



9

Trade Openness and FDI in the UK After Brexit

Tomasz M. Napiórkowski

9.1 Introduction

The June 2016 referendum and the decision of UK citizens to leave the European Union sent shock waves through Europe and posed a number of economic risks to Britain. The uncertainty coming from this event and the wide range of possibilities for the exit procedure itself will see their reflection as economic shocks both, locally and globally.

The aim of this chapter is to examine how exiting the EU will impact the attractiveness of the UK to foreign direct investment (FDI).¹

¹Defined by UNCTAD, the source of data, as “an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Further, in cases of FDI, the investor’s purpose is to gain an effective voice in the management of the enterprise... [with]... a threshold of 10% of equity ownership to qualify an investor as a foreign direct investor” (UNCTAD 2017a).

T. M. Napiórkowski (✉)
Collegium of World Economy,
SGH Warsaw School of Economics, Warsaw, Poland
e-mail: tnapio@sgh.waw.pl

The hypothesis of the study is that the UK will be a less attractive destination for foreign investors after Brexit.

The novel aspect of this study is that it frees itself of the assumptions on the final rules of the UK leaving the EU, which is needed to establish a precise cost of the departure. The topic is approached from a theoretical perspective. This results in a set of conclusions about expected changes. However, the magnitude of these changes is heavily scenario-dependent and goes beyond the scope of this study, which focuses on the theoretical aspects of the examined problem.

This chapter is structured as follows. First, a study of literature on the impact of FDI on the host economy and on the determinants of FDI will be conducted. This will show the types of benefits that the UK may lose due to a retreat of FDI and will make it possible to establish the role of trade openness as a key determinant of FDI. Second, the status quo of inward FDI in the UK will be presented, with the aim of showing the scale of inward FDI activity in the UK. Third, data analysis (with the use of the Pearson linear correlation coefficient and Granger causality) will be conducted as a means of showing the relationship between inward FDI and trade openness in the UK.

9.2 The Benefits of Hosting and the Determinants of Inward FDI: Literature Study

The aim of this review is twofold: to show the benefits of hosting FDI (summarised in Fig. 9.1)—which, at least to some degree, will be foregone in the event of a retreat of inward FDI from the UK; and to show the overview of the determinants of inward FDI and the key role of trade openness within that set.

The direct benefit of FDI in the short term is an increase in the level of domestic investment, which translates into a higher level of capital and therefore faster economic growth. Although research reports on the relationship between inward FDI and domestic investment contain the argument that FDI is crowding out domestic investment, the overall results appear to be mixed. Based on a study by Pilbeam and

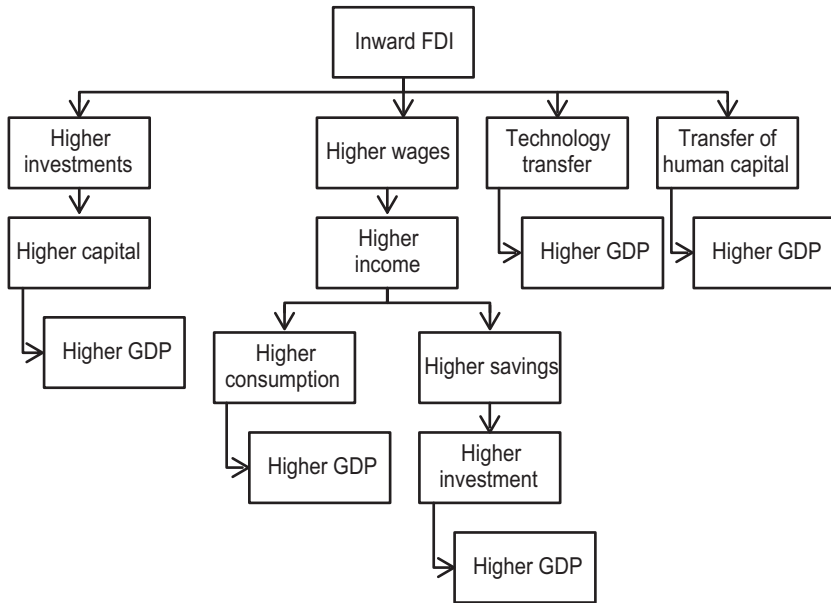


Fig. 9.1 Benefits of inward FDI to the host economy (Source Author's own)

Obolevičute (2012), a conclusion can be reached that the more developed the host is, the higher is the magnitude of the crowding out of domestic investment. Interestingly, when studying a sub-group of the subjects considered by Pilbeam and Obolevičute (2012), Szkorupová (2015) reported quite opposite findings. The divergence of results on the studied relationship is highlighted by an exchange between Morrissey and Udomkerdmonkol (2012, 2016), and Farla et al. (2016). Authors such as Ahmed et al. (2015) show that, while for the entire economy the crowding out of domestic investment can be of no significance, this may not be true when studying sector by sector. Another benefit highlighted by the researchers is that foreign firms tend to pay higher wages than their domestic counterparts (Lipseý 2002; Tomohara and Takii 2011; Javorcik 2015). These higher wages, through the marginal propensity to save, are transformed into higher saving, which become additional investments. Given the presence of sufficient absorptive capacity (Nunnenkamp 2002a; Velde 2006; Azam and Ahmed 2015), FDI also brings with it technology (Liu et al. 2016; Svedin and

Stage 2016) and an increase in human capital via know-how transfer (Branstetter 2006; Tülüce and Doğan 2014; Temiz and Gökmen 2014).

Shifting the topic to the determinants of FDI, the literature is filled with an abundance of possible determinants of FDI and their various permutations (see discussion by Blonigen and Piger 2011). Therefore, it is impossible to declare some determinants not important or rate their general economic importance (Przybylska 2001; Stawicka 2013) as these can be case-study dependent (Leitão 2010). Walsh and Yu (2010) show that the significance of FDI determinants will also depend on the classification of FDI, i.e. primary, secondary and tertiary. Further, the determinants of foreign direct investment can be classified according to the type of investment, e.g. horizontal versus vertical FDI (Navaretti and Vanables 2006). Despite these variations, some authors maintain that, despite the process of globalisation, traditional determinants remain important (Nunnenkamp 2002b). When examining reports on the determinants of FDI, a core set of inward FDI explanatory variables can be extracted. These are: (i) market size/economic potential/state (usually proxied by GDP and its per capita permutation and their growth—for example, see: Bevan and Estrin 2000; Nunnenkamp 2002a; Walsh and Yu 2010; Kalemlı-Ozcan and Nikolsko-Rzhevskyy 2010; Barros et al. 2013; Napiórkowski 2015)^{2,3}; (ii) labour cost (represented by, e.g. average weekly earnings, the difference between, or the ratio of, the wages in the host and in the home economy—for example, see: Narula and Wakelin 1997; OECD 2000; Kerr and Peter 2001; Carstensen and Toubal 2003; Napiórkowski 2014); and (iii) trade and its costs as a representation of trade openness (expressed, e.g. with various permutations on the export and import variables of the host,

²Adding to the topic, two authors, Carstensen and Toubal (2003), state that the market potential is related to markets present in neighbouring economies, in addition to the host's own domestic market. As a result, the researchers take into account the distance (i.e. proxy for the host's internal transportation costs) as well as the transportation cost between the recipient and the investing economy.

³The work of Xun and Awokuse (2005) is an interesting one as it uses comparative gross domestic product determinants, such as the squared difference between the two parties involved and the sum of the host's and home's values of this economic variable adding also an interaction term between the skill and gross domestic product differences.

tariffs, tariff revenues, distance between economies, trade agreements or custom unions—for example, see: Beer and Cory 1996; Buch et al. 2001; Nunnenkamp 2002b; Carstensen and Toubal 2003; Blonigen and Piger 2011; Napiórkowski 2013).

This overview of the literature has shown that every decrease in inward FDI in the UK will impact its economy via a number of channels. Some of these effects, e.g. employment and wages, will be seen in the short term, while others, e.g. changes in capital accumulation, will be seen in the medium term, and still others, e.g. changes in the growth rate for technology, will be seen in the long term. A fall in these elements will translate into one of the chief determinants of FDI, namely GDP, a fall in which will result in an additional loss of attractiveness of inward FDI, especially market-seeking FDI. A fall in capital will chiefly impact decisions related to resource-seeking FDI, and a fall in the growth rates for technology and human capital will translate into a fall of inward FDI-seeking strategic assets.

The read-through of the literature on the determinants of FDI has also shown that, whereas the “tail” determinants are selected on a case-by-case basis, there are three key explanatory factors that are always used in one form or another. One of these is the openness of the home economy to trade, which usually carries a hypothesis that the bigger is the openness of the economy to trade, the higher are the inflows of FDI to that economy. This mirrors the base of the research hypothesis of this study. However, a second, opposite, scenario must also be considered, namely that a decrease in the ability to deliver goods and services to a given market with exports will force local production by a foreign firm, leading to an increased value of inward FDI.

9.3 FDI in the UK

The first aim of this section is to show the long-term inward FDI trends in the UK. Second, by examining inward FDI activity as a percentage of the UK’s GDP, the importance of inward FDI to the UK economy will be presented. Third, using inward FDI expressed as a percentage of the world’s total, the relative attractiveness of the UK as a destination for FDI

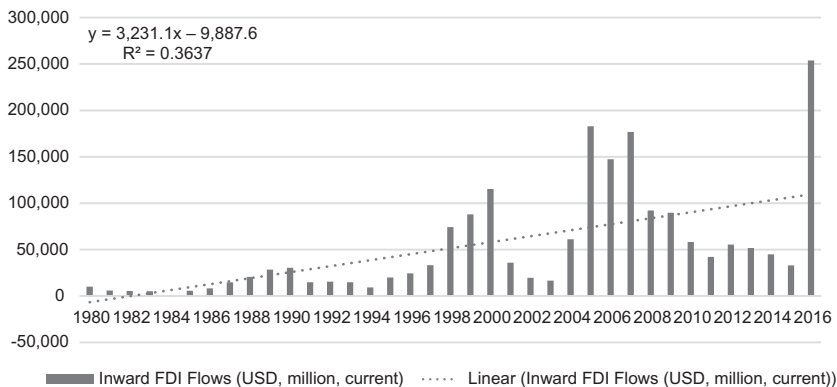


Fig. 9.2 Inward FDI flows in the UK in millions of current USD (Source Author’s own based on data from UNCTAD [2017b])

will be analysed. Fourth, the sources of inward UK FDI will be analysed, which will show the dependence of inward FDI in the UK on the EU.⁴

Inward FDI flows⁵ (Fig. 9.2) in the UK present an uneven trend that is related to global economic shocks, e.g. the bubble in the early 2000s and the international financial crisis, which started in late 2007 in the USA and at the end of the decade in Europe. Therefore, it is possible to state a hypothesis that a negative economic shock in the form of the UK leaving the EU will see its reflection in inward FDI flows to the UK. A surprise comes in the form of a significant outlier in the value of inward FDI flows in 2016 (USD 253,825.77 million).⁶ The inward

⁴Given that the paper focuses on the UK as a recipient of FDI, only inward FDI activity will be analysed.

⁵“For associates and subsidiaries, FDI flows consist of the net sales of shares and loans (including non-cash acquisitions made against equipment, manufacturing rights, etc.) to the parent company plus the parent firm’s share of the affiliate’s reinvested earnings plus total net intra-company loans (short- and long-term) provided by the parent company. For branches, FDI flows consist of the increase in reinvested earnings plus the net increase in funds received from the foreign direct investor” (UNCTAD 2015a).

⁶This surge in inflows of FDI into the UK is, at the time of this study, treated as an outlier, as changes in the key macroeconomic determinants of FDI (e.g. GDP, labour costs) do not seem to justify such a significant increase. This treatment is further supported by the fact that the start of the Brexit procedure significantly increased the risk on undertaking FDI in the UK, which should

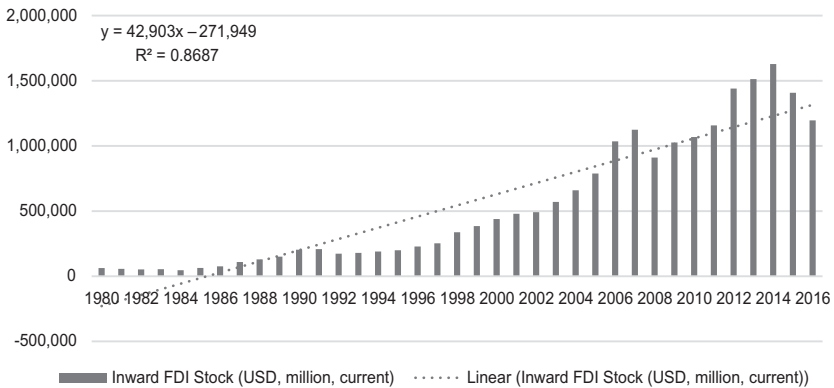


Fig. 9.3 Inward FDI stock in the UK in millions of current USD (Source Author's own based on data from UNCTAD [2017b])

FDI stock⁷ (Fig. 9.3) has a clear positive trend, which appears to be breaking after reaching its peak in 2014 (USD 1,628,518.6 million).

Similar conclusions can be reached when examining the inward FDI flows and stock as a percentage of the UK's GDP (Fig. 9.4). The data on flows is significantly distorted by the 2016 value, which corresponds to 9.79%, while the average for the 1980–2016 period is 2.43%, close to the global total of 2.29%. The FDI stock's value as a share of the UK's GDP has been falling since 2013 (55.62%) and stood at 46.15% in 2016, above the world total of 35.07%. Therefore, it can be concluded that FDI as a building block is more significant in the UK than in the world on average (Fig. 9.5).

result in a fall in inward FDI activity. However, one must recognise that the shock of the decision to Brexit may not yet be fully represented in the available data as decisions to conduct FDI take time to make; hence, the shock of the referendum results may not have yet been calculated in the said decisions.

⁷“For associate and subsidiary enterprises, it is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise (this is equal to total assets minus total liabilities), plus the net indebtedness of the associate or subsidiary to the parent firm. For branches, it is the value of fixed assets and the value of current assets and investments, excluding amounts due from the parent, less liabilities to third parties” (UNCTAD 2015b).

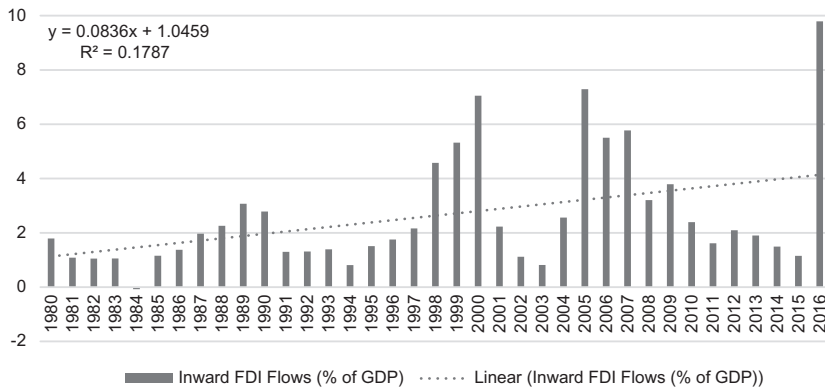


Fig. 9.4 Inward FDI flows in the UK as a percentage of UK GDP (Source Author's own based on data from UNCTAD [2017b])

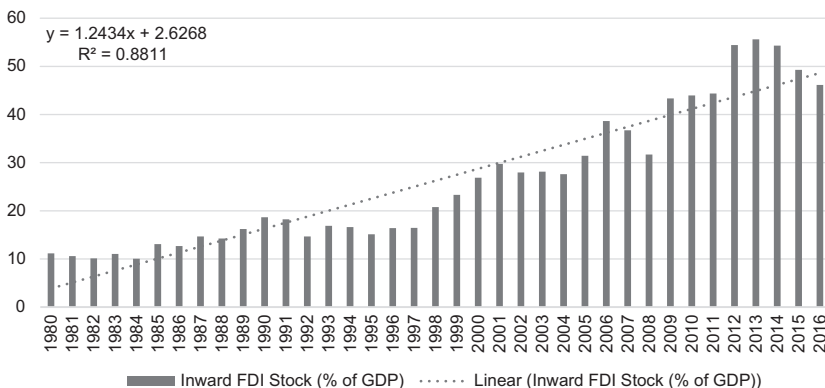


Fig. 9.5 Inward FDI stock in the UK as a percentage of UK GDP (Source Author's own based on data from UNCTAD [2017b])

The relative attractiveness of the UK as a destination of FDI flows has been almost steadily decreasing since 2005 when 19.08% of all world flows were directed at the UK. The figure bottomed out at just 1.86% in 2015, with the value for 2016 at 14.53% (Fig. 9.6). The hypothesis of a fall in the UK's attractiveness relative to other possible destinations of FDI is supported when examining the data on the inward FDI stock expressed as a share of the world's total. In 2016, the FDI stock in the

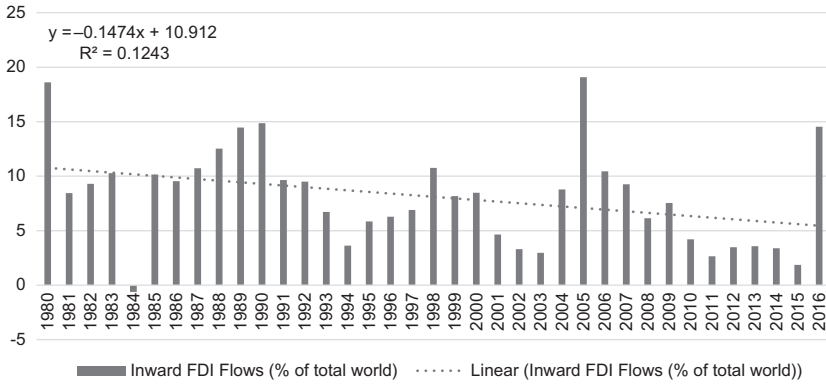


Fig. 9.6 Inward FDI flows in the UK as a percentage of world total (Source Author's own based on data from UNCTAD [2017b])

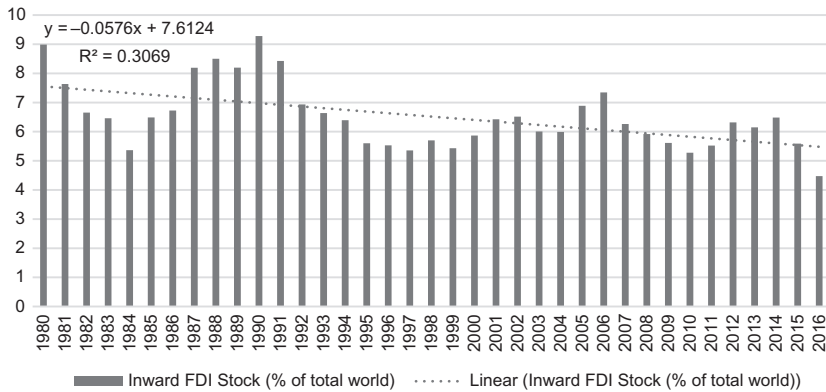


Fig. 9.7 Inward FDI stock in the UK as a percentage of world total (Source Author's own based on data from UNCTAD [2017b])

UK accounted for 4.47% of the world's total, about 2 percentage points less than the most recent maximum of 6.48% seen in 2014 (Fig. 9.7).

Analysing the sources of FDI International investment positions in the UK for the 2012–2015 period (Fig. 9.8), it can be observed that close to half of the inward FDI stock in the UK comes from EU members (45.37% in 2015). Therefore, the UK is heavily dependent on the EU for its inward FDI activity. This is further supported considering

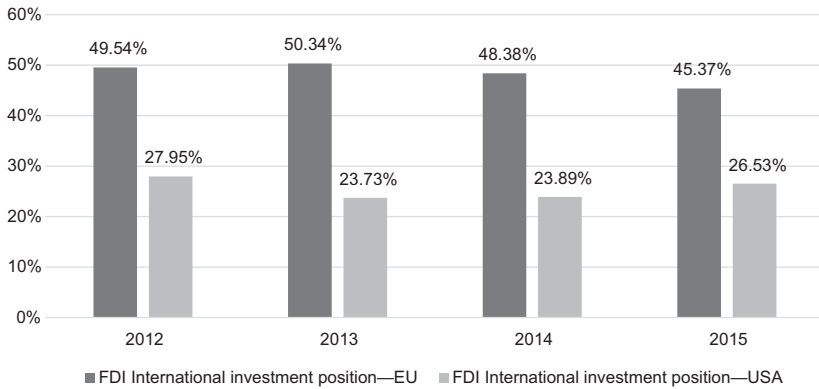


Fig. 9.8 FDI International investment positions in the UK by source as a percentage of total (Source Author’s own based on data from Office of National Statistics [2016])

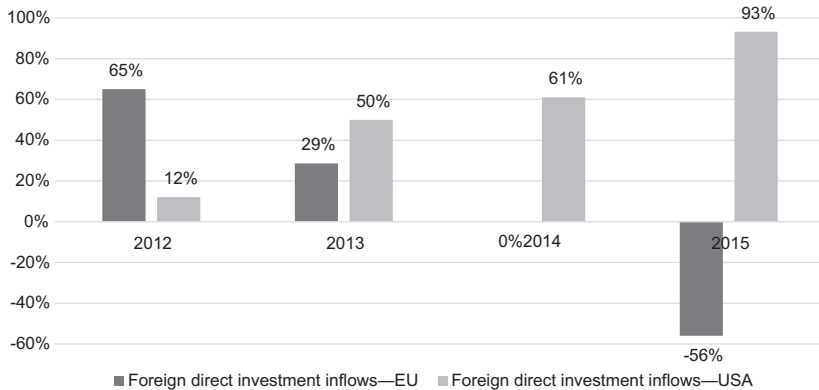


Fig. 9.9 FDI International investment flows in the UK by source as a percentage of total (Source Author’s own based on data from Office of National Statistics [2016])

that the second-largest source of the FDI stock, the USA, accounts for about a quarter of the measured activity (26.53% in 2015). The importance of the EU as a source of FDI activity somewhat diminishes when examining flows (Fig. 9.9), while the importance of the USA increases. Interestingly, since 2014 inflows of FDI to the UK from the EU have been negative.

This data analysis has shown that even though the UK is a significant world destination for inward FDI, its relative attractiveness has been declining. Considering that about half of the FDI stock in the UK comes from the EU, it is justified to state that the UK leaving the EU will have a significant impact on inward FDI in the UK and therefore its economy.⁸ However, as stated earlier, the UK's departure can have a positive or negative impact on inward FDI in the UK. To examine the hypothesised shock, the following empirics are presented.

9.4 The Relationship Between the UK's Trade Openness and Inward FDI Activity Within Britain

The aim of the empirical part of this chapter is to establish the cause-and-effect relationship between the UK's trade openness and inward FDI activity as well as to establish the causality, strength and direction of this relationship. This will make it possible to solve the issue raised at the end of the literature review, i.e. that an increase in trade openness can be associated with both higher and lower FDI. If the sign of the relationship is positive, then the UK's exit from the EU, by hindering trade, can be expected to lead to a fall in inward FDI in the UK and vice versa. Data for this study has been collected from the World Bank (2017) and UNCTAD (2017b), and covers the period from 1980 to 2016.

The first tool used in the study is the Granger causality test (Granger 1969) with a null hypothesis that trade openness does not Granger-cause inward FDI and a parallel opposite for the feedback hypothesis. Trade openness is measured as a sum of exports and imports expressed

⁸This conclusion is further supported by the works of Buch et al. (2001, 2003), Napiórkowski (2014), and Dhingra et al. (2016), which show that EU membership can be a significant determinant of inward FDI. In addition, Dhingra et al. (2016) show that “[s]triking a comprehensive trade deal—for example, joining Switzerland in the European Free Trade Association—would not significantly reduce the negative effects of Brexit on FDI”. Interestingly, Simionescu (2017) suggests that the “UK should follow the model of Norway and Iceland after Brexit in order to avoid significant losses in the FDI inflows”.

Table 9.1 Results of augmented Dickey–Fuller test for trade openness at levels

Null Hypothesis: TRADE_OPEN has a unit root		
Exogenous: constant		
Lag Length: 0 (Automatic—based on SIC, maxlag = 9)		
	t-Statistic	Prob.*
Augmented Dickey–Fuller test statistic	−1.319893	0.6101
Test critical values	1% level	−3.621023
	5% level	−2.943427
	10% level	−2.610263

*One-sided *p*-values

Source Author's own based on data from the World Bank (2017)

Table 9.2 Results of augmented Dickey–Fuller test for trade openness at 1st differences

Null Hypothesis: D(TRADE_OPEN) has a unit root		
Exogenous: constant		
Lag Length: 0 (Automatic—based on SIC, maxlag = 9)		
	t-Statistic	Prob.*
Augmented Dickey–Fuller test statistic	−5.888136	0.0000
Test critical values	1% level	−3.621023
	5% level	−2.943427
	10% level	−2.610263

*One-sided *p*-values

Source Author's own based on data from the World Bank (2017)

as a fraction of GDP, while inward FDI is expressed as its stock.⁹ The stationarity of the variables required for the Granger causality test has been established with a set of Augmented Dickey–Fuller tests and the resulting differencing (for trade openness: Tables 9.1 and 9.2, and for the inward FDI stock: Tables 9.3, 9.4 and 9.5). The results of the test for two-period lags (Table 9.6) show that there is a causal relationship from trade openness to the inward FDI stock, which holds for three lags at a statistical significance level of 5% (Table 9.7). It also holds for four lags at a statistical significance level of 10% (Table 9.8), but becomes statistically insignificant for five lags (Table 9.9).

⁹The reason for excluding flows is the 2016 value, which significantly distorts the data.

Table 9.3 Results of augmented Dickey–Fuller test for inward FDI stock at levels

Null Hypothesis: I_FDI_S_UK_USD has a unit root		
Exogenous: constant		
Lag Length: 8 (Automatic—based on SIC, maxlag = 9)		
		t-Statistic Prob.*
Augmented Dickey–Fuller test statistic		–1.110860 0.6971
Test critical values	1% level	–3.689194
	5% level	–2.971853
	10% level	–2.625121

*One-sided p -values

Source Author's own based on data from UNCTAD (2017b)

Table 9.4 Results of augmented Dickey–Fuller test for inward FDI stock at 1st differences

Null Hypothesis: D(I_FDI_S_UK_USD) has a unit root		
Exogenous: constant		
Lag Length: 6 (Automatic—based on SIC, maxlag = 9)		
		t-Statistic Prob.*
Augmented Dickey–Fuller test statistic		–1.218736 0.6524
Test critical values	1% level	–3.679322
	5% level	–2.967767
	10% level	–2.622989

*One-sided p -values

Source Author's own based on data from UNCTAD (2017b)

Table 9.5 Results of augmented Dickey–Fuller test for inward FDI stock at 2nd differences

Null Hypothesis: D(I_FDI_S_UK_USD,2) has a unit root		
Exogenous: constant		
Lag Length: 5 (Automatic—based on SIC, maxlag = 9)		
		t-Statistic Prob.*
Augmented Dickey–Fuller test statistic		–6.660523 0.0000
Test critical values	1% level	–3.679322
	5% level	–2.967767
	10% level	–2.622989

*One-sided p -values

Source Author's own based on data from UNCTAD (2017b)

Table 9.6 Results of Granger causality test with two lags

Pairwise Granger causality tests			
Sample: 1980–2016			
Lags: 2			
Null Hypothesis	Obs.	F-Statistic	Prob.
D(I_FDI_S_UK_USD, 2) does not Granger-cause D(TRADE_OPEN)	33	0.36232	0.6993
D(TRADE_OPEN) does not Granger-cause D(I_FDI_S_UK_USD, 2)		7.00740	0.0034

Source Author's own based on data from the World Bank (2017) and UNCTAD (2017b)

Table 9.7 Results of Granger causality test with three lags

Pairwise Granger causality tests			
Sample: 1980–2016			
Lags: 3			
Null Hypothesis	Obs.	F-Statistic	Prob.
D(I_FDI_S_UK_USD, 2) does not Granger-cause D(TRADE_OPEN)	32	1.26328	0.3084
D(TRADE_OPEN) does not Granger-cause D(I_FDI_S_UK_USD, 2)		4.25865	0.0147

Source Author's own based on data from the World Bank (2017) and UNCTAD (2017b)

Table 9.8 Results of Granger causality test with four lags

Pairwise Granger causality tests			
Sample: 1980–2016			
Lags: 4			
Null Hypothesis	Obs.	F-Statistic	Prob.
D(I_FDI_S_UK_USD, 2) does not Granger-cause D(TRADE_OPEN)	31	0.76151	0.5615
D(TRADE_OPEN) does not Granger-cause D(I_FDI_S_UK_USD, 2)		2.48229	0.0735

Source Author's own based on data from the World Bank (2017) and UNCTAD (2017b)

Table 9.9 Results of Granger causality test with five lags

Pairwise Granger Causality Tests			
Sample: 1980–2016			
Lags: 5			
Null Hypothesis	Obs.	F-Statistic	Prob.
D(I_FDI_S_UK_USD, 2) does not Granger-cause D(TRADE_OPEN)	30	0.88671	0.5092
D(TRADE_OPEN) does not Granger-cause D(I_FDI_S_UK_USD, 2)		1.78970	0.1632

Source Author's own based on data from the World Bank (2017) and UNCTAD (2017b)

Table 9.10 Pearson correlation analysis

Covariance analysis: Ordinary		
Sample (adjusted): 1980–2016		
Included observations: 37 after adjustments		
Correlation		
t-Statistic		
Probability	TRADE_OPEN	I_FDI_S_UK_USD
TRADE_OPEN	1.000000	
	–	
	–	
I_FDI_S_UK_USD	0.829289	1.000000
	8.779466	–
	0.0000	–

Source Author's own based on data from the World Bank (2017) and UNCTAD (2017b)

The results of the Granger tests show that the trade openness of the UK is a determining factor for the inward FDI stock. Therefore, it is reasonable to expect that a change in trade openness will cause a change in inward FDI stock activity, which (as noted earlier) will see its reflection in the overall economy of the UK.

Pearson linear correlation coefficient (r) will be used to test the strength and sign of the established relationship. And so, the results (Table 9.10) show that there is a strong ($r = 0.829$), positive ($r > 0$) and statistically significant (p -value = 0.000; $H_0: r = 0$ is rejected at a 1% level of statistical significance) correlation between the UK's trade openness and the inward FDI stock in the UK.

The results of the correlation analysis show that high values of trade openness correspond to high values of the inward FDI stock and vice versa. Therefore, incorporating the results obtained from Granger analysis, it can be stated that with a fall in the UK's trade openness, the inward FDI stock in the UK will also decrease, as will the benefits from hosting FDI in the country.

9.5 Conclusions

The aim of this study was to establish the possible consequences of the UK leaving the EU from the perspective of foreign direct investment.

The literature was examined in order to (i) establish the benefits associated with hosting FDI (the scale of benefits would decrease with a fall in FDI activity in the UK) and (ii) to establish the importance of trade openness (which would decrease after the UK's departure from the EU) as one of the chief determinants of inward FDI. Next, with the use of Granger causality tests and the examination of Pearson's linear correlation coefficient, the direction, strength and sign of the relationship between trade openness and inward FDI were measured and established.

The results of the study show that, given the large number of areas affected by FDI in the host economy, the UK leaving the EU would—because of a fall in trade openness (and a fall in GDP) translating into a fall in inward FDI—have a negative impact on the UK's economy and that this impact will be dispersed throughout the economy.

These theory-based results fall in line with what has been concluded by other researchers. Welfens and Baier (2018) conclude that in “the hard Brexit case, the UK would lose almost half their FDI inflows from other European countries in the long run (20 years plus) ...” (Welfens and Baier 2018, p. 18). Meanwhile, Dhingra et al. (2018), similar to Welfens and Baier (2018), find that the importance of the Brexit negotiations as the exit scenario will determine the magnitude of the studied impact as all of the possible post-Brexit models for the UK have significant disadvantages. The dependence on the exit scenario has also been highlighted by McGrattan and Waddle (2017), who argue “that the impact on

investment, production, and welfare depends importantly on whether the United Kingdom acts unilaterally to block EU FDI or jointly with EU nations to erect cross-border barriers on each other's FDI" (McGrattan and Waddle 2017, p. 19). As for the estimate of the impact, it will depend not only on the exit scenario, but also on the empirical approach used. For example, Erken et al. (2018) "find much larger negative effects than most existing studies that use macroeconometric modelling to assess the effects of Brexit" (Erken et al. 2018, p. 46).

References

- Ahmed, K. T., Ghani, G. M., Mohamad, N., & Derus, A. M. (2015). Does Inward FDI Crowd-Out Domestic Investment? Evidence from Uganda. *Procedia—Social and Behavioral Sciences*, 172, 419–426.
- Azam, M., & Ahmed, A. M. (2015). Role of Human Capital and Foreign Direct Investment in Promoting Economic Growth. *International Journal of Social Economics*, 42, 98–111.
- Barros, C. P., Caporale, G. M., & Damásio, B. (2013). *Foreign Direct Investment in the Asian Economies* (Economics and Finance Working Paper Series No. 13–20). Brunel University London.
- Beer, F. M., & Cory, S. N. (1996). The Locational Determinants of U.S. Foreign Direct Investment in the European Union. *Journal of Financial and Strategic Decisions*, 9(2), 43–53.
- Bevan, A. A., & Estrin, S. (2000). *The Determinants of Foreign Direct Investment in Transition Economies* (William Davidson Institute Working Paper No. 342).
- Blonigen, B. A., & Piger, J. (2011). *Determinants of Foreign Direct Investment* (NBER Working Paper No. 16704).
- Branstetter, L. (2006). Is Foreign Direct Investment a Channel of Knowledge Spillovers? Evidence from Japan's FDI in the United States. *Journal of International Economics*, 68, 325–344.
- Buch, C. M., Kokta, R. M., & Piazzolo, D. (2001). *Does the East Get What Would Otherwise Flow to the South? FDI Diversion in Europe* (Kiel Institute of World Economics Working Paper No. 1061).
- Buch, C. M., Kleinert, J., & Toubal, F. (2003). *Where Enterprises Lead, People Follow? Links Between Migration and German FDI* (Kiel Institute for World Economics Working Paper No. 1190).

- Carstensen, K., & Toubal, F. (2003). *Foreign Direct Investment in Central and Eastern European Countries: A Dynamic Panel Analysis* (Kiel Institute for World Economics Working Paper No. 1143).
- Dhingra, S., Ottaviano, G., Sampson, T., & Van Reene, J. (2016). The Impact of Brexit on Foreign Investment in the UK. *BREXIT 2016 Policy Analysis from the Centre for Economic Performance* (pp. 24–33). London: Centre for Economic Performance, London School of Economics and Political Science.
- Dhingra, S., Ottaviano, G., Rappoport, V., Sampson, T., & Thomas, C. (2018). UK Trade and FDI: A Post-Brexit Perspective. *Regional Science*, 97(1), 9–24.
- Erken, H., Hayat, R., Prins, C., Heijmerikx, M., & de Vreede, I. (2018). Measuring the Permanent Costs of Brexit. *National Institute Economic Review*, 244.
- Farla, K., De Crombrughe, D., & Varspagen, B. (2016). Institutions, Foreign Direct Investment, and Domestic Investment: Crowding Out or Crowding In? *World Development*, 88, 1–9.
- Granger, C. W. J. (1969). Investigating Causal Relations by Econometric Models and Cross-Spectral Methods. *Econometrica*, 6(37), 424–438.
- Javorcik, B. S. (2015). Does FDI Bring Good Jobs to Host Countries? *World Bank Research Observer*, 30, 74–94.
- Kalemli-Ozcan, S., & Nikolsko-Rzhevskyy, A. (2010). *Does Trade Cause Capital to Flow? Evidence from Historical Rainfalls* (National Bureau of Economic Research Working Paper No. 16034).
- Kerr, I. A., & Peter, V. M. (2001). *The Determinants of Foreign Direct Investment in China*. Paper Prepared for Presentation at the 30th Annual Conference of Economics, University of Western Australia, Perth, September 23–26.
- Leitão, N. C. (2010). Foreign Direct Investment: The Canadian Experience. *International Journal of Economics and Finance*, 2(4), 82–88.
- Lipsey, R. E. (2002). *Home and Host Country Effects of FDI* (National Bureau of Economic Research Working Paper No. 9293).
- Liu, W. S., Agbola, F. W., & Dzator, J. A. (2016). The Impact of FDI Spillovers Effects on Total Factor Productivity in the Chinese Electronic Industry: A Panel Data Analysis. *Journal of the Asia Pacific Economy*, 21, 217–234.
- McGrattan, E. R., & Waddle, A. (2017). *The Impact of Brexit on Foreign Investment and Production* (Federal Reserve Bank of Minneapolis Research Department Staff Report No. 542).
- Morrissey, O., & Udomkerdmongkol, M. (2012). Governance, Private Investment and Foreign Direct Investment in Developing Countries. *World Development*, 40(3), 437–445.

- Morrissey, O., & Udomkerdmongkol, M. (2016). Response to 'Institutions, Foreign Direct Investment, and Domestic Investment: Crowding Out or Crowding In?' *World Development*, 88, 10–11.
- Napiórkowski, T. M. (2013). Poland's Investment Attractiveness. In M. A. Weresa (Ed.), *Poland Competitiveness Report 2013: National and Regional Dimensions* (pp. 113–126). Warsaw: Warsaw School of Economics Press.
- Napiórkowski, T. M. (2014). The Impact of Poland's Accession to the European Union on the Country's Foreign Direct Investment. In M. A. Weresa (Ed.), *Poland Competitiveness Report 2014: A Decade in the European Union* (pp. 113–133). Warsaw: Warsaw School of Economics Press.
- Napiórkowski, T. M. (2015). Changes in Poland's Attractiveness to Foreign Investors in the Context of the Global Crisis. In M. A. Weresa (Ed.), *Poland Competitiveness Report 2015: Innovation and Poland's Performance in 2007–2014* (pp. 113–133). Warsaw: Warsaw School of Economics Press.
- Narula, R., & Wakelin, K. (1997). *Pattern and Determinants of US Foreign Direct Investment in Industrialised Countries*. Maastricht: MERIT, Maastricht University.
- Navaretti, G. B., & Venables, A. J. (2006). *Multinational Firms in the World Economy*. Princeton and Oxford: Princeton University Press.
- Nunnenkamp, P. (2002a). *To What Extent Can Foreign Direct Investment Help Achieve International Development Goals?* (Kiel Institute of World Economics Working Paper No. 1128).
- Nunnenkamp, P. (2002b). *Determinants of FDI in Developing Countries: Has Globalization Changed the Rules of the Game?* (Kiel Institute of World Economics Working Paper, No. 1122).
- OECD. (2000). *Main Determinants and Impacts of Foreign Direct Investment on China's Economy* (Working Paper of International Investment No. 2000/4).
- Office of National Statistics. (2016). *Inward Foreign Direct Investment (FDI) Involving UK Companies, 2015 (Directional Principle)* [online], <https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/foreign-directinvestmentinvolvingukcompanies/2015>. Accessed October 25, 2017.
- Pilbeam, K., & Oboleviciute, N. (2012). Does Foreign Direct Investment Crowd In or Crowd Out Domestic Investment? Evidence from the European Union. *The Journal of Economic Asymmetries*, 9(1), 89–104.
- Przybylska, K. (2001). *Determinanty zagranicznych inwestycji bezpośrednich w teorii ekonomiczne. Empiryczna weryfikacja czynników lokalizacji zagranicznych inwestycji bezpośrednich w Czechach, Polsce i na Węgrzech* (Zeszyty

- Naukowe Sesja Specjalna: Monografie No. 144). Akademia Ekonomiczna w Krakowie.
- Simionescu, M. (2017). *The Influence of Brexit on the Foreign Direct Investment Projects and Inflows in the United Kingdom* (GLO Discussion Paper No. 68).
- Stawicka, M. K. (2013). Czynniki warunkujące wybór miejsca lokowania bezpośrednich inwestycji zagranicznych w Unii Europejskiej – studium komparatystyczne lat 2005 i 2011. *Zarządzanie i Finanse*, 11(1), 315–329.
- Svedin, D., & Stage, J. (2016). Impact of Foreign Direct Investment on Efficiency in Swedish Manufacturing. *Springerplus*, 5.
- Szkorpová, Z. (2015). *Relationship Between Foreign Direct Investment and Domestic Investment in Selected Countries of Central and Eastern Europe* (Procedia Economics and Finance No. 23), pp. 1017–1022.
- Te Velde, D. W. (2006). *Foreign Direct Investment and Development: An Historical Perspective*. Background paper for: World Economic and Social Survey for 2006, Commissioned by UNCTAD.
- Temiz, D., & Gökmen, A. (2014). FDI Inflow as an International Business Operation by MNCs and Economic Growth: An Empirical Study on Turkey. *International Business Review*, 23(1), 145–154.
- Tomohara, A., & Takii, A. (2011). Does Globalization Benefit Developing Countries? Effects of FDI on Local Wages. *Journal of Policy Modeling*, 33, 511–521.
- Tülüce, N. S., & Doğan, İ. (2014). The Impact of Foreign Direct Investments on SMEs' Development. *Procedia—Social and Behavioral Sciences*, 150, 107–115.
- UNCTAD. (2015a). *FDI Flows* [online], <http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDIFlows.aspx>. Accessed November 2, 2015.
- UNCTAD. (2015b). *FDI Stock* [online], <http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDIStock.aspx>. Accessed November 2, 2015.
- UNCTAD. (2017a). *Foreign Direct Investment (FDI)* [online], [http://unctad.org/en/Pages/DIAE/Foreign-Direct-Investment-\(FDI\).aspx](http://unctad.org/en/Pages/DIAE/Foreign-Direct-Investment-(FDI).aspx). Accessed September 29, 2017.
- UNCTAD. (2017b). UNCTADStat [online], http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sRF_ActivePath=P,5,27&sRF_Expanded=P,5,27. Accessed October 15, 2017.
- Walsh, J. P., & Yu, J. (2010). *Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach* (IMF Working Paper No. WP/10/187).
- Welfens, P. J. J., & Baier, F. J. (2018). BREXIT and Foreign Direct Investment: Key Issues and New Empirical Findings. *International Journal of Financial Studies*, 6(2), 1–21.

- World Bank. (2017). *World Economic Development Indicators* [online], <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>. Accessed October 15, 2017.
- Xun, L., & Awokuse, T. O. (2005). *The Determinants of US Outgoing FDI in the Food-Processing Sector*. Paper Prepared for Presentation at the American Agricultural Economics Association Annual Meeting, Providence, Rhode Island, July 24–27.