

Trade Surplus and Outward Foreign Direct Investment in China: An Analytical Review and Implications for Africa.

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Abstract

China's persistent trade surplus has become a prominent factor of the global economy, impacting global trade dynamics, macroeconomic inequalities, and international capital flows. As the second-largest economy in the world, China's trade surplus accumulation affects both developed and developing countries, which receive growing amounts of Chinese Outward Foreign Direct Investment (OFDI). Therefore, it is crucial to comprehend the structural and financial mechanisms that connect trade surplus with OFDI, especially for Africa, where Chinese investment plays a significant role for development.

This paper provides an analytical review of the relationship between China's trade surplus, structural transformation, and outward FDI flows, with a particular focus on the implications for Africa. Drawing on economic theory, descriptive statistics, and trend-based evidence, the study synthesizes existing literature on China's agricultural productivity growth, sectoral reallocation, income dynamics, and foreign investment behavior. The review reveals a positive correlation between outward foreign direct investment and trade surplus, suggesting a similar trend for Africa. Future studies could provide a more detailed analysis of China's trade surplus influence on OFDI flows to the African continent.

Keywords: Trade surplus; Structural transformation; Outward foreign direct investment, China–Africa economic relations; Analytical review

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1. Introduction

Global attention has been drawn to China's continuous trade surplus with its main trading partners, raising concerns about global macroeconomic imbalances and capital flow distortions (Bown, 2020; IMF, 2023; UNCTAD, 2024; World Bank, 2023). Recent studies further indicate that China's export-oriented trade, including carbon embodied in exported goods, contributes significantly to national carbon dioxide emissions, highlighting the environmental externalities associated with its sustained trade surplus (Tang et al., 2025; Li et al., 2025; Smith & Zhang, 2023). This growing trade surplus has coincided with rapid structural transformation in China. The economy has shifted from low-productivity, traditional sectors, such as agriculture, to high-productivity, modern sectors, including advanced manufacturing and services (Kang & Li, 2024; Solar, 2025). This shift has been driven by industrial modernization, technological development, and regional trade integration, particularly through programs like the China–ASEAN Free Trade Area 3.0, which has improved economic ties with Southeast Asia (Reuters, 2025; China–Briefing, 2025). These transformations have changed the composition of China's trade in addition to raising productivity. For instance, there is currently a surplus in manufactured goods and a deficit in resource-based sectors in bilateral trade with Indonesia, demonstrating asymmetric trade patterns resulting from export diversification and structural transformation (Asia Times, 2025).

Furthermore, the distribution of income has been affected by the structural change. According to recent studies, China's modernization process has increased income inequality since low-skilled and rural people have profited much less from economic benefits that have been concentrated among professionals and urban workers (UNU-WIDER, 2025; Zhou & Yuan, 2024). This change helps to explain the relationship between trade surpluses and savings accumulation since families with greater incomes typically save more, which affects the amount of capital available for both domestic and foreign investment (Zhou & Yuan, 2024; UNCTAD, 2025).

Outward foreign direct investment (OFDI) has increased significantly in tandem with China's structural change and trade surplus rise. China has expanded its international trade and invested in both developed and developing nations. Sectors such as Mining, manufacturing, and services contributed nearly \$192.2 billion to outward

foreign direct investment in 2024 (Xinhua, 2025). Other factors that contribute to OFDI include, firm technological, managerial competencies, digital transformation, and supportive governmental incentives (Hu et al., 2025; Lin, Liu, & He, 2025; Wang & Chen, 2023). Additionally, a complex interplay between trade dynamics, domestic economic growth, and global capital flows is demonstrated by export performance and structural change, which offer contextual foundations for evaluations of foreign investment (UNCTAD, 2025; Tang et al., 2025).

Despite existing literature acknowledge the close relationship between China's trade surplus, structural change, and increasing outward FDI, empirical research has yet to systematically examine how trade surpluses, mediated by structural change and income distribution dynamics, influence China's outward FDI patterns. Specifically, there is still limited studies on how these interconnected processes impact investment flows to underdeveloped nations like Africa, where Chinese investment has wider developmental ramifications. This current study contributes to the literature by providing an analytical synthesis of how China's trade surplus interacts with structural transformation to shape outward foreign direct investment patterns. Unlike empirical studies that focused on country-level estimations, this review integrates theoretical arguments, historical trends, and descriptive evidence to clarify underlying mechanisms, while highlighting Africa as a strategically important but underexplored destination of Chinese OFDI.

2. Methodological Approach: Analytical Review Framework

This study adopted an analytical review approach to examine the relationship between China's trade surplus, structural transformation, and outward foreign direct investment (OFDI), with particular attention to implications for Africa. Rather than estimating causal effects through econometric modeling, the paper synthesizes theoretical insights, descriptive statistics, historical trends, and existing empirical findings to clarify the mechanisms linking trade surplus and OFDI.

The review draws on multiple sources of secondary data and literature. Descriptive trade and foreign direct investment statistics are obtained from internationally recognized databases, including the World Bank and national statistical publications such as the China Statistical Yearbook and the National Bureau of Statistics of China. These data are used to illustrate long-run trends in trade balances, sectoral employment shifts, agricultural productivity, and inward and outward FDI flows. Graphical analysis and trend comparisons are employed to identify co-movements and broad associations between key variables.

In addition, the study systematically reviews relevant theoretical and empirical literature on structural transformation, savings behavior, trade surplus dynamics, and foreign direct investment. Classical and contemporary studies are integrated to explain how productivity growth, sectoral reallocation, and income distribution changes contribute to surplus accumulation and the availability of loanable funds for overseas investment.

The analytical review approach is particularly suitable for this study because it allows for an integrated examination of interrelated economic processes that are difficult to capture within a single empirical model. While Africa is not analyzed using country-level econometric data, it is incorporated as a contextual focus based on its growing importance as a destination for Chinese OFDI. The paper therefore emphasizes interpretation and synthesis rather than estimation, and it explicitly acknowledges its limitations while identifying clear directions for future empirical research using disaggregated and country-specific data.

While some descriptive data used in this study extend up to 2013–2018, this choice reflects the study's focus on long-run structural transformation and historical trend analysis rather than short-term fluctuations. Structural changes in sectoral employment, agricultural productivity, and trade composition evolve gradually over extended periods, making longer time-series more appropriate for analytical review purposes. More recent data are referenced in the discussion of outward foreign direct investment and trade dynamics where available, particularly to reflect recent developments in China's global investment behavior.

3. The Structural Transformation in China

China's trade surplus is due to the country's penetration in the world market. The ability to sell goods and services abroad makes trade surplus possible. With rapid structural transformation, the economy quickly moves from primary commodities to modern commodities which are highly acceptable in the world market. With high-quality products, the economy becomes more competitive in leading global markets. Some of the useful structural transformation kinds of literature include (Cao et al. 2024) who analyzed how changes in farm structure, including a shift toward larger farms and new agricultural entities have affected productivity and structural change. They detailed the mechanism in which structural transformation has been enabled by rapid

agricultural productivity growth. In their findings, growth in agricultural total factor productivity enhanced resource reallocation towards the non-agricultural sector. It also contributed to economic growth along with non-agricultural total factor productivity growth. And with rapid human and physical capital accumulation, agricultural total factor productivity growth helps to reallocate workers to the non-agricultural sectors. Apart from that Shi et al. (2023) and Cao et al. (2024) assert that structural transformation is due to biases in technical changes across sectors. In this regard, sectors with high technical advancement become more productive thereby providing resources to less productive sectors. Recent studies highlight the important role of government policy in China's structural transformation, showing that government intervention complements sectoral upgrading and reform efforts, particularly in industrial and environmental restructuring (Zhang et al., 2023). Overall, structural transformation plays a central role in sustaining long-term economic growth by reallocating resources toward higher-productivity sectors.

China has experienced a sustained increase in crop productivity, despite periodic fluctuations. Figure 1 shows the trend of crop productivity in China. This increased productivity provides room for the country to make exportation of the surplus to earn foreign exchange. With increased crop productivity, workers can be taken from agriculture to non-agricultural sectors. These productivity gains facilitate structural transformation by releasing labor and land from agriculture and enabling their reallocation toward higher-productivity industrial and service sectors.

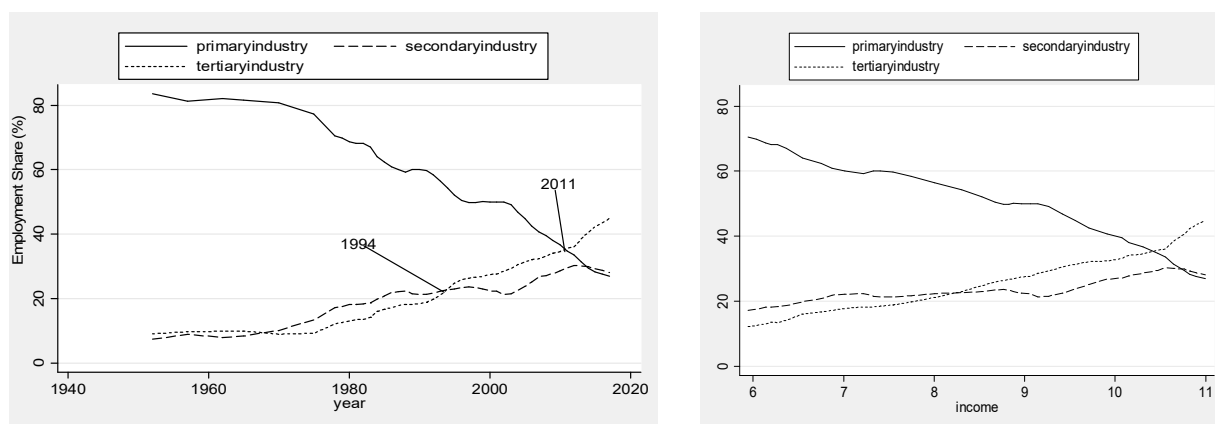


Figure 2. The Trend of China's Crop Yield for Selected Crops in kilograms per hectare

The improvement in processing has significant economic development impact. The volume of trade improves with industrial growth. Due to increased economic activities enhanced by industrial improvement, the level of imports also increases. Thus far, the analysis has shown how crop productivity has improved in China leading to the reduction of area under cultivation. This is clear evidence that structural transformation is taking place in the country. The relocation of land portion for uses other than agriculture implies that increased agricultural productivity reduces the concentration of resources in this primary sector. The agricultural mechanization enhanced productivity improvement and fueled growth in non-agriculture sectors.

Figure 2 depicts the trends in employment share between primary, secondary and tertiary industries. In panel (a),

the figure shows the trend for a range of years from 1952 to 2017. While, panel (b), shows a simple relationship between income growth and structural transformation from 1978 to 2017. It is the same structure as that of the panel (a), but this is now concerning income in natural logarithm form.



(a) China's three-sector employment trend (1952-2017) (b) Income and structural transformation (1978-2017)
Figure 3. Historical Trends in China's Structural Transformation (1952–2017)

The primary industry, while dominating the economy by employing a large percentage of the population, has continually declined. The dominance of the primary industry reached an end in 2011 where it was surpassed by the tertiary industry. The tertiary industry has then become the dominant industry employing a large portion of the population. There has been an interchanging leading role between secondary and tertiary industries in previous years. However, since 1994 the tertiary industry has dominated the secondary industry with a large share of employment. The secondary industry has reached to the level of crossing the share of primary industry. But its share has thereafter been declining with that of primary industry paving the way to the tertiary industry in the economy. The possible explanation lies with the environmental conservation policy of the country. Nevertheless, the fact that the economy is striving to become a high-income country, the secondary industry's role is increasingly overshadowed by the tertiary industry. Heavy industries are shifted to low-income countries in the region and other continents where they are more profitable than in China. It is also true that as the economy keeps developing with increasing labor productivity it becomes more expensive to invest in labor-intensive technology due to increased wages which reduce the economy's competitive advantage. So, as income grows, countries have to dynamically change to more competitive advantage sectors because sectors that were previously more advantageous turns to be a less competitive advantage due to increased wages influenced by increased productivity.

4. Foreign Direct Investment Effect of Trade Surplus

The previous section has discussed the structural transformation of China. It has substantially shown how the economy has moved by improving agricultural productivity. The improved agricultural productivity has enhanced the reallocation of resources from primary to secondary and to the tertiary sector. Mostly, the economy is now dominated by the tertiary sector which employs a large share of the country's workforce. In this section, we turn our focus to the main objective of the study which is to show how the trade surplus has influenced the economy's foreign direct investment both inward and outward foreign direct investment. Even though, the focus is on outward foreign direct investment. From a macroeconomic perspective, persistent trade surpluses contribute to excess national savings, which can be transformed into loanable funds supporting outward foreign direct investment. This trade surplus can be invested in other low-income countries as foreign direct investment.

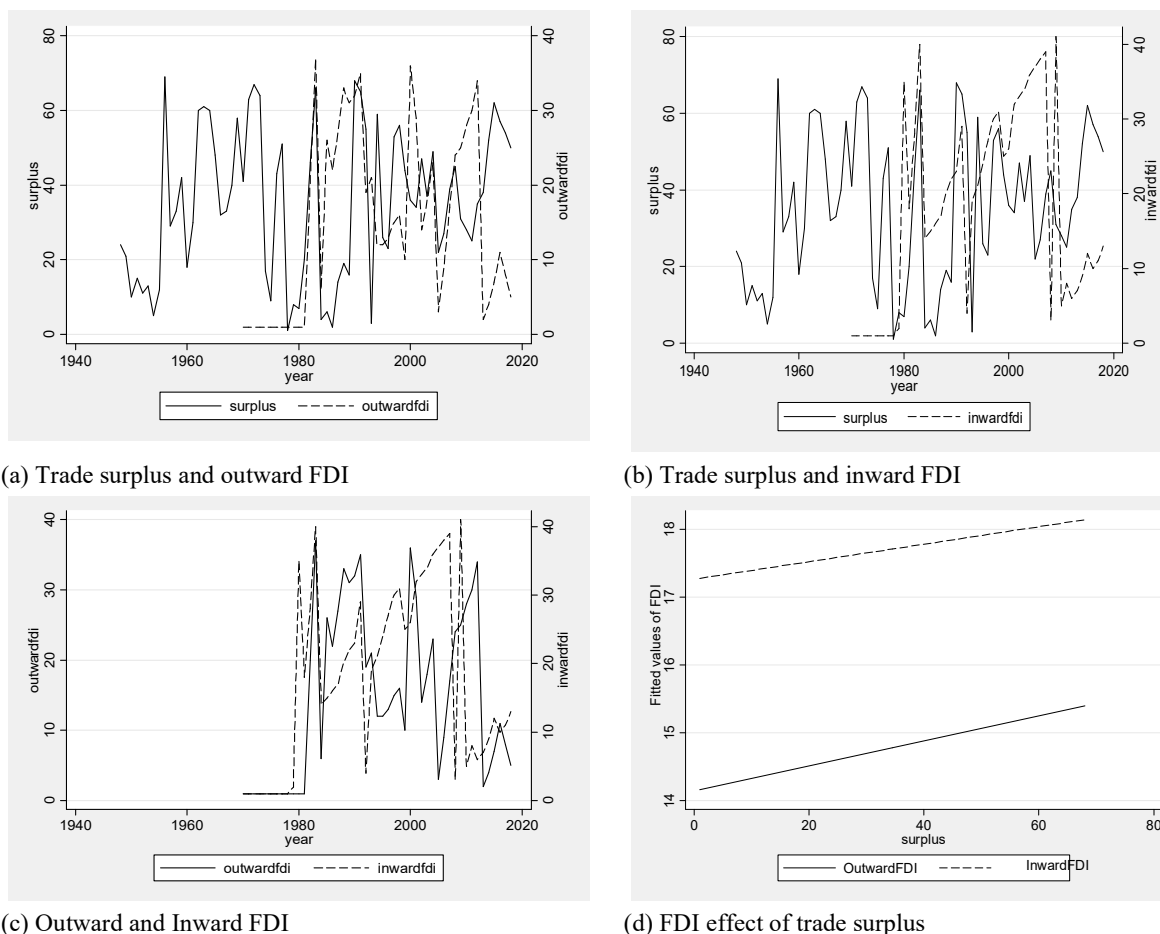


Figure 4. China's Trade Surplus and Foreign Direct Investment

Panels (a)–(d) of Figure 3 illustrate the trends in China's inward and outward foreign direct investment relative to its trade surplus. The descriptive evidence shows that outward FDI tends to increase with rising trade surplus, although inward FDI remains larger than outward flows. These patterns suggest that China's trade surplus may facilitate outward investment by providing resources and incentives, while also attracting inward investment due to the profitability of the economy. The observed trends align with prior studies highlighting the positive relationship between trade surpluses and foreign investment flows (Michael et al. 2021; Simon, 2023; Fon 2018; Hu et al. 2025).

The macro financial relationship between trade performance and investment behavior is further highlighted by recent empirical studies. For example, recently released studies indicate that trade openness and foreign direct investment work together to affect economic dynamics, pointing to possible avenues through which ongoing external surpluses and global market integration can alter investment trends (Yeboah et al., 2025). The structural drivers of outward investment behavior are further supported by studies that show how shifting international trade and investment policy conditions impact FDI flows (Kim & Steinbach, 2025). These results provide credence to the theory that trade surplus accumulation could act as a structural catalyst for the growth of outward FDI. These descriptive trends are consistent with the broader literature on Chinese outward foreign direct investment to Africa. Empirical studies show that Chinese FDI flows to Africa have expanded notably over recent decades and are influenced by factors such as trade linkages, market opportunities, and openness to economic integration (Simon, 2023). Research further indicates that Chinese FDI is diversified across Sub-Saharan Africa and contributes to growth and infrastructure development, although the patterns vary by country and economic conditions (Michael et al. 2021). Institutional quality, political alignment, and host-country characteristics also shape Chinese OFDI destinations within Africa (Fon, 2018; Hu et al. 2025).

China's trade surplus can also serve as a source of loanable funds to finance outward investment in countries with competitive advantages. Accordingly, outward FDI tends to rise with increasing trade surplus. From panel (d) of Figure 3, it is clear that outward foreign direct investment is not as much as inward foreign direct

investment. Outward FDI is far less than inward FDI. There are two possible explanations for the gap between inward foreign direct investment and outward foreign direct investment. The nature of China's outward foreign direct investments may require less capital compared to the nature of inward foreign direct investment from developed countries. But this requires further investigation for empirical verification. Alternatively, it is what we know at a glance that more foreign direct investment flows to China than what China invests in other countries. Nonetheless, many developed countries invest in China making the total inward foreign direct investment to surpass outward foreign direct investment by China. From this general relationship, it is also the case that the increased foreign direct investment by China in Africa is influenced by China's trade surplus.

5. Conclusion

This study has provided an analytical review of the relationship between China's trade surplus and foreign direct investment (FDI), considering both inward and outward investment flows. Analytical review reveals that inward foreign direct investment (FDI) is greater than outbound FDI, meaning that China receives more investment than it makes elsewhere. China's ability to make foreign investments seems to be supported by the country's ongoing trade surplus. The trends also indicate a broad correlation between China's trade surplus and foreign direct investment.

As an analytical review, this study does not quantify the exact extent to which trade surplus drives outward FDI. In order to precisely quantify the effect of trade surplus on FDI flows, future studies need include more factors such as geographic location, political climate, and country-specific comparative advantages. The gravity model and other analytical frameworks could be used to explain why investments are concentrated in specific areas or nations.

Moreover, although this research paper discusses China's outward foreign direct investment in Africa, it lacks disaggregated data for specific African countries. In this regard, future studies should concentrate on gathering and analyzing FDI data particular to individual countries. Subsequent research can offer a more thorough understanding of the mechanisms connecting China's trade surplus, structural transformation, and outward investment behavior by filling in these gaps.

Future studies should use gravity modeling frameworks and panel econometric methodologies to quantitatively evaluate the causal relationship between China's trade surplus and outward FDI flows. Identification of diverse impacts influenced by political alignment, resource endowments, and institutional quality would also be aided by a country-level analysis of African economies. These empirical studies would support this analytical review by offering strong statistical support for the suggested mechanisms.

References

- Asia Times. (2025), "Red flags rising over China's trade surplus with Indonesia", https://asiatimes.com/2025/06/red-flags-rising-over-chinas-trade-surplus-with-indonesia/?utm_source=chatgpt.com
- Bown, C.P. (2020), "US-China trade war tariffs: An up-to-date chart", Peterson Institute for International Economics.
- Cao, X., Lei, J., Shi, D., Yu, W., Tao, T., Zhang, X. & Wang, A. (2025), "New quality productivity of agriculture and rural areas at the provincial scale in China: Indicator construction and spatiotemporal evolution", ISPRS International Journal of Geo Information, 14(3), 104.
- China-Briefing. (2025), "China-Indonesia trade and investment profile", https://www.china-briefing.com/news/china-indonesia-trade-and-investment-profile-opportunities/?utm_source=chatgpt.com
- Hu, X., Li, Y. & Wang, Z. (2025), "Technology transfer and political alignment: New evidence from China's outward foreign direct investment in Africa", Humanities and Social Sciences Communications.
- IMF. (2023), "World Economic Outlook: Trade and global imbalances", International Monetary Fund, <https://www.imf.org/en/Publications/WEQ>
- Kang, Y. & Li, Y. (2024), "The impact of China's economic growth on poverty alleviation: From absolute to relative poverty", arXiv:2412.20176.
- Kim, D., & Steinbach, S. (2025). Rising protectionism and foreign direct investment. Review of World Economics, 161, 469–510. <https://doi.org/10.1007/s10290-024-00569-x>
- Li, X., Zhang, W. & Chen, H. (2025), "China's export performance and environmental implications: Evidence from 2000–2023", Environmental Economics and Policy Studies, <https://link.springer.com/article/10.1007/s10018-025-00327-9>

- Lin, X., Liu, X. & He, L.-Y. (2025), “Outward foreign direct investment and energy efficiency: Firm-level evidence from China”, *Environment and Development Economics*.
- Marks, S.V. (2015), “The ASEAN–China Free Trade Agreement: Political economy in Indonesia”, *Bulletin of Indonesian Economic Studies*, 51(2), 287–306, <https://doi.org/10.1080/00074918.2015.1061917>
- Reuters. (2025), “China, ASEAN complete negotiations on upgraded free trade deal”, 21 May, https://www.reuters.com/markets/emerging/china-asean-complete-negotiations-free-trade-area-30-2025-05-21/?utm_source=chatgpt.com
- Shi, Y., Osewe, M., Anastacia, C., Liu, A., Wang, S. & Latif, A. (2023), “Agricultural supply side structural reform and path optimization: Evidence from China”, *International Journal of Environmental Research and Public Health*, 20(1), 113.
- Solar Jin. (2025), “Industrial upgrading and new quality productive forces: Evidence from China’s provincial panel data (2003–2022)”, arXiv:2501.14258, https://arxiv.org/abs/2501.14258?utm_source=chatgpt.com
- Tang, W., Lan, Q. & Yang, Y. (2025), “Digital economy’s role in shaping China’s outward investment in Belt and Road countries”, *Technological and Economic Development of Economy*, 31(2), 412–446, https://journals.vilniustech.lt/index.php/TEDE/article/view/21905?utm_source=chatgpt.com
- UNCTAD. (2025), “World Investment Report 2025: International investment in the digital economy (Country Fact Sheet: China)”, United Nations Conference on Trade and Development, https://unctad.org/system/files/non-official-document/wir_fs_cn_en.pdf?utm_source=chatgpt.com
- UNU-WIDER. (2025), “Structural transformation, inequality, and inclusive growth in China”, United Nations University World Institute for Development Economics Research, https://www.wider.unu.edu/publication/structural-transformation-inequality-and-inclusive-growth-china?utm_source=chatgpt.com
- Wang, J. & Chen, P. (2023), “The effectiveness and externality of China’s outward foreign direct investment policy”, *Digital Economy and Sustainable Development*, 1, Article 10, https://link.springer.com/article/10.1007/s44265-023-00004-3?utm_source=chatgpt.com
- Xinhua. (2025), “China’s outward FDI hits \$192.2 billion in 2024, ranking third globally”, 8 September, https://english.www.gov.cn/archive/statistics/202509/08/content_WS68bed72bc6d0868f4e8f567e.html?utm_source=chatgpt.com
- Yeboah, E., Baffour, A. A., Chibalamula, H. C., & Atiso, F. (2025). The significance of foreign direct investment (FDI) and trade openness: Evidence from nine European economies. *SN Business & Economics*, 5, 27. <https://doi.org/10.1007/s43546-025-00798-8>
- Zhang, S., Li, J. & Guo, T. (2023), “Government intervention, structural transformation, and carbon emissions: Evidence from China”, *International Journal of Environmental Research and Public Health*, 20(2), 1343.
- Zhou, L. & Yuan, H. (2024), “Effects of digital trade export on wage inequality among enterprises: Evidence from China”, *Humanities and Social Sciences Communications*, 11, 1576, https://www.nature.com/articles/s41599-024-04061-7?utm_source=chatgpt.com
- Michael, M., Glory, E.O., Sylvester, O. & Daniel, O.T. (2021), “The Chinese foreign direct investment to Sub Sahara Africa”, *RUDN Journal of Economics*. Rudn Scientific Periodicals Portal.
- Simon, K.B. (2023), “Key determinants of China’s outward FDI to Africa”, *Journal of Economics and Sustainable Development*, IISTE.
- Fon, R.M. (2018), “The institutional determinants of China’s outward FDI into Africa: A political economy approach”, PhD Thesis, University of Kent Academic Repository.