279-1291.http://www.accessecon.com/Pubs/EB/2018/Volume38/EB-18-V38-I3-P123.pdf

Ahmed, Y. A., & Ibrahim, R. R. (2019). The impact of FDI inflows and outflows on economic growth: an empirical study of some developed and developing countries. *Journal of University of Raparin*, *6*(1), 129-157. https://doi.org/10.26750/vol(6).no(1).paper9

Alfaro, L. (2003). Foreign direct investment and growth: Does the sector matter. *Harvard Business School*, *2003*, 1-31. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=7800b094ee3c677a2b729345eeb05c696ed9a2e0

Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004). FDI and economic growth: th e role of local financial markets. *Journal of International Economics*, *64*(1), 89-112. https://doi.org/10.1016/S0022-1996(03)00081-3

Ali, U., Wang, J. J., Yanez Morales, V. P., & Wang, M. M. (2019). Foreign direct investment f lows and domestic investment in China: A multivariate time series analysis. *Invest ment Analysts Journal*, *48*(1), 42-57. https://hdl.handle.net/10520/EJC-1810cc96a 1

Aust, V., Morais, A. I., & Pinto, I. (2020). How does foreign direct investment contribute t o Sustainable Development Goals? Evidence from African countries. *Journal of Clea ner Production*, *245*, 118823. https://doi.org/10.1016/j.jclepro.2019.118823

Awunyo-Vitor, D., & Sackey, R. A. (2018). Agricultural sector foreign direct investment a nd economic growth in Ghana. *Journal of Innovation and Entrepreneurship*, *7*(1), 15. https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s1373 1-018-0094-3

Azman-Saini, W. N. W., & Law, S. H. (2010). FDI and economic growth: New evidence on t he role of financial markets. *Economics Letters*, *107*(2), 211-213. https://doi.org/1 0.1016/j.econlet.2010.01.027

Bakari, S. (2017). The impact of domestic investment on economic growth: New evidenc e from Malaysia. *Journal of Smart Economic Growth*, *2*(2), 105-121.https://jseg.ro/i ndex.php/jseg/article/view/19

Bakari, S. (2018). The impact of domestic investment on economic growth new policy an alysis from Algeria. *Bulletin of Economic Theory and Analysis*, *3*(1), 35-51.https://d oi.org/10.25229/beta.337367

BIS. (2009). The international financial crisis: timeline, impact and policy responses in A sia and the Pacific. *BIS Papers No 52, Bank for International Settlements*. Available o nline: www.bis.org/publ/bppdf/bispap52c.pdf

Budang, N. A. B., & Abd Hakim, T. (2019). The crowding effects of foreign direct investme nt on domestic investment: Evidence from Asia. *International Journal of Business an d Economic Development (IJBED)*, *7*(2). https://doi.org/10.24052/IJBED/V07N02/ ART-04

Cardoso, F. H. (1982). *Dependency and development in Latin America* (pp. 112-127). Mac millan Education UK. https://link.springer.com/chapter/10.1007/978-1-349-1684 7-7_11

Chakraborty, C., & Nunnenkamp, P. (2008). Economic reforms, FDI, and economic growt h in India: a sector level analysis. *World Development*, *36*(7), 1192-1212. https://do i.org/10.1016/j.worlddev.2007.06.014

Chandio, A. A., Mirani, A. A., & Shar, R. U. (2019). Does agricultural sector foreign direct i nvestment promote economic growth of Pakistan? Evidence from cointegration an d causality analysis. *World Journal of Science, Technology and Sustainable Developm ent*, *16*(4), 196-207. https://doi.org/10.1108/WJSTSD-05-2019-0025

Chaudhury, S., Nanda, N., & Tyagi, B. (2020). Impact of FDI on economic growth in South Asia: does nature of FDI matters? *Review of Market Integration*, *12*(1-2), 51-69. http s://doi.org/10.1177/0974929220969679

China Statistical Yearbook. (2022). *National Bureau of Statistics of China 2022*. https://w ww.stats.gov.cn/sj/ndsj/2022/indexch.htm

China Statistical Yearbook. (2023). *National Bureau of Statistics of China 2023*. https://w ww.stats.gov.cn/sj/ndsj/2023/indexch.htm

Choe, J. I. (2003). Do foreign direct investment and gross domestic investment promote e conomic growth?. *Review of Development Economics*, *7*(1), 44-57. https://doi.org/1 0.1111/1467-9361.00174

Ciobanu, R., Şova, R. A., & Popa, A. F. (2020). The impact of fdi over economic growth and how covid-19 crisis can impact the CEE economies. *CECCAR Business Review*, *1*(4), 64-72. https://dx.doi.org/10.37945/cbr.2020.04.08

Cozza, C., Rabellotti, R., & Sanfilippo, M. (2015). The impact of outward FDI on the performance of Chinese firms. *China Economic Review, 36*, 42–57. https://doi.org/10.1016/j.chieco.2015.08.008

Dar, A. A., Bhatti, H. M. A., & Muhammad, T. (2016). FDI and Economic Growth in Pakistan: A Sector Wise Multivariate Cointegration Analysis. *The Pakistan Development Review*, 67-88. https://www.jstor.org/stable/44986476

Deng, P., Yang, X., Wang, L., & Doyle, B. (2017). Chinese investment in advanced economies: Opportunities and challenges. *Thunderbird International Business Review*, *59*(4), 461-471. https://doi.org/10.1002/tie.21903

Ding, L., Hou, F., Zhang, X., Li, G., Wang, S., & Sun, W. (2020). The Factors Affecting GDP Growth. *Learning & Education*, *9*(3), 64-67. https://doi:10.18282/l-e.v9i3.1577

Dinh, T. T. H., Vo, D. H., The Vo, A., & Nguyen, T. C. (2019). Foreign direct investment and economic growth in the short run and long run: Empirical evidence from developing countries. *Journal of Risk and Financial Management*, *12*(4), 176. https://doi.org/10.3390/jrfm12040176

Emako, E., Nuru, S., & Menza, M. (2022). The effect of foreign direct investment on economic growth in developing countries. *Transnational Corporations Review*, *14*(4), 382-401. https://doi.org/10.1080/19186444.2022.2146967

Gunby, P., Jin, Y., & Reed, W. R. (2017). Did FDI really cause Chinese economic growth? A meta-analysis. *World Development*, *90*, 242-255. https://doi.org/10.1016/j.worlddev.2016.10.001

Hossain, M. K., & Hossain, M. S. (2023). Causal Interaction between Foreign Direct Investment Inflows and China's Economic Growth. *Sustainability*, *15*(10), 7994. https://doi.org/10.3390/su15107994

Ingham, H., Read, R., & Elkomy, S. (2020). Aggregate and heterogeneous sectoral growth effects of foreign direct investment in Egypt. *Review of Development Economics*, *24*(4), 1511-1528.https://doi.org/10.1111/rode.12698

Koojaroenprasit, S. (2012). The impact of foreign direct investment on economic growth: A case study of South Korea. *International Journal of Business and Social Science*, *3*(21). https://www.ijbssnet.com/journal/index/1645

Luo, S., Shi, Y., Sun, Y., Zhao, Z., & Zhou, G. (2021). Can FDI and ODI two-way flows improve the quality of economic growth? Empirical Evidence from China. *Applied Economics*, *53*(44), 5028-5050. https://doi.org/10.1080/00036846.2021.1914318

Mehic, E., Silajdzic, S., & Babic-Hodovic, V. (2013). The impact of FDI on economic growth: Some evidence from Southeast Europe. *Emerging Markets Finance and Trade*, *49*(Supp. 1), 5-20. https://doi:10.2753/REE1540-496X4901S101

Miteski, M., & Stefanova, D. J. (2017*). The impact of sectorial FDI on economic growth in Central, Eastern and Southeastern Europe* (No.1/2017). Working Paper. https://hdl.handle.net/10419/173721

Pečarić, M., Kusanović, T., & Jakovac, P. (2021). The Determinants of FDI Sectoral Structure in the Central and East European EU Countries. *Economies*, *9*(2), 66. https://doi.org/10.3390/economies9020066

Phuyal, R. K., & Sunuwar, S. (2018). A sectoral analysis of foreign direct investment on the economic growth of Nepal. *Journal of Business and Social Sciences Research*, *3*(1), 1-14. https://doi.org/10.3126/jbssr.v3i1.24834

Popescu, C. C., & Diaconu, L. (2021). Government spending and economic growth: A cointegration analysis on Romania. *Sustainability*, *13*(12), 6575. https://doi.org/10.3390/su13126575

Simionescu, M. (2016). The relation between economic growth and foreign direct investment during the economic crisis in the European Union. *Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu*, *34*(1), 187-213. https://doi.org/10.18045/zbefri.2016.1.187

Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics*, *70*(1), 65-94. https://doi.org/10.2307/1884513

Statistical Bulletin on China's Outward Foreign Direct Investment. (2017). *Department of Foreign Investment and Economic Cooperation, Ministry of Commerce 2018.* http://hzs.mofcom.gov.cn/cms_files/filemanager/146795751/attach/20239/20181029160118046.pdf

Susilo, D. (2018). The impact of foreign direct investment on economic growth (a causal study in the United States). *BISE: Jurnal Pendidikan Bisnis dan Ekonomi*, *4*(1), 50-63. https://doi.org/10.20961/bise.v4i1.21422

Vu, T. B., Gangnes, B., & Noy, I. (2008). Is foreign direct investment good for growth? Evidence from sectoral analysis of China and Vietnam. *Journal of the Asia Pacific Economy*, *13*(4), 542-562. https://doi.org/10.1080/13547860802364976

Wang, M. (2009). Manufacturing FDI and economic growth: evidence from Asian economies. *Applied Economics*, *41*(8), 991-1002. https://doi.org/10.1080/00036840601019059

Zandile, Z., & Phiri, A. (2019). FDI as a contributing factor to economic growth in Burkina Faso: How true is this?. *Global Economy Journal*, *19*(01), 1950004. https://doi.org/10.1142/S2194565919500040

Zeng, S., & Zhou, Y. (2021). Foreign direct investment's impact on China's economic growth, technological innovation and pollution. *International Journal of Environmental Research and Public Health*, *18*(6), 2839. https://doi.org/10.3390/ijerph18062839