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Do Free Trade Agreements Facilitate FDI Spillover Effects on Domestic Firms? Empirical Evidence from Oman

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Abstract: This paper underlines the significance of free trade agreements in attracting foreign direct investment and their impact on the operational capacities of local firms in host countries. It argues that free trade agreements do not only eliminate barriers to trade, but they also increase the size of the regional market and improve the business environment, making it more attractive to foreign direct investment, along with all the attributes and spillover effects associated with it. While determining the type of spillover effects of foreign direct investment associated with Oman's trade agreements, this paper uses the Kruskal–Wallis H-test and 438 samples from companies surveyed between 1 August and 31 October 2023 to assess the impact of spillovers on the performance of the surveyed companies. The results reveal that technology transfer, knowledge transfer, labour productivity, product efficiency, capital investments, and job creation have positive effects on the firms' operational capacities, with technology transfer having the highest impact (27%), followed by labour productivity and job creation (18%). The spillover effects are almost the same for company size and percentage of ownership. They also identified manufacturing and tourism as priority sectors and the availability of a skilled workforce as a major challenge. These findings make original contribution to the field as this is probably the first study to produce a firm-level analysis of spillover effects of foreign direct investment and trade agreements in the context of Oman and the wider Gulf region. The paper concludes with practical implications for policy makers when negotiating trade agreements and designing investment policies to optimize spillover effects on the performance of their domestic firms.



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1. Introduction

The growing role of free trade in economic development has encouraged countries to join bilateral and multilateral trade agreements, as well as integrating into various forms of regional trade arrangements. These trade arrangements offer preferential treatment to member states such as reduced tariffs, market access, national treatment of goods and services, and promotion of foreign direct investment (FDI). They also contribute to job creation, the availability of goods and services not produced locally, the development of logistic and transport infrastructure, and the consolidation of global value chains, etc. Free trade agreements (FTAs) strengthen economic ties between countries (Cao et al. 2023). The conclusion and ratification of FTAs often force member states to introduce regulatory changes that improve the business environment and align their legal and regulatory systems with those of other member states, making the regional markets more conducive to the attraction of FDI.

The critical question that needed to be asked is how effective are FTAs in attracting FDI, and what is the mechanism that guarantees a positive impact of this type of investment on local economy? Although there is no firm answer to this question, some empirical studies underscored a positive relationship between FTAs and the attraction of FDI. International trade significantly improves the productivity and technological level of domestic

enterprises (Pietrucha and Zelazny 2020; Angelini and Generale 2008). Sohail et al. (2021) examined the experience of East Asian and South Asian countries that are members of regional trade arrangements and found that both regions attracted USD 280 billion and USD 54 billion, respectively, accounting for 18.1% of global FDI inflows in 2019. They associated Asian economic development with huge foreign capital and advanced technologies from Japan, the USA, and Europe (Sohail et al. 2021). This positive FTA–FDI relationship encourages governments to utilize FDI as means of diversifying their economies, modernizing production capacity, connecting to global value chains, bringing advanced technology, and generating job opportunities (Sokhanvar 2023). The huge size of the global supply chain in the automotive industry that involves the import of spare parts and components resulted in many automotive companies concentrating their production facilities in large regional markets to benefit from the market size and large consumer base for marketing and sales.

The effective utilization of FTAs in serving the national economy is clearly evident in the case of China, where these agreements have not only facilitated the inflow of FDI, but they have also increased competition between domestic and foreign companies and accelerated the integration of the country into the global economy (Müller and Seabra 2019; Tian and Fang 2014). The ASEAN–China Free Trade Agreement (ACFTA) is a good example of the effectiveness of FTAs in attracting FDIs (Chiang 2019; Li and Maani 2018). Duong et al. (2021) also reported higher FDI inflows into the country as a result of FTAs. Another example of FTAs that targeted FDI is the agreement between the European Union and Mexico, with significant developments in areas including trade, investment, job creation, and liberalization of the finance and communications sectors. Several empirical studies conclude that FTAs do not only result in an increase in bilateral trade, but they also contribute to a significant rise in capital inflows in their member states (Caballero 2022; Sotomayor 2022; Manrique and Barrios 2016).

Although there is a growing interest in examining the potential gains from FTAs globally, much of the discussions and debates focus on bilateral trade and welfare gains from free trade. Only few studies covered spillover effects of FTAs on FDIs, including those by Sokhanvar (2023), Sahoo and Dash (2022), Mishra and Palit (2020), Belderbos et al. (2021), Kim and Choi (2020), Dang and Zhao (2020), Mohsin et al. (2020), Nemati et al. (2019), and Li and Maani (2018). Despite these recent attempts to analyze the spillover effects of trade on investment, there is a huge gap in understanding the actual effects of FDI associated with trade arrangements on the performance of domestic firms. Sahoo and Dash (2022) suggested further research and thorough investigations into the spillover effects of foreign investment on domestic firms, especially in areas such as capital infusion, technology transfers, knowledge spillover, and skill development. Other scholars also underscored the gaps in the literature and called for further research on the effect of FTAs and FDI in critical aspects such as technology transfer (Nemati et al. 2019), labour productivity (Yeboah et al. 2023; Amornkitvikai et al. 2022; Sahoo and Dash 2022), knowledge transfer (Sahoo and Dash 2022; Kim and Choi 2020), capital investment (Mishra and Palit 2020), Job creation (Dao et al. 2023; Bergougui and Murshed 2023; Nordin 2017), and product efficiency (Wu et al. 2023; Belderbos et al. 2021; Qamruzzaman and Karim 2020; Rong et al. 2020). Benmamoun et al. (2016) undertook a study focusing on the impact of international trade on FDI in 18 Arab countries for the period from 1990 to 2011. They observed acceleration in both economic and human development.

Consequently, the main objective of this study is to improve our understanding of the relationship between FTAs and FDI and examine the extent to which spillover effects of FDI can positively impact the operational capacity and performance of domestic firms in the member states. This study also aims to determine the main spillover effects and how they are utilized to assess the impact of five FTAs on the operation performance of domestic firms in the Sultanate of Oman, as a country case study. It also aims to assess the extent to which differences in company size and ownership percentage can result in different kinds of spillover effects, and, consequently, their direct and indirect impact on local companies.

It also seeks to determine the FDI priority sectors and key challenges faced by companies in Oman.

Methodologically, this study adopts a descriptive analytical approach to explain the various types of FTAs that Oman has concluded and implemented since the early 1980s and uses the Kruskal–Wallis H-test to address its aims and objects. The rationale of selecting Oman as a case study is that the findings presented in this paper are the outcomes of a strategic research project conducted in collaboration with the Ministry of Commerce, Industry and Investment Promotion to assess the impact of FTAs on the growth of Oman's manufacturing sector. Oman is also an exemplary model for a country that has already had five established FTAs, the most recent of them is more than 15 years old. As the 2023 GCC–South Korea FTA has not yet been ratified, this agreement has not been covered in this examination. Oman is currently negotiating the frameworks of new agreement with India and possibly China, with the anticipation that these agreements should attract foreign investments in non-oil sectors and enhance the operational and exporting capacity of its domestic firms. Thus, the findings of this study make original contribution to the field, while providing practical implications for policy makers in Oman and globally to consider the FDI factor when negotiating new trade agreements.

The paper is divided into six sections. Section 2 presents the literature review. Section 3 designs and explain the research methods employed in this paper. Section 4 presents the data analysis and results. Section 5 contains the discussion. The last section summarizes the findings.

2. Literature Review

The growing trend of bilateral and regional trade agreements (RTAs) has substantially increased after the failure of the Doha Round in 2009 to resolve the differences between developed and developing countries concerning market access for agricultural products to the markets of developed countries. The failure of the World Trade Organization (WTO) to launch a new round of multilateral trade liberalization has forced most governments to seek FTAs as means of achieving their national development strategies and meet the demands of their domestic markets. As of 1 January 2024, 361 regional trade agreements were in force, of which 88% were FTAs, 7% were partial scope agreements, and 5% were customs unions (WTO 2024a). The WTO's statistics also confirm that 83% of the RTAs are bilateral and 17% are plurilateral RTAs, of which 34% are intra-regional RTAs and 66% are cross-regional RTAs (WTO 2024a). In terms of FTAs' geographical distribution, Europe has the largest number with 162 agreements, of which the EU conducted 45 agreements, the UK has 38 agreements, and EFTA states have 35 agreements. Asia has 129 trade agreements, of which East Asia has 103 agreements and West Asia has 26 agreements. South America has 71 agreements, while North America has 50 agreements, Central America has 41, and the Caribbean has 11 agreements. Africa has 48 agreements, and the Middle East has only 38 agreements (WTO 2024b).

Free trade agreements offer a structured framework for countries whose primary objective is to remove trade obstacles such as tariffs and non-tariff barriers, promoting reciprocal benefits for participating countries (Freund and Ornelas 2010; Menon 2007). Trade agreements can be unilateral, bilateral, regional, or multinational. While unilateral trade agreements are one-sided, non-reciprocal trade privileges offered by a developed country to developing countries, they lack elements of assurance and reciprocity, potentially leaving a country vulnerable to exploitation or sudden shifts in global trade dynamics (Conway et al. 1989). Meanwhile, free trade agreements that involve more than two member states are better than unilateral free trade because they offer wider market access for companies operating in the regional market. FTAs also offer a wide range of incentives for member states, including national treatment, free movement of goods and services in the regional markets, and free movement of factors of productions, which reduce the cost of production and make products more competitive compared to their counterparts in the non-member states. For some countries, unilateral measures are the most effective strategy

to lower domestic trade obstacles. Other countries prefer FTAs, which have two advantages over unilateral approaches (Irwin 2020). When many countries or regions agree to reduce trade barriers mutually, the economic benefits of international trade are strengthened and enhanced. FTAs among countries or regions are an effective tool for liberalizing regional and global trade networks (Mishrif et al. 2024). Regional and multilateral reductions in trade barriers may lessen political opposition to free trade in each of the participating countries.

2.1. Oman's FTAs Network

Since the early 1980s, Oman has concluded six FTAs, five of them signed within the regional framework of the Gulf Cooperation Council (GCC), and one bilateral FTA with the USA. The latest FTA was signed between the GCC countries, including Oman, and South Korea in December 2023. This section provides a brief overview on the main five FTAs that Oman conducted with the GCC, the Greater inter-Arab Free Trade Agreement (GAFTA), the European (non-EU) Free Trade Agreement (EFTA), Singapore, and the USA. These agreements are old enough to assess their spillover effects on the economy. Analysis does not cover the GCC–South Korea FTA as this agreement was conducted during the course of this study and has not yet been ratified by member states.

2.1.1. Oman–GCC FTA

The Oman–GCC FTA was signed on 11 January 1981 and ratified on 25 May 1981.¹ The agreement comprises Bahrain, Kuwait, Qatar, Sultanate of Oman, Kingdom of Saudi Arabia, and United Arab Emirates (UAE). The goods covered by the agreement are oil and gas, water, and electricity. It confirms that each party shall provide the services and service suppliers of any one member, with the most favourable treatment provided to similar services and service providers of any other member. The tariff barriers were non-existent, and non-tariff trade barriers between GCC countries were progressively lowered.

In terms of investment, this agreement treats investments owned by natural and legal citizens of the GCC states as the national treatment in all member states. The Gulf region sought to attract FDI by improving the business environment and developing systems and joint ventures. However, it limits Arab participation through the determination of a maximum percentage of the Arab share ownership or the total value of Arab investments, whether individual or aggregate. The GCC nationals could freely participate in business activities related to retail and wholesale trade, recruitment offices, car rental, and most cultural activities.

In order for industrial products to acquire the status of national origin, the added value resulting from their production in these countries should not be less than 40% of their final value upon completion of their production. It also requires that the percentage of ownership of the nationals of the GCC member states in the industrial establishments should not be less than 51%. Every commodity that enjoys exemption under this agreement must be accompanied by a certificate of origin certified by the competent government authority.

2.1.2. Oman–GAFTA

The Oman–GAFTA agreement was signed in 1997 and ratified on 1 January 1998.² It comprises 18 Arab countries, namely Oman, UAE, Saudi Arabia, Qatar, Bahrain, Kuwait, Egypt, Morocco, Tunisia, Algeria, Libya, Jordan, Syria, Lebanon, Palestine, Sudan, Iraq, and Yemen. The agreement covers most agricultural and industrial commodities of Arab origin, as well as mineral and non-mineral ores. The aim of the FTA is to establish a general framework for the gradual liberalisation of trade in services and create an enabling environment to facilitate trade in services among the member states. This attempt aimed at activating and enhancing inter-Arab economic cooperation and integration, while promoting common interests in services on the basis of mutual benefits and balance between rights and obligations.

In terms of investment, this FTA offers investment provisions for FDI promotion, including inter-Arab Investment Guarantee Corporation and that other specialized Arab in-

stitutions shall be urged to provide necessary guarantees to trade among party-states under preferential terms and conditions, and in accordance with their rules. The agreement offers the use of free zones to encourage foreign investment. However, the promotion of cross-country investment was challenged by major obstacles, including high rates of inflation, substantial budget deficits, overvalued exchange rates, and negative real interest rates.

2.1.3. Oman–EFTA

This FTA was signed on 23 May 2000 and ratified on 22 September 2009.³ It comprises the six-member state of the GCC and Iceland, Liechtenstein, Norway, and the Swiss Confederation. It aims at liberalizing trade in goods by removing or reducing customs tariffs, with the exception of some industrial goods for religious, environmental, or health reasons. The agreement covers processed agricultural products, fish, and other marine products. It also covers the service sector, except services related to air navigation rights. In terms of investment, the agreement encourages mutual promotion of investment opportunities. In this agreement, no rules of origin apply to import goods or services supplied from a third party for government procurement purposes. All rights and obligations are subject to local regulations.

2.1.4. Oman–Singapore FTA

This FTA was signed on 15 December 2008 and ratified on 12 January 2009.⁴ It comprises the six-member states of the GCC and Singapore. The agreement covers trade in goods such as petrochemicals, jewellery, machinery, iron, and aluminium. It focuses mainly on trade in services, including professional services, computer and related services, communication services, contracting and related engineering services, distribution services, education services, environmental services, financial services, health services and related social services, tourism services, sports, cultural and recreational services, and transportation services. The agreement also stresses that neither party shall adopt or practice non-tariff measures to import goods from the other party, or to export goods destined for the territory of another party, except as consistent with its rights and obligations under this agreement or a global trade agreement. The agreement encourages member states to support the development of information and communication technology and related services for the benefit of all parties.

2.1.5. Oman–USA FTA

The Oman–USA FTA is the only bilateral agreement that Oman has signed to date. It was signed between Oman and the USA on 19 January 2006 and ratified on 1 January 2009.⁵ The agreement mainly covers industrial and agricultural goods, as well as trade in services, including audiovisual, express delivery, telecommunications, computer and related services, distribution, healthcare, architecture, and engineering. This FTA clarifies several substantive investment obligations of particular concern, notably provisions on expropriation and fair and equitable treatment, while incorporating a number of innovations in the investor–state dispute procedures to help ensure that arbitral tribunals interpret substantive obligations in a consistent and coherent manner. It includes major obligations pertaining to non-discrimination (national treatment and most favoured nation treatment), expropriation, free transfers related to covered investments, prohibition on the use of performance requirements, a minimum standard of treatment, and limitations on requirements on senior managers. In terms of investment, the investment chapter promotes FDI, while improving the business environment and establishing a more predictable framework for US investors operating in Oman.

It is apparent from the five FTAs presented above that Oman has made FDI a top priority, as sustained long-term capital inflows can support national infrastructure development and industrialization. This policy approach is supported in the literature, where empirical studies underscore the vital role of FDI in economic development, diversification, sector or industry development, technology upgrading, and job creation (Ibrahim et al. 2022;

Wippel 2013; Mishrif 2010). To compensate for the low levels of savings and public investments, the Omani government has been actively seeking FDI by improving the regulatory framework and the investment climate. This is clearly evident in the introduction of the Foreign Capital Investment Law No. 50/2019, which came into force on 1 January 2020, allowing 100% foreign ownership in most economic sectors and removing the minimum capital requirement in the previous law. These regulatory changes have not yet paid off as the levels of FDI inflow in Oman are comparatively small when compared with the UAE and Saudi Arabia between 2010 and 2022, as shown in Figure 1.

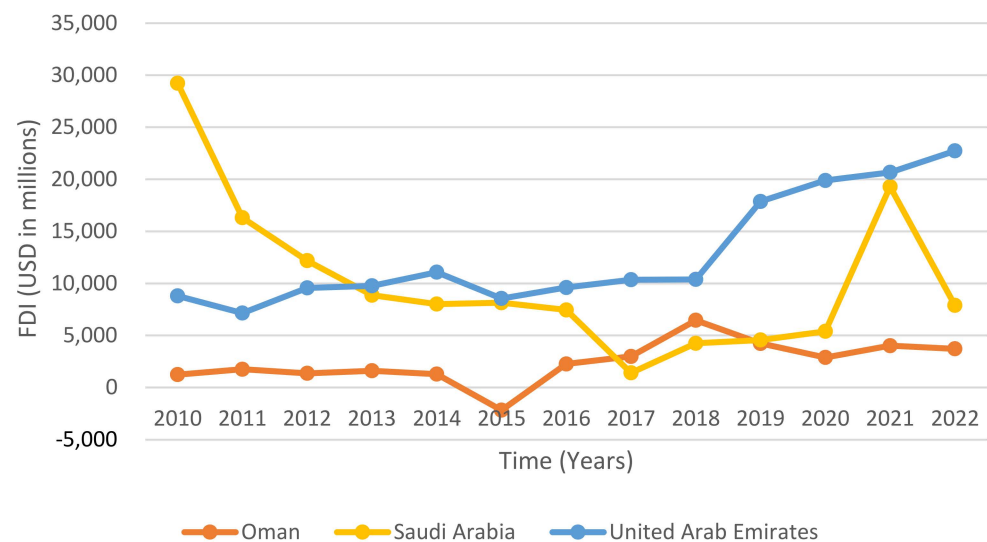


Figure 1. FDI in Oman compared to Saudi Arabia, and UAE from 2010 to 2022 (USD million). Source: UNCTAD (2024).

Although Oman's performance in FDI is considerably lower than the UAE and Saudi Arabia, there is urgent need to assess the impact of the accumulated FDI stocks in the country and the extent to which FTAs can help in increasing the levels of FDI in the country. While several studies such as those by Yeboah et al. (2023), Wu et al. (2023), Tien et al. (2021), Amornkitvikai et al. (2022), and Sohail et al. (2021) have examined the spillover effects of FTA and FDI on local economy, no studies have yet been conducted in this subject in the context of Oman and the wider GCC region. Thus, the aim of the next section is to identify key spillover effects of FTAs on FDI and assess their impact on domestic firms.

2.2. Spillover Effects of FDI

The main spillover effects of FDIs that are examined in this section are technology transfer, knowledge transfer, labour productivity, product efficiency, capital investments, and job creation.

2.2.1. Technology Transfer

FDI is the favoured method of transfer when corporations are interested in new and complicated technology. Sahoo and Dash (2022) argue that domestic firms can obtain new technology in manufacturing by establishing links with foreign companies. Nemati et al. (2019) also underline the positive effects of FTAs, among other things, on companies through product composition change (composition effect), production process change (technical effect), and economic activity expansion (scale effect). These types of effects forced most large companies operating across borders to increasingly use production agreements with host countries (Larrosa 2014). This mutual interest or reciprocal connection creates new bonds and opportunities for long-term investment that encompasses modern technology and advanced techniques in the production of goods and delivery of services. This is particularly true in the automotive industry, where importing spare parts

and non-locally produced components is necessary for a significant portion of automotive production.

The transfer of technology and technical knowledge could be easily transmitted through international trade; most goods exchanged consist of intermediate and raw materials that can be further processed locally before reaching their destination and end customers (Larrosa 2014). The use of foreign inputs in local production allows for the transfer of advanced techniques and technology in a way that enhances the manufacturing process; if this occurs on a large scale, this process could result in an upgrade in the entire industry or economic sector. Sinani and Meyer (2004) argue that the preferred method of technology transfer for multinational corporations is determined by the features of the technology itself, such as its age and complexity, workforce education, skills, and mechanisms of technology transfer. They also argue that FDI has a faster rate of transferring newer technologies than international licensing. Other studies confirmed that technology transfer has an indirect influence on local enterprises—more specifically, its direct impact on firm efficiency (Sinani and Meyer 2004; Damijan et al. 2003).

2.2.2. Knowledge Transfer

Most of the economic literature concerned with investment argues that FDI is a highly efficient tool for transferring know-how and technical knowledge to the local market, resulting in skills development; when combined with additional capital, this could boost productivity and profitability (Sinha 2023; Shah and Raza 2022). The role of FDI in knowledge transfer is supported by the findings of a study conducted by Sinha, who concluded that FDI has helped many companies to expand their technological expertise and create high-quality jobs in areas that require technical skills and expertise such as research and development (R&D), laboratories, product design, and engineering (Sinha 2023). Shah and Raza (2022) support these findings by arguing that FDI in services is an important source of stimulating service exports, ranging from the transfer of technical and managerial know-how to the export of commodities' processing services. Huan and Qamruzzaman (2022) further argue that the acquisition of technical innovation in an attractive environment for transferring technological know-how through FDIs could have a significant impact on the economic ability of the country to accept and support technological change. At a corporate level, FDI is the preferred method for corporations to gain access to management skills, product design, and other quality attributes from a developed country (Kim and Choi 2020). Migrating skilled and trained employees from foreign firms to domestic firms may also result in positive knowledge spillover (Arif-Ur-Rahman and Inaba 2021). This type of labour migration is encouraged by many developing country governments as certain levels of technological capability are required among local enterprises and people to facilitate their technological catch-up and integration into global value chains (Francis and Kallummall 2020).

2.2.3. Labour Productivity

Yeboah et al. (2023) investigated the interactions between FDIs and local entrepreneurial ecosystems, with a focus on the impact on startups and small and medium enterprises (SMEs). They found that FDI has a positive impact on labour productivity. One of the primary forms of human capital investment that improves employee productivity is training and skill development (Amornkitvikai et al. 2022). Sahoo and Dash (2022) found that FTAs and FDI contributed to higher labour productivity in domestic industrial firms, increasing firm productivity, output, and export to other countries. Duarte et al. (2014) found that labour productivity is largely affected by knowledge and technology, which, in turn, could be transmitted inside international firms or multinational corporations, either between the headquarters and overseas subsidiaries, or between among overseas subsidiaries located in different markets, subsequently increasing labour productivity.

2.2.4. Product Efficiency

In an increasingly globalized world, FDI has emerged as a key driver of product innovation and business development. FDI can also increase firms' competitiveness and profitability, allowing them to enter new markets and upscale their operations. This argument is supported by [Qamruzzaman and Karim \(2020\)](#), who confirmed that FDI inflows allowed host countries to reduce costs and enhance product efficiency. [Chang and Rhee \(2011\)](#) stressed the importance of FDI in improving the performance of industries through high levels of global presence and exposure to international competition. They also reported the market growth effects of FDI by evaluating the industrial implications of the African Continental Free Trade Agreement (ACFTA) for the Chinese manufacturing industry.

The literature also reveals that investments in product innovation can help domestic enterprises to compete among themselves and with foreign firms in international markets by allowing them to effectively absorb information that is accessible in symbiotic networks, thereby improving their market position ([Wu et al. 2023](#)). Although many host countries attempt to persuade foreign corporations to invest in R&D, these corporations have battled to preserve their knowledge assets in markets with lax intellectual property rights protection ([Belderbos et al. 2021](#)). This is not always the case in competitive business environments, where FDI tends to positively affect product efficiency. [Rong et al. \(2020\)](#) confirmed that FDI and product efficiency are positively correlated by investigating the mutual effects between FDI and R&D in Taiwan's electronics industry. [Shen and Lin \(2020\)](#) reaffirmed this finding by showing that investment in R&D has a positive outcome on product efficiency.

2.2.5. Capital Investment

The economic literature underscores the significant impact of foreign capital investments on industrial production and subsequently on the socio-economic conditions, social welfare, and quality of life of consumers ([Mishra and Palit 2020](#); [Zhang et al. 2021](#)). [Li and Maani \(2018\)](#) highlight the positive effect of FTAs on FDI through the examination of the China–ASEAN FTA, which resulted in market expansion and vertical fragmentation. This spillover effect is also supported by [Li and Maani \(2018\)](#), who provide significant empirical evidence of an overall positive effect of ACFTA on FDI. [Mishra and Palit \(2020\)](#) argue that FDI inflows into India can contribute around 25% of GDP, with manufacturing creating 100 million jobs.

[Girma and Maemir \(2021\)](#) demonstrate the relationship between export intensity, FDI outflow, and domestic investment. They argue that there is a correlation between a rise in domestic capital investment and an increase in export intensity, depending on the degree of FDI outflows. This underlines the correlation between a company's level of FDI outflows and its subsequent domestic capital investments. Regarding their effects on domestic capital investment, exports and outbound foreign direct investment are complementary. [Zhang et al. \(2021\)](#) also point out that huge capital investments required in some industries, such as renewable energy consumption, makes it costly, particularly in developing nations where FDI recipients are compelled to open more opportunities for the economy by making energy-related investments.

2.2.6. Job Creation

Recent literature examining the relationship between FDI and employment has confirmed that FDI has a positive spillover effect on job creation ([Dao et al. 2023](#)). It argues that FDI can contribute to the creation of more jobs in the domestic market. While investigating the impact of FDI on employment in Vietnam, [Dao et al. \(2023\)](#) confirmed that FDI boosts job creation using data from sixty-three cities for the period 2006–2020. The findings of [Bergougui and Murshed \(2023\)](#) also confirmed that FDI boosted employment in the manufacturing sector. [Foster-McGregor et al. \(2013\)](#) confirmed the same results in manufacturing during their examination that covered 19 sub-Saharan African countries between 2010 and 2011.

Moreover, FDI generates employment in the long run (Lipsey et al. 2010). Liu (2012) reached this conclusion in China's secondary and tertiary industries for the period 1985–2008. This is particularly true for the tertiary sector, where there is a bidirectional relationship between FDI and employment. Karlsson et al. (2009) also reported positive effects of FDI on the creation of jobs in their analysis of Indonesian manufacturing companies from 1975 to 2005. However, other studies found insignificant effects of FDI on job creation. For instance, Nordin (2017) confirmed that there was no apparent effect of FDI on employment in manufacturing, services, construction, mining and quarrying, and agriculture in Malaysia between 2000 and 2010.

3. Research Method

This study uses a quantitative research method, which focuses on objective measurements and analysis of the statistical data that were gathered via questionnaires or the processing of already-existing statistical data. We believe that this quantitative approach is more suitable for measuring the spillover effects of FTA and FDI on domestic firms and addressing specific concerns about FDI assessment using primary data collected from companies located in various cities in Oman.

3.1. Survey Design

The survey was designed to cover the main themes and address the key objectives of the study. It was divided into two parts. The first part collected demographic data. The second part collected data on the spillover effects of the variables under examination. The demographic variables include company name and location, position of participant (manager, director, CEO), and company size (small/medium/large). The spillover effects are measured for the main variables, namely technology transfer, knowledge transfer, labour productivity, product efficiency, capital investment, and job creation. The other variables considered are technical know-how, corporate management, corporate culture, product specifications, production techniques, technological capabilities, expansion of operation, marketing, skills development, and R&D. A pilot study was conducted with 15 companies to check the clarity of language and phrases, soundness of questions, misperceived aspects, and time to complete the survey. After corrections were made to the pilot study, the survey was finalized for distribution.

3.2. Sampling Method

The survey target group are the companies located in Oman. The study uses random sampling methods. There are two categories of sampling methods: probability and non-probability. In probability sampling, the samples are randomly selected from the population, while non-probability sampling is based on the researcher's judgment and convenience (Copas and Li 1997). This could lead to bias. In a random sampling technique, each member of the population receives an equal and independent chance of being chosen for a sample (Etikan and Bala 2017; Singh and Masuku 2014). Therefore, there is no association between the observations in each group or between the groups themselves, i.e., each individual or object in the population is chosen completely at random, with no bias in the selection process.

The data were taken from the population via random sampling. In this study, the following steps were used: we created a list of 600 companies operating in different parts of Oman and assigned them unique identifiers. We randomly selected names of 457 companies from the list of 600 and contacted them for the survey distribution. This helped in minimizing the bias and allowed us to confidently generalize the findings from the sample.

3.3. Data Collection and Cleaning

A sample of 457 responses were collected from different cities across Oman, using both online and offline survey questionnaires, between 1 August 2023 and 31 October 2023.

After cleaning the data, 438 cases (or observations) were analyzed. The survey covered companies located in Oman's main provinces, including Muscat, Nizwa, Sohar, Sur, Duqm, Al Buraimi, Al Batinah North, Al Batinah South, Al-Shrqiah North, and Al-Shrqiah South. Analysis was performed using SPSS software and excel. We were keen to focus on local companies with strong foreign connections in order to be able to provide accurate data on the spillover effects of FDI. The companies approached were Apex Business Trading, Petrol and Projects LLC, Al Diwaniyah Omani Sweet, Oman Plastics LLC, UIC, Al-Khalili Group, Prajati Glass Gulf, Oman Polycon, Maktoom, Royal Solidex, Rukun ALSalam National, AL-Fannh Engineering, Sagh Modern Cement Products, Al-Shorooq Cement Products, Global Gas Services LLC, Bonding Perimeter of Trad LNG, Sohar Cement Factory SPC, Abraj Desert Unique Projects, AL-Hajry Oil and Gas, and Al Tasnim Enterprises, to name but a few.

3.4. Kruskal–Wallis H-Tests

The study used the Kruskal–Wallis H-test. The Kruskal–Wallis H-test is a rank-based non-parametric test that can be used to evaluate whether two or more groups of an independent variable have statistically significant differences in a continuous or ordinal-dependent variable, provided that the data are non-normal (Anderson 2001; Siegel 1957). This means that this model can be used to compare two or more independent samples with similar or different sample sizes.

This test is regarded as a non-parametric alternative to one-way ANOVA (Kruskal 1952), as well as an extension of the Mann–Whitney U test (only used to compare two groups) to comparing k independent samples or the comparison of multiple independent groups (Miller 1997; Breslow 1970). Non-parametric means that it makes no assumptions about the data's parameters, such as mean, variance, and so on. This implies that at least one sample is stochastically dominant over the other.

The Kruskal–Wallis H-test is applicable under the following conditions: (1) sampling or observations should be independent; (2) data normality (data in each category should be regularly distributed) should not be valid; (3) the dependent variable should be either the ordinal or interval or ratio, implying that they have some form of hierarchy; (4) the independent variable should have two or more categorized independent groups. A Kruskal–Wallis test requires several independent random samples with at least ordinally scaled features. Ordinal variables are sufficient in the Kruskal–Wallis H-test since non-parametric tests use ranks rather than value differences.

4. Data Analysis

4.1. Demographic Characteristics

The companies are classified in terms of size into three categories, of which 56.2% were medium, 30.8% were small, and 13% were large. Most of the companies were in Muscat (56.2%). The respondents were accountants (15.5%), CEOs (15.1%), engineers (23.3%), HR managers (16.2%), and managers (29.9%). Most respondents showed awareness of FTAs conducted by Oman with the GCC, GAFTA, and the USA. Table 1 shows the demographic characteristics of the surveyed companies.

The analysis of the data reveals a good level of collaboration between foreign and domestic companies in Oman. Figure 2 illustrates the areas of collaboration between foreign and local companies, with management, skills development, and product specifications being priority areas, followed by marketing, production techniques, and capital investment. Figure 2 also shows that local companies were interested in acquiring technological and R&D capabilities, while seeking foreign support to expand their operations.

The data reveal that 59.1% of companies have 100% local ownership, while only 6.6% have 1% foreign ownership. In terms of foreign ownership, 17.6% of companies have 51% foreign stakes, 9.8% have 75% foreign stakes, 5.3% have 50% foreign stakes, and 0.9% have 100% foreign ownership. Companies with 40% foreign stakes, 30% foreign stakes, and 20% foreign stakes accounted equally for 0.2%. Figure 3 shows the collaboration areas between

foreign companies with 50–75% ownerships and local companies in Oman. Interestingly, the companies with 51% foreign stakes cooperated mainly in the areas of skill development, management, and product specifications.

Table 1. Demography of the surveyed companies.

Company Size	% of Total	Cumulative %	Positions	% of Total	Cumulative %
Large	13.0%	13.0%	Accountant	15.5%	15.5%
Medium	56.2%	69.2%	CEO	15.1%	30.6%
Small	30.8%	100.0%	Engineer	23.3%	53.9%
			HR	16.2%	70.1%
			Manager	29.9%	100.0%
Awareness of Oman FTAs	% of Total	Cumulative %	Locations	% of Total	Cumulative %
GAFTA	0.2%	0.2%	Bathinah	2.3%	2.3%
GAFTA and USA	0.2%	0.5%	Al Buraimi	4.6%	6.8%
GCC	28.3%	28.8%	Al Wusta	0.9%	7.8%
GCC and EFTA	2.3%	31.1%	Al Buraimi	0.5%	8.2%
GCC and GAFTA	6.4%	37.4%	Alshrqiah	0.5%	8.7%
GCC and Singapore	2.5%	40.0%	Dakhiliya	10.3%	18.9%
GCC and USA	2.1%	42.0%	Dhofar	7.5%	26.5%
GCC and USA	0.2%	42.2%	Duqm	0.2%	26.7%
GCC, GAFTA, and EFTA	1.6%	43.8%	Muscat	56.2%	82.9%
GCC, GAFTA, and EFTA	4.1%	47.9%	Sohar	5.9%	88.8%
Not aware	49.5%	97.5%	Sur	11.2%	100.0%
Singapore	0.7%	98.2%			
USA	1.8%	100.0%			

Source: Authors' own work.

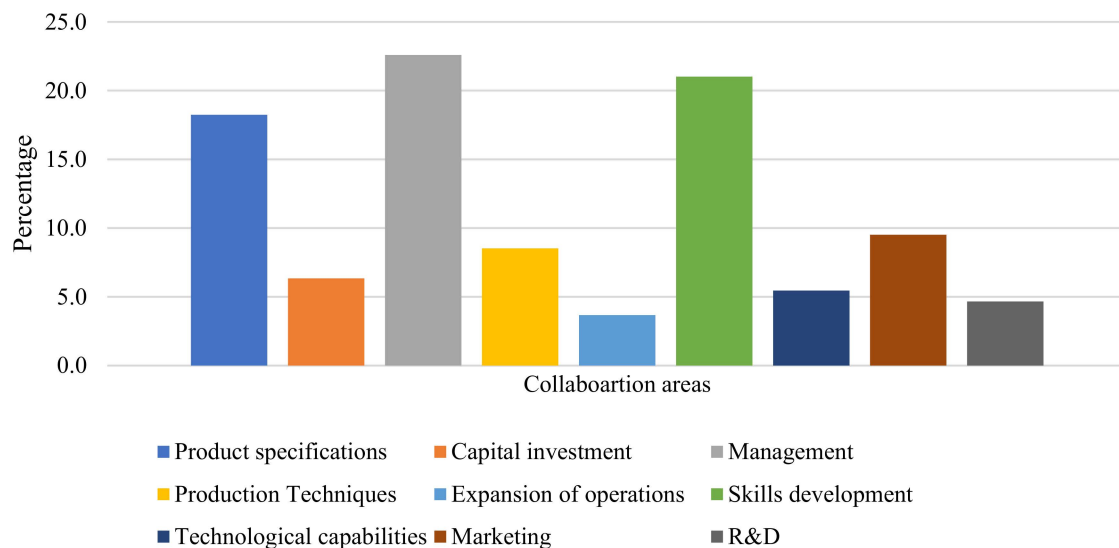


Figure 2. Collaboration areas between foreign and local companies in Oman. Source: Authors' own work.

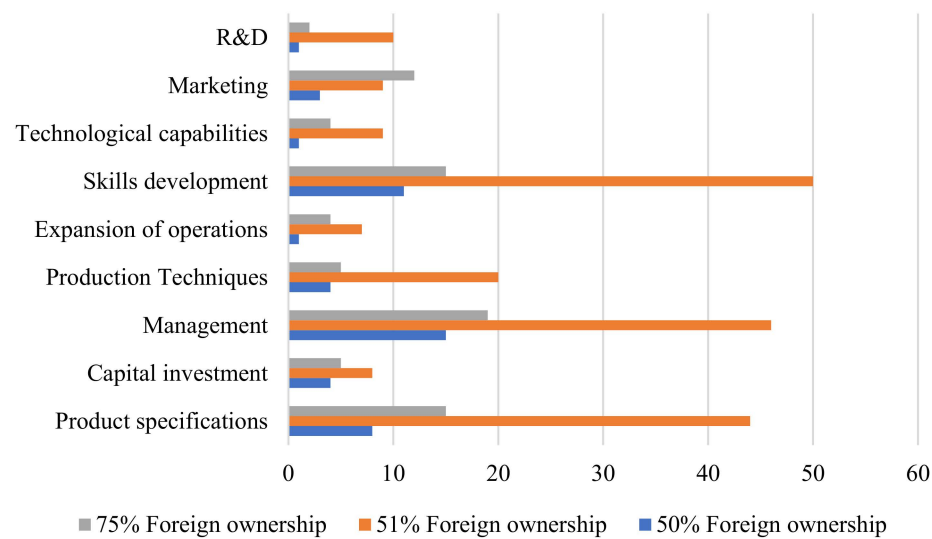


Figure 3. Collaboration areas between foreign (with 50–75% ownership) and local companies in Oman. Source: Authors' own work.

4.2. Spillover Effects

The research objectives were addressed using descriptive analysis and the Kruskal–Wallis H-test. The Kruskal–Wallis H-test was used to further investigate the impact of independent variable (company size) and ownerships on the dependent variables, namely technology transfer, knowledge transfer, labour productivity, product efficiency, capital investments, and job creation. Prior to conducting the test, the normality was examined using Shapiro–Wilk statistics, which showed that the assumption of normality was violated for technology transfer (Shapiro–Wilk $W = 0.596$, $p < 0.001$), knowledge transfer (Shapiro–Wilk $W = 0.604$, $p < 0.001$), labour productivity (Shapiro–Wilk $W = 0.636$, $p < 0.001$), product efficiency (Shapiro–Wilk $W = 0.579$, $p < 0.001$), capital investments (Shapiro–Wilk $W = 0.493$, $p < 0.001$), and job creation (Shapiro–Wilk $W = 0.491$, $p < 0.001$). The Kruskal–Wallis H-test (sometimes referred to as the “one-way ANOVA on ranks”) is a non-parametric test that uses ranks to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal-dependent variable (Kruskal 1952).

The main spillover effects of FDI are technology transfer, labour productivity, knowledge transfer, product efficiency, capital investments, and job creation. Figure 4 shows the spillover effects of FDI on domestic firms in Oman. Technology transfer ranks the highest (27%), followed by job creation and labour productivity (18%). FDI is a good source of capital and technology transfer to host countries. The transfer of technological know-how indicates that foreign investors are unwilling to invest their capital in economies that are not ready to adopt technology. Since innovation and technological know-how practices have operational efficiency with FDI, technological innovation validates economic flexibility and high capacity.

To assess the impact of company size on spillover effects, the surveyed companies are divided into three categories—large, medium, and small. Figure 5 illustrates the impact of company size on spillover effects. Large companies reported higher spillover effects in the areas of labour productivity, technology transfer, and capital investment. Medium-size companies reported higher shares in product efficiency and knowledge transfer. Small companies reported job creation and knowledge transfer as the main spillover effects.

The Kruskal–Wallis H-test showed that there is a statistically significant difference in the technology transfer spillover between small, medium, and large companies. Table 2 shows the results of the Kruskal–Wallis H-test. Table 3 shows the Dwass–Steel–Critchlow–Fligner (DSCF) pairwise comparison.

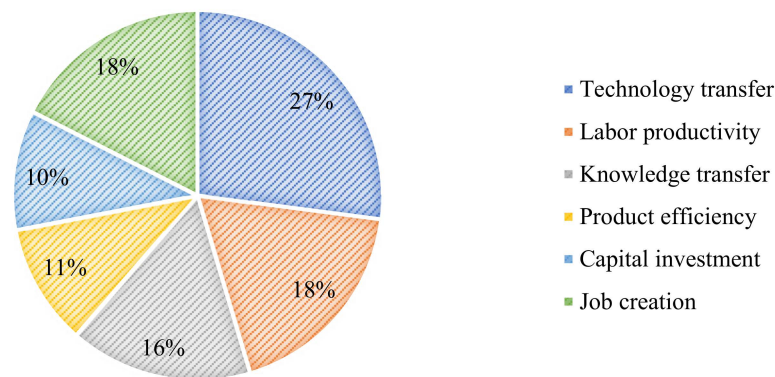


Figure 4. FDI spillover effects on domestic firms in Oman. Source: Authors' own work.

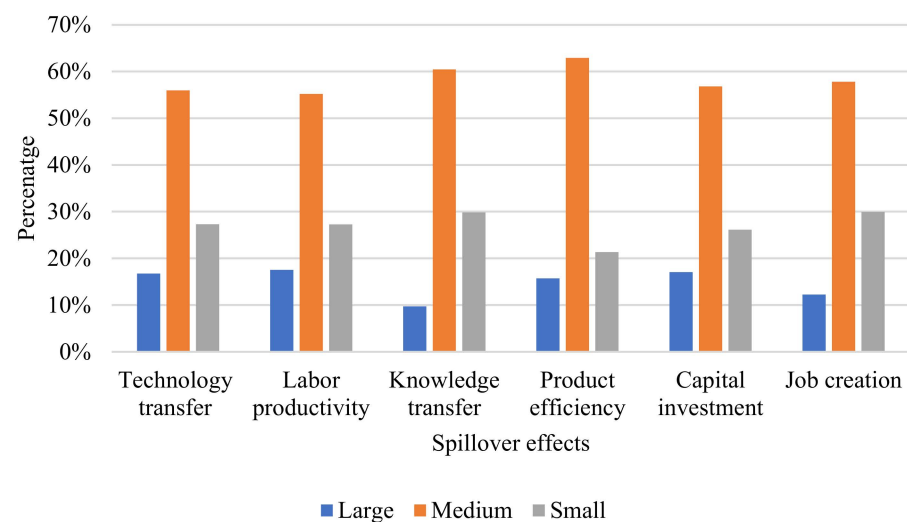


Figure 5. Company size and spillover effects of FDI in Oman. Sources: Authors' own work.

Table 2. Kruskal–Wallis H-test spillover effects and company size.

Dependent Variables	χ^2	df	p	ϵ^2
Spillover effects of FDI in technology transfer	6.899	2	0.032	0.01579
Spillover effects of FDI in labour productivity	4.726	2	0.094	0.01082
Spillover effects of FDI in knowledge transfer	2.312	2	0.315	0.00529
Spillover effects of FDI in product efficiency	4.783	2	0.091	0.01094
Spillover effects of FDI in capital investment	2.163	2	0.339	0.00495
Spillover effects of FDI in job creation	0.265	2	0.876	0.00061

Table 3. Dwass–Steel–Critchlow–Fligner pairwise comparison.

Spillover Effects of FDI on Technology Transfer in Oman		W	p
Large	Medium	−2.9	0.1
Large	Small	−3.71	0.024
Medium	Small	−1.5	0.537

As for company ownership, the analysis revealed that companies with 51% foreign stakes reported a higher share of knowledge transfer and product efficiency. Companies with 75% foreign stakes reported a higher impact of FDI on job creation and capital investment. Figure 6 shows illustrates spillover effects on foreign companies in Oman, with ownership stakes ranging between 50% and 75%.

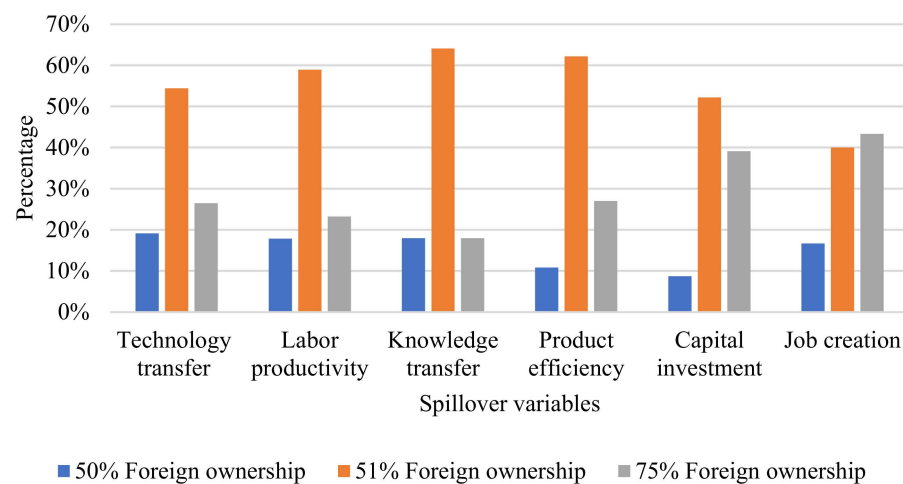


Figure 6. Spillover effects by foreign company ownership in Oman. Source: Authors' own work.

The Kruskal–Wallis H-test showed that there are statistically significant differences in labour productivity, capital investment, and job creation, and spillover between different levels of foreign stakes in companies. The various levels examined are the percentage of ownerships in foreign company, public company, local private company, and no partnership. Table 4 shows the results of the Kruskal–Wallis H-test. Table 5 shows the Dwass–Steel–Critchlow–Fligner (DSCF) pairwise comparison.

Table 4. Kruskal–Wallis H-test for the spillover effects and foreign stakes in companies.

Dependent Variables	χ^2	df	p	ϵ^2
Spillover effects of FDI in technology transfer	14.53	8	0.069	0.0332
Spillover effects of FDI in labour productivity	34.09	8	<0.001	0.078
Spillover effects of FDI in knowledge transfer	7.88	8	0.445	0.018
Spillover effects of FDI in Product efficiency	7.73	8	0.46	0.0177
Spillover effects of FDI in capital investment	17.1	8	0.029	0.0391
Spillover effects of FDI in Job creation	23.1	8	0.003	0.0529

Source: Authors' own work.

Table 5. Dwass–Steel–Critchlow–Fligner pairwise comparison.

Spillover effects of FDI in Oman (Capital investment)		W	p
1% Foreign ownership	100% Local company	2.905	0.0505
Spillover effects of FDI in Oman (Job creation)			
100% Local company	51% Foreign ownership	−5.699	0.002
Spillover effects of FDI in Oman (Labour productivity)			
1% Foreign ownership	100% Local company	−7.3109	<0.001
1% Foreign ownership	75% Foreign ownership	−5.3357	0.005

Source: Authors' own work.

As for FDI priority sectors and challenges, Figure 7 reveals that the FDI priority sectors in Oman are tourism (25%), manufacturing (21%), education (12%), health (9%), logistics and supply chain (9%), agriculture and fisheries (7%), minerals and mining (6%), aviation (6%), and transportation (5%).

Meanwhile, data analysis reveals that FDI priority areas in Oman are technology transfer (29%), knowledge transfer (18%), corporate management (18%), capital investment (17%), technical know-how (10%), and corporate culture (7%). As for the key challenges to FDI in Oman, Figure 8 confirms that the shortage of skilled workforce is the biggest challenge to FDI (64%), followed by weak dispute settlement mechanisms (10%), complex

administrative procedures (10%), outdated laws and regulation (10%), and difficulty in finding appropriate partners (6%).

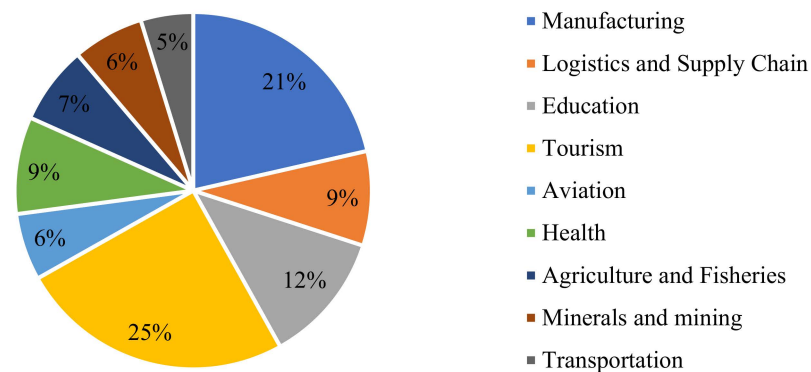


Figure 7. FDI priority sector in Oman. Source: Authors' own work.

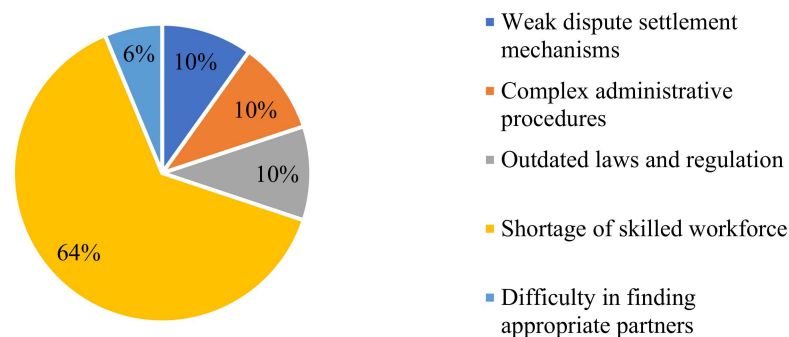


Figure 8. FDI challenges in Oman. Source: Authors' own work.

When the CEOs and managers were asked how to attract FDIs in Oman, they listed six areas where the government must work on, including investment incentives, liberalization of the investment regime, the development of infrastructure facilities, improvement in the business environment, streamlining investment procedures, and reforming labour laws and regulations. Figure 9 shows the measures used to attract FDI in Oman, with both CEOs and managers emphasizing the importance of offering investment incentives, improving the business environment, and developing infrastructure facilities, to varying degrees. They also stressed the need to reform labour laws and regulations, while balancing between the policy of Omanization and the needs of companies to import skilled labour at a reasonable cost.

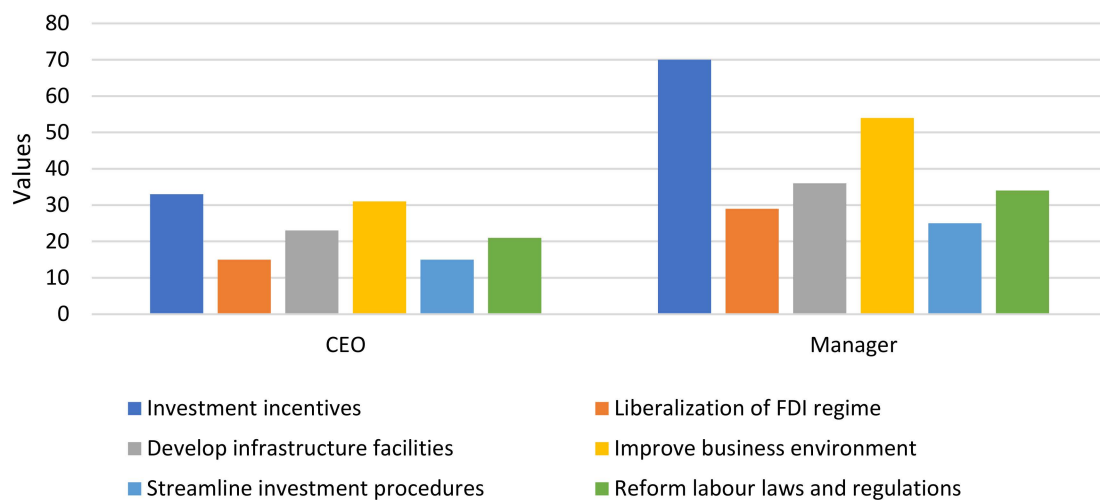


Figure 9. Policy measures to attract FDI in Oman. Source: Authors' own work.

5. Results and Discussion

The analysis presented above reveals that Oman enjoys a strong trade network, with six FTAs connecting the country with 34 markets across four continents and at different levels of development. With the exception of GCC–South Korea, the five existing FTAs have enhanced Oman's trade network and enabled the country to meet its domestic market needs over the past four decades. The impact of the five existing FTAs on FDI is also realized in the type of inwards investment and country of origin, with most FDI inflows coming from the UK, the USA, and the GCC countries. Although most of the inward investments in Oman are made in the oil and gas sectors, the data presented above confirm that a substantial proportion of foreign investment targets tourism, manufacturing, the services sector, logistics and supply chains, mining, agriculture, and fisheries. This trend underscores the potential of the non-oil sectors to become attractive sectors for FDI.

As the main objective of this paper is to determine and assess the spillover effects of FTAs on FDI, and, consequently, their effects on domestic firms, this study identifies six key spillover effects of FDI that have direct effects on domestic firms in Oman. These spillover effects are technology transfer, knowledge transfer, labour productivity, product efficiency, capital investments, and job creation. The study also reveals that technology transfer has the highest spillover effect (27%) on domestic firms, followed by job creation and labour productivity (18%). This is aligned with the findings of other researchers. For instance, developing countries should benefit from technological externalities by expanding trade openness ([Chen and Xue 2023](#); [Zhao 2021](#)).

Moreover, the results of the Kruskal–Wallis H-test reveal that technology transfer significantly differs according to company size, $H(2) = 6.899$, $p = 0.032$. However, the effect size in this analysis ($\epsilon^2 = 0.01579$) is weak. Post hoc analysis using Dwass–Steel–Critchlow–Fligner (DSCF) comparison shows that technology transfer in the case of medium- and large-size companies, and small- and medium-size companies is significantly different from small- and large-size companies ($W = -0.371$, $p = 0.024$). No significant difference was observed between technology transfer and companies (medium- and large-size companies) ($W = -2.91$, $p = 0.1$), but there was a difference between small- and medium-size companies regarding the technology transfer ($W = -1.5$, $p = 0.537$). These findings suggest that medium- and small-size companies have the same spillover effect of FTA in terms of technology transfer. These findings seem rational and correspond with many existing studies, which argue that most companies pursuing FDI aim mainly at building technological capabilities. For instance, the technology spillover effect of international trade is crucial for countries to foster technological advancement ([Sun et al. 2021](#); [Kowalski 2021](#); [Chen et al. 2019](#); [Kai 2011](#)). However, tariffs act as a trade barrier on technology diffusion ([Qiao et al. 2023](#)). Thus, FDI has not only become an efficient vehicle for transferring vital technology and knowledge, but it has also been considered as a major source of capital investment, labour productivity, and product efficiency; all of these have direct positive effects on the performance of domestic companies. We can also argue that FDI is the most cost-effective method of technology transfer because recipient companies do not typically have to finance the acquisition of the new technology. It is also faster in transferring newer technologies than international licensing and trade agreements.

The results of this study underline the significance of foreign ownership of domestic firms that often results in efficient corporate governance and higher productivity. The advantage of foreign ownership of domestic firms can be useful in developing internal market expansion strategies for the growth of the firm, while being knowledgeable and experienced in market diversification activities across borders and integrating the firm into the global value chain. Our argument complements that of [Kim and Choi \(2020\)](#), who concluded that the lack of comprehensive understanding of the target country frequently results in negative outcomes. With more attention paid to higher productivity, foreign executives tend to invest more in skill development through personal and professional training, educational programmes, and the acquisition of technical knowledge and methods that can greatly increase labour productivity. This result complements the findings of other studies

that stressed the crucial role of FDI in improving the quality of the workforce, in particular, skill development, higher income, and increased productivity (Amornkitvikai et al. 2022).

Additionally, the results of the Kruskal–Wallis H-test on labour productivity reveal that spillover effects significantly differ among company ownerships, $H(8) = 34.09$, $p = 0.001$. However, the effect size in this case ($\epsilon^2 = 0.078$) is moderate. Post hoc analysis using Dwass–Steel–Critchlow–Fligner comparison shows labour productivity spillover for 100% local and 1% foreign ownership ($W = -7.3109$, $p = 0.001$), and 1% foreign and 75% foreign ownership ($W = -5.3357$, $p = 0.005$). No significant differences are observed in the case of 20% foreign ownership, 32% foreign ownership, 40% foreign ownership, 50% foreign ownership, 51% foreign ownership, and 100% local ownership. Capital investment as a spillover effect shows significant differences among the company ownerships, $H(8) = 17.01$, $p = 0.029$. However, the effect size ($\epsilon^2 = 0.0391$) is weak. Post hoc analysis shows labour productivity spillover for 100% local and 1% foreign ownership ($W = 2.905$, $p = 0.05$). No significant differences are observed between 20% foreign ownership, 32% foreign ownership, 40% foreign ownership, 50% foreign ownership, 51% foreign ownership, 75% foreign ownership, and 100% foreign ownership. In the case of job creation, a significant difference among the company ownerships, $H(8) = 23.01$, $p = 0.003$, is observed. The effect size in this case ($\epsilon^2 = 0.0529$) is moderate. Post hoc analysis shows job creation spillover for 100% local and 51% foreign ownership ($W = -5.699$, $p = 0.002$). No significant differences are observed in the case of 1% foreign, 20% foreign ownership, 32% foreign ownership, 40% foreign ownership, 50% foreign ownership, 75% foreign ownership, and 100% foreign ownership.

In fact, international trade promotes technological diffusion. The examination of the FDI priority areas in Oman can range from as high as technology transfer (29%), knowledge transfer (18%), corporate management (18%), and capital investment (17%), to technical know-how (10%) and corporate culture (7%). So, any kind of future FTAs should include a chapter on the promotion and attraction of FDI and a chapter on technology transfer, knowledge transfer, capital investment, and corporate management. These results are supported by the findings by Larrosa (2014). There are three main reasons for Oman to embed chapters on FDI and its spillover effects relating to technology and knowledge transfer in future bilateral or regional trade agreements. The first is the need to greatly strengthen the interconnectedness of the country in the increasingly globalized marketplace. With the help of FDI, local manufacturing firms will be able to connect better with a large number of overseas partners and suppliers. The second reason is to increase the pace and scope of collaboration between foreign and domestic firms in R&D. This factor is important as our results show that collaboration between foreign and local companies is the lowest in R&D across companies with 50% to 75% foreign ownership. Gallucci et al. (2019) showed the relationship between international trade and R&D innovation. Ho et al. (2018) examined the impact of international trade on R&D in 130 nations over the period of 1975–2010. They observed that R&D had 1.3–3.6% of the total impact of international trade. Domestic firms must build internal R&D capabilities to absorb knowledge and technological information from foreign companies, consequently increasing their productivity and absorptive ability. The third reason is that investment in R&D can assist domestic firms to compete among themselves and with foreign companies in the global market. This finding compliments the results by Belderbos et al. (2021) and Rong et al. (2020), who conclude that investment in R&D enables firms to absorb information easily in reciprocal networks, thereby improving their position in national and international markets. R&D has direct and indirect substantial influences on productivity (Nursamsu and Hastiadi 2015). Zhu and Jeon (2007) reported that bilateral trade enhanced R&D in the OECD countries.

This study underlines the importance of addressing the challenges facing FDI, most notably the shortage of skilled workforce that scores very high (64%), weak dispute settlement mechanisms, complex administrative procedures, outdated laws and regulation, and difficulty in finding appropriate partners. In terms of differential labour skills, the higher the labour skill, the larger the impact of FDI on employment. In fact, labour market flexibil-

ity can greatly influence the employment effect of FDI in terms of wages, human capital, and R&D investment. As for FDI priority areas, our results reveal that FDI outside the oil and gas sector is modest, subsequently stressing the need to direct a substantial proportion of foreign investments to non-hydrocarbon sectors that could accelerate economic diversification and contribute to socioeconomic development. We also call for the promotion of FDI in the services sector (Pečarić et al. 2021), while encouraging foreign participation in culture, shared values, and social responsibility (Dang and Zhao 2020). Although our study identifies a broad range of areas for foreign–domestic firm collaboration, we suggest that FDI should be effectively utilized to help domestic firms to expand internationally. This may improve the lowest ranking recorded in market expansion collaboration and offset Oman’s small market size (Kang et al. 2021). Our findings are also supported by Mohsin et al. (2020) and Li and Maani (2018), who argue that FTAs increase the market reach with trade liberalization of intermediate products causing increased vertical FDI. These findings reaffirm the important role of FTAs in attracting FDI with all its attributes and spillover effects on the host country economy.

Moreover, analysis of the survey responses concerning Oman’s attractiveness to FDI reveals that 86% of respondents believe that Oman is attractive to FDI. Only 14% of the responses indicates that Oman is not an attractive destination for FDI. When analyzing those with negative feedback, we find that 61% of the respondents are 100% local companies, 20% of them are companies with 51% foreign ownership, 7% of them are companies with 1% foreign ownership, another 7% with 50% foreign ownership, 5% of them with 75% foreign ownership, and 2% are companies with 40% foreign ownership.

6. Conclusions

This study explained Oman’s trade network, with particular focus on the country’s five FTAs with the GCC countries, Arab countries, European countries that are not members of the EU, the USA, and Singapore. These agreements offer Omani companies market access and preferential treatment in 34 countries. It also explained the role of FTAs in promoting and attracting FDI in member states and the potential gains of FDI in terms of spillover effects on domestic firms in the host country economy. It provided detailed analysis of the main set of spillover effects of FTAs on FDI and determined the spillover effects of FDI on domestic firms in the context of Oman. While identifying six main spillover effects, this study found that the impact of each spillover effect on domestic firms differs according to the size of company and type and percentage of ownership. The companies with 51% foreign stakes reported a higher share of knowledge transfer and product efficiency. The 75% foreign stakes reported a higher impact of FDI on job creation and capital investment. Analysis also reveals that Omani companies are more interested in FDI that facilitates technology and knowledge transfer and capital investment than focusing on developing R&D capabilities. FDI priority areas in Oman are high in the following areas: technology transfer (29%), knowledge transfer (18%), corporate management (18%), and capital investment (17%) to technical know-how (10%), and corporate culture (7%).

The study also identified several challenges that prevent the country from optimizing the gains of FDI. Chief amongst these challenges is the lack of a skilled workforce (64%). It draws attention to the urgent need to reform the administrative, legal, and regulatory systems to overcome the weak dispute settlement mechanisms (10%), complex administrative procedures (10%), and outdated laws and regulations (10%). Even this is consistent with FDI in the minerals and mining sector in Oman (Mishrif and Khan 2023). Our study concludes by reaffirming the interplay between FTAs and FDI in attracting capital investment, generating employment, enhancing productivity, and expanding the size of the Omani market beyond its boundaries.

While this study improves our understanding of the interplay between FTAs and FDI, it offers some practical implications for policy makers in Oman and other countries engaging in FTAs. As countries engage in negotiations of new FTAs, policy makers must insist on having specific chapters and clauses on the promotion of FDI and their spillover

effects on host economies. Evidence-based research should be conducted to assess FDI spillover effects at both macro and micro levels. To reach the full potential of FTAs and FDI, policy makers must build a coherent industrial policy framework that incorporates an adequate trade policy to enhance industrial production before signing the agreement. Trade and investment must receive equal consideration when concluding FTAs. Creating supportive ecosystems, diversifying funding sources, supporting collaborative innovation, enhancing intellectual property protection, investing in education and skill development, facilitating cultural integration, and developing startup incubation programs are all needed for successful implementation of FTAs and FDI spillover effects.

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Conflicts of Interest: The authors declare no conflict of interest.

Notes

- ¹ https://investoman.om/theme_iio_tw/static/src/trade_agreements.pdf (accessed on 15 November 2023).
- ² <https://wits.worldbank.org/GPTAD/PDF/archive/agadir.pdf> (accessed on 12 December 2023).
- ³ <https://www.efta.int/media/documents/legal-texts/free-trade-relations/gulf-cooperation-council-GCC/EFTA-GCC%20Free%20Trade%20Agreement.pdf> (accessed on 10 January 2024).
- ⁴ <https://www.mti.gov.sg/-/media/MTI/improving-trade/IIA/oman.pdf?la=en&hash=42C343517ACF8F1B26044EB0CC80D08A459404E1> (accessed on 12 January 2024).
- ⁵ <https://om.usembassy.gov/business/u-s-oman-free-trade-agreement/> (accessed on 20 February 2024).

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