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South-South FDI: Is it really different?

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KIEL WORKING PAPER

**South-South FDI:
Is it Really Different?**



No. 2083 May 2017

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ABSTRACT

SOUTH-SOUTH FDI: IS IT REALLY DIFFERENT?*

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We compare the performance of Northern and Southern multinationals in Sub-Saharan Africa, and contrast it with local firms in the host country. Employing unique firm level data for 19 Sub-Saharan African countries, we show that firms receiving FDI outperform domestic ones, while the origin of the foreign investor is of minor importance. We use three different definitions of "South" to compare Northern and Southern FDI. Overall, we do not find strong differences in terms of firm productivity growth between Northern and Southern FDI, irrespective of how the latter is defined. However, we find that employment growth is generally higher for firms receiving FDI from other African investors as compared to Northern FDI, and they also receive more technology transfer from their parent company abroad.

Keywords: South-South FDI, productivity, performance differences, Africa

JEL classification: F23, O14

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1 Introduction

In the past, foreign direct investment (FDI) was dominated by investment flows between well-developed industrialised countries. This pattern is slowly but steadily changing. Over the last decade, the share of FDI originating from developing countries has increased substantially from 8 percent of total FDI flows in 2000 to almost 26 percent in 2015 (UNCTAD, 2002, 2016). In absolute terms, multinationals from developing countries invested around USD 378 billion abroad in the year 2015. Developing countries also received 43 percent of inward FDI in this same period. Much of this investment is between developing countries, leading to so-called "South-South FDI".

While it is difficult to find comprehensive aggregate data on South-South FDI, evidence for single countries or regions may illustrate the importance of this investment flow. For example, data relating to China extracted from the UNCTAD FDI/TNC database reveal that, in 2012, 84 percent of FDI outflows were channelled to developing countries. For Malaysia and Thailand, the corresponding figures are 56 and 62 percent, respectively. Lipsey and Sjöholm (2011) provide an overview of South-South investment characteristics for the case of several East-Asian economies. They analyse trends and differences between South-South and North-South investment regarding determinants of FDI, size and productivity of investors. Additionally, they search for evidence of spillovers to local firms. They report that developing country multinationals investing in East Asia tend to establish in more labour intensive industries. They suggest the magnitude and type of spillovers generated from South-South FDI vis-à-vis North-South FDI is arguably less relevant than for researchers to understand the type of domestic firms attracting investment from South and North investors respectively.

The focus of this paper is, however, not Asia but Africa, more specifically Sub-Saharan Africa. The African continent has historically received very low levels of FDI, though these have been increasing over time. In 2000, the share of inward FDI flows to Africa was less than 1 percent of world-wide FDI, in 2015 it stood at just over 3 percent. This amounted to USD 54 billion in absolute values. Using UNCTAD data, Perez-Villar et al. (2016) estimate that FDI inflows from all developing countries represent circa one quarter of all inward FDI in Africa over the period 2003 – 2010. Our data for Sub-Saharan African countries from the *Africa Investor Survey 2010* show that among foreign investors in manufacturing, about one third are from developing countries (see Table 1 below).¹

¹ According to the 2015 FDI Intelligence report, a publication that tracks larger project investments, intra-African investment accounted for only 131 of 660 total projects conducted in 2014 (fewer than 20 percent). Admittedly, the FDI monitor may neglect some of the smaller and more local investment projects.

These figures provide some evidence on the importance of South-South FDI for Africa. The questions we pursue in this paper are whether South-South and North-South FDI is similar or different and whether these investment sources offer different development trajectories for recipient firms in Sub-Saharan Africa.

Intuitively, South-South FDI may be expected to differ from FDI originating from the North (e.g., UNCTAD 2006). Generally speaking, FDI is assumed to be beneficial for host country development because foreign multinationals have access to superior technology (or “firm specific assets”) allowing them to compete successfully abroad. This implies that these firms are more productive than comparable firms from the local economy. The superior technology they have may disseminate into the local economy, be it through voluntary technology transfer or involuntary technology spillovers, and thus help the development of local firms in the host country (e.g., Görg and Greenaway, 2004).

While multinationals from the South are also likely to possess some technological advantage vis-à-vis host country firms, their technological lead may be expected to be less than that of a Northern multinational (Lipsey and Sjöholm, 2011). Southern firms may not have access to state-of-the-art technology developed in the North. This implies that Southern multinationals may be less productive than Northern multinationals, but still more so than domestic firms in the host country.

However, when it comes to dealing with the business environment, Southern firms may be better able to do so than Northern multinationals (e.g., Aykut and Goldstein, 2006, Cuervo-Cazurra and Genc, 2008, Khanna and Palepu, 2006). Developing countries are, in many cases, characterized by institutional problems (be it the legal system, political stability, lack of infrastructure etc.) and Southern firms may be in a better position to deal with these. The reason for this is that they are already familiar with similar problems in their home country. This experience may enable them to better adapt their local business model, skills and technologies to the developing host country’s needs and abilities. This would then give them a productivity advantage compared to Northern multinationals.

These arguments are also reflected in the literature on the role of institutional distance for FDI flows (e.g., Aleksynska and Havrylchyk, 2012, Benassy-Quere et al., 2007). These papers argue that it is not necessarily the level of institutional development in the host country that affects inward FDI, but the difference in institutional development between the investor’s host and home country. The closer these two countries are (the lower is their “institutional distance”) the easier it is to attract FDI. Our argument mirrors this, but focuses on the performance of the firms receiving FDI from multinationals abroad. The closer is the institutional similarity between home and host country, the better able the multinational may be to implement its technology and

production process. Consequently, we anticipate differences between domestic firms that receive investments from North vs South investors.

In this paper, we compare the performance of Northern and Southern multinationals in Sub-Saharan African countries. We also contrast their performance to that of local firms in the host country. To do so we use unique firm level data for 19 Sub-Saharan African countries from the *Africa Investor Survey 2010* administered by UNIDO. The survey provides us with information for over 5,000 firms, of which about one-third are affiliates of foreign owned multinationals. We compare productivity and employment as well as sales across the three groups of firms. Focusing on foreign-owned firms only, we delve deeper into differences between Northern and Southern FDI. Specifically, we investigate differences in the ancillary effects that come with FDI, like technology transfer, use of patents and access to financial networks.

A further novelty of our paper is that we use different definitions of ‘South’ to investigate the relationship between investor origin and firm performance. The most stringent definition we apply is to define Southern investors as only those originating from other African countries. We then extend the definition to include all developing countries (based on the World Bank classification of low and low middle income countries). A third classification considers OECD vs. non-OECD countries.²

We find that foreign-owned firms, irrespective of whether they are categorised as North or South, are more efficient than local firms in terms of productivity levels and growth. It follows that FDI from both North and South investors offer scope for technology spillovers and productivity improvements for local firms. There are two interesting twists to the general finding that the origin of FDI (North or South) does not really matter for African firms: Firstly, firms receiving investments from OECD countries show higher productivity growth; we observe a productivity mark-up for OECD investors over and above the positive productivity premium shared by all FDI recipients. Secondly, we see that firms receiving investments from other African countries show higher average employment growth. A further interesting aspect of this African FDI is the higher reported collaboration between African investor’s headquarter firms and their foreign affiliates on patents, product upgrading and R&D. Specifically, FDI is viewed by African affiliates as important for facilitating the use of patents, helping with knowledge transfer and skills upgrading, assisting with access to finance and facilitating access to the investor firm’s foreign supplier network – but only if the Southern investor comes from another African country.

² Amendolagine et al. (2016) is a related paper which uses the same dataset to look at differences between investors from OECD and BRICS countries in Sub-Saharan Africa. They focus on linkage creation by foreign firms, knowledge transfer, employment and skill levels. By contrast, we look at productivity levels and growth, employment growth and assistance received from the headquarter firm abroad. We also have a broader definition of “South” and, importantly, also consider investors from other African countries.

In an effort to better understand the mechanisms by which FDI from African investors is associated with high employment growth, we additionally look into sources of effect heterogeneity at the country level. For instance, if African investors were seen to invest disproportionately in poorer or otherwise underperforming countries, the positive relationship between African FDI and employment growth might be seen to be an artefact of country level differences. Surprisingly, we find that foreign investment by African firms on the African continent tends, on average, to target Africa's higher wealth economies (GDP per capita and growth). Moreover, we find that the positive relationship between productivity growth and the receipt of FDI from North economies is reinforced for Africa's more closed economies (lower trade openness and lower historic FDI flows).

The remainder of the paper is structured as follows. Section 2 describes the Africa Investor Database and presents an initial look at the data using Kernel density distributions. Section 3 contains the econometric analysis of performance differences between Northern and Southern multinationals and domestic firms. Section 4 concludes.

2 Description of the data

We use original firm-level data collected through the UNIDO *Africa Investor Survey 2010* across 19 Sub-Saharan African countries.³ Specifically, we use both the Foreign and the Domestic Investor Survey data, which contain a rich set of information on a large sample of domestic and foreign owned firms in those countries. The compilation of this dataset followed a rigorous survey methodology in terms of stratified sampling (on three dimensions: sector, size and ownership) in order to construct a sample of firms that is representative of public and private for profit firms with 10 or more employees within the countries.⁴ These firms were then interviewed by highly-trained specialists using face-to-face interviews with top-level managers of foreign- and domestically-owned firms. More details on the Africa Investor Survey 2010, the sampling procedure and quality assurance measures are provided in UNIDO (2011).

The data available in the *African Investor Survey* are unique in that they provide detailed information on various aspects of firm performance, technology transfer and firm ownership, all at the level of the firm. There is one disadvantage, however. Currently, the data are only available for a cross section in 2010. Hence, while we can use the data to unearth and describe some hitherto unknown relationships, we are careful to avoid interpreting

³ Burkina Faso, Burundi, Cameroon, Cape Verde, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia.

⁴ An oversampling of relatively large firms (> 100 employees) has been adopted.

these patterns as causal effects. Nevertheless, we feel that the relationships are sufficiently interesting and, importantly, policy relevant, to justify our analysis.

The aim of the paper is to compare affiliates of foreign investors from Southern countries (subsequently referred to as ‘Southern firms’) to affiliates of foreign investors from Northern countries (subsequently referred to as ‘Northern firms’) and domestic firms in the host country, respectively. We look at firm performance in terms of labour productivity, labour productivity growth and employment and sales growth. Furthermore, we know the importance attached by foreign owned firms to assistance from the parent HQ in terms of (i) access to finance, (ii) access to supplier networks, (iii) technology transfer, (iv) product quality upgrading, and (v) use of patents. Such assistance can be expected to improve the performance of the affiliate in the host country and also potentially spill over to the local economy.

Based on information about the foreign investor’s home country, we can define two categories of investor firms i.e. those from the South and those from the North. We use three definitions to investigate whether investor origin does make a difference. The first and most stringent definition is where we classify as ‘South’ those investors from other African countries. In this case, investors from any other country are assigned to the Northern group, irrespective of their home county’s development status. A second definition is based on the World Bank’s classification of low and low middle income countries as developing countries, which we label ‘South’. This is compared to a definition based on non-OECD countries, which includes a number of middle income countries in the Southern category.

The share of Sub-Saharan African firms owned by Southern investors across the various different definitions is given in Table 1. For the most stringent definition of South, ‘Africa’, about one quarter of all foreign-owned multinational firms are seen to originate from other African countries. When we extend the definition of ‘South’ to developing countries, the share of Southern firms in the sample of foreign multinational firms, rises to 30 percent. Southern firms from non-OECD countries represent just over half of all foreign-owned multinational firms observed.

(Table 1 here)

To get a preliminary idea of differences across the North/South categories, we start off by looking simply at the distributions of one of our key variable of interest – labour productivity growth– for Southern compared to Northern investors. In an effort to illustrate any differences, we first examine the distribution of labour productivity by plotting Kernel Density distributions for the two FDI types. Figures 1 to 3 illustrate these productivity distributions across the three definitions of South, as described above.

(Figures 1 to 3 here)

In line with the stylized facts, one might expect a positive association between FDI from the North and higher productivity growth in local African firms. However, somewhat contrary to expectations, the kernel density diagrams reveal very similar productivity patterns for investments from both groups. Although the mean value for North FDI is consistently higher for every definition of North/South, it is only significantly higher in the case of ‘South is Africa’. Our subsequent econometric analysis will generally confirm the similarity in FDI-effects from the North and from the South. However, the multivariate regressions will also reveal some specific North-South-patterns.

Our t-tests focus on average values. They can be influenced, even in winsorized samples like our own, by values at the extremes. In order to consider the wider distribution at each percentile, we perform a Wilcoxon rank-sum test-statistic (Wilcox, 1945). Specifically, the Wilcoxon tests the hypothesis that the distributions for North and South FDI are sufficiently different from each other in that they resemble a random draw. Similar to the t-tests, the Wilcox rank sum test does not reveal much heterogeneity in FDI between the two groups. Therefore, FDI from the North and South is seen to be broadly similar, at least in a simple bivariate setting. However, these simple descriptive statistics do not allow us to simultaneously condition labour productivity on other factors that might affect labour productivity growth – or other firm-level outcomes. Such factors, including country and firm fixed effects are likely to co-determine enterprise outcomes such as productivity and employment growth. In order to investigate any possible heterogeneity in FDI from North and South, we now move to estimate these relationships in a more fully specified model.

3 Econometric Analysis

The econometric model we estimate is of the following form,

$$Y_i = \alpha_j + \alpha_k + \beta_1 \text{FOREIGN}_i + \beta_2 \text{FOREIGN_SOUTH}_i + \gamma X_i + \varepsilon_i \quad (1)$$

where Y_i represents different outcome variables for firm i . FOREIGN is a dummy variable equal to unity if the firm is foreign-owned. FOREIGN_SOUTH is an additional ownership indicator that is unity if the foreign investment stems from a Southern home country. X is a vector of control variables and includes a measure of lagged employment size, productivity level lagged by two years and the log of firm age. Additionally, we include country-level α_j and technology-level α_k fixed effects.⁵ Standard errors are clustered on the country level.

⁵ Technology-level FE rely on a technological classification of sectors into high-tech manufacturing, medium-tech manufacturing, low-tech manufacturing, services, and primary sector.

We apply four different outcome variables Y in our baseline analysis. Our main interest is in the productivity performance of firms and to this end we look at productivity levels as well as growth (defined as log difference in labour productivity between t and $t-1$).⁶ However, in a developing country, productivity is not the only aspect host country governments may be concerned with. Employment generation is also an issue and we therefore look at employment growth (again defined as log difference between full time employment in t and $t-1$). Furthermore, we consider sales growth (defined as log difference in sales growth between t and $t-1$) to see whether firms receiving FDI perform differently.

Before turning to our results, a few words on what we expect the data to reveal. Foreign-owned firms are expected to demonstrate a productive edge over their domestic counterparts as revealed in analyses for China (Girma et al., 2015), Indonesia (Arnold and Javorcik, 2009) or East Asia (Lipsey and Sjöholm, 2011).

Table 2 shows the results for our baseline model. Odd numbered columns present the original point estimates. For comparison, standardized coefficients are reported in even numbered columns. We report our findings based on regressions differing according how tightly we define FDI from the South.

(Table 2 here)

Generally and in line with the studies reported above for China, Indonesia and East Asia, we find a significant and robust association between foreign investment in African firms and firm performance. Higher productivity growth is recorded for firms receiving FDI. Commenting on the unstandardized values, we see that the magnitude of these differences ranges between circa 27 and 31 percent (column 1). Columns (3) and (4) report the association between FDI and sales growth. FDI recipients demonstrate higher sales growth - at least 32 percent higher. Firms receiving FDI have productivity levels at least 73 percent higher than those for domestic firms without FDI. Of course, these main effects disregard the source of any FDI investments received (North or South).

We now turn to differences in firm performance, taking into account whether the investment takes the form of FDI from the North or South. The lower values in Table 2 report the differences in firm performance for our three measures of 'South'. Compared to the main effect of FDI reported above, the effect of investor origin appears significantly less important in economic terms. Indeed, for sales growth or productivity levels, investor

⁶ We use survey questions on firm performance in the past to calculate growth measures.

origin does not seem to matter at all. Moreover, receiving FDI from less developed countries does not make a difference ('Foreign investor is South (Low-Development)'). Only when we turn to investments from OECD countries, do we find a positive mark-up on productivity growth for FDI coming from countries defined as North ('Foreign investor is South (non-OECD)' = 0). Firms receiving FDI from OECD country investors, enjoy an overall productivity premium of 31 percent. However, if the FDI investor comes from a non-OECD country, this productivity premium gets marked down by 9 percent.

We now turn to the issue of employment growth where FDI recipients are statistically indistinguishable from FDI non-recipients. There is one exception: Firms receiving FDI from African investors ('Foreign investor is South (Africa)'), are associated with significantly higher employment growth. In terms of magnitude, firms receiving FDI from African investors register almost 5 percent higher employment growth. We recall that this result for employment growth holds even when we control for industry type and technology level e.g. high-tech manufacturing. Therefore, our finding should not just reflect the fact that Southern FDI may be focussed in more labour intensive sectors (as found by Lipsey and Sjöholm, 2011, for East Asia). Rather, our estimation suggests that - within a given broad sector and technology – foreign firms owned by investors from other African countries demonstrate higher employment growth. Summing up, we can see that African investors tend to invest in Sub-Saharan firms that show high employment growth, while there is no relationship between receiving FDI and employment growth in general.

This result that foreign firms from the African continent show higher employment growth is interesting. But what if such South investors display a preference for poorer economies on the African continent with more manual production methods? Analogously, what if North investors tend to invest in countries with the potential for higher productivity growth? To probe these issues further, we investigate some of the mechanisms behind country-level sources of heterogeneity.

Table 3 reports the relationship between the different types of South FDI and productivity by exploring interactions of target country wealth, economic growth, trade openness and historic FDI flows. Perhaps unsurprisingly, we find a stronger connection between FDI and productivity for wealthier African economies. Investors can pick more promising investment targets in these economies, in the knowledge that wealth can often come hand in hand with better average skills, health and housing and infrastructure. Another interesting feature of our analysis into effect heterogeneity in Table 3 is that FDI is associated with higher productivity, irrespective of whether the investor is South or North. In this instance, the origin of the investment does not matter.

(Table 3 here)

There is one exception to this – investments from non-OECD countries in Africa show comparatively low productivity growth. One possibility is that these underperforming firms offer better value per dollar invested than their counterparts. This pattern of investment in underperforming firms is significant for Africa's less wealthy economies and economies less open to present and past trade and investment flows.

Having looked into the patterns of FDI and productivity, we move to employment growth. Table 4 documents the FDI-growth nexus across the same key country-specific criteria.

(Table 4 here)

Generally, foreign investors, regardless of whether they come from North or South, exhibit no investment heterogeneity vs the criteria examined (target country wealth, trade openness or historic investment flows). We now revisit the earlier finding that African investors' firms show higher employment growth. From Table 4 we can see that when we define 'South' as African investors, target firms indeed demonstrate higher growth in employment terms. This difference in employment growth is significant for investments by African investors in domestic firms located in Africa's wealthier and higher growth economies. Moreover, these economies are characterised by reduced past and present trade and FDI openness.

The last part of our analysis deals with the degree to which the headquarter firms from African investors vis-à-vis non-African investors support the African affiliate. This part of the analysis focusses exclusively on foreign-owned firms and compares how important Northern and Southern firms consider assistance from its investor's headquarters in the foreign countries. By default, the domestic firms now drop from our sample, as this question regarding contacts with HQ abroad can only be asked of foreign firms. Support comes in several forms: Access to finance, shared access to supplier networks, technology transfer, assistance with product upgrading, assistance with patents, trademarks and branding. For all support measures we construct dummy variables equal to one if a firm answers that such assistance was 'important', 'very important' or 'crucial' as opposed to 'slightly important', 'not important' or 'not received'.

Table 5 describes our regression for our familiar South dummy defined alternately as Africa, Non-Developed and Non-OECD.

(Table 5 here)

The most striking feature of Table 5 is the significant support extended by African investors to their affiliates for all the listed support measures. This finding may tie in with our earlier finding for employment growth where we show that African firms do not appear to shy away from investing in growing firms. It is possible that African investors work more closely with their African affiliates because they have a greater technology overlap or a shared familiarity with the business environment. This pattern of support is absent for other definitions of South (Low-Development and non-OECD).

There are two aspects to such assistance. On the one hand, assistance may indicate that knowledge gets shared between the foreign HQ and the Sub-Saharan African affiliate. This can improve the affiliate's performance and also potentially spill over to the local economy. In that regard, the more important is the assistance received, the better may be the performance of the affiliate. On the other hand, assistance may only be necessary if the affiliate does not already operate to a sufficiently high standard. In that case, the more important is the assistance, the more the firm in Sub-Saharan Africa may have to learn.

Our results in Table 5 highlight how crucial it is for researchers to apply an appropriate definition of Southern FDI. If we compare African investors in Africa to all others, then African multinationals rely more heavily on assistance from their parent HQ, perhaps indicating knowledge sharing between HQ and foreign affiliate. If we, however, consider a broader definition of Southern FDI, these differences between North and South disappear.

4 Summary and conclusion

Foreign direct investment into Africa, though still at a fairly low level, is growing. A substantial part of this investment is from other developing countries, so-called South-South investment. Using detailed firm level data for 19 Sub-Saharan African countries, we find that investment from the economic South is accompanied by the usual benefits expected from FDI. FDI recipients are, on average, more productive (both in terms of levels and growth) and have higher sales growth than domestic firms. Most interestingly, there are few pronounced differences between North-South and South-South FDI.

Comparing FDI recipients of South investments – the baseline group is North - no difference emerges between the two groups in terms of productivity (levels) or sales growth. Firms sponsored by African investors, however, show higher employment growth than the base category and non-OECD investments are associated with lower productivity growth trajectories.

Researchers attempting to interpret these findings in the context of real events in Africa may struggle to find appropriate background material – the overwhelming bulk of research conducted on African FDI discusses the

role of *non-African*, and especially North, investors. Accordingly, the academic discussion is largely silent on the phenomenon of intra-Africa FDI. Indeed, intra-African FDI is a relatively small phenomenon.

In view of the paucity of information as to what may be happening in our data, we venture our own interpretation. The finding we are most interested in explaining, is the higher employment growth in firms receiving FDI from other African countries. African investors may be less likely to shy away from labour intensive firms, having greater familiarity with these production methods. For whatever reason this pattern arises, the higher preference of African firms for growing employment is to be welcomed. An investment report by FDI Intelligence for 2015, criticized FDI's poor ability to translate into employment creation in Africa: 'Africa's growth has so far not been accompanied by sufficient increases in productivity or job creation' (P.16, FDI Investment Report)⁷.

The other finding we would like to highlight is the significantly higher support extended by African investors to their affiliates – compared to the non-African base group - for all the support measures listed in our analysis. This finding may tie in with our earlier finding where African investors show a preference for higher employment growth, compared to non-African investors. It is possible that African investors work more closely with their African affiliates because of higher technology overlap or shared familiarity with the business environment. Having repeated this analysis for other definitions of South investment (non-developed country and non-OECD country), we can conclude that this pattern of higher technical support and a higher openness towards firms taking on new employees, is a pattern specific to African investors. In view of FDI's poor employment and technical transfer record in Africa, any impetus given to employment growth and investor-affiliate collaboration, is to be welcomed.

⁷ We have included in the Appendices, the results for country heterogeneity and productivity levels and sales growth. Firms from the South, regardless of how South is defined, exhibit similar patterns to their North peers when it comes to investing in countries marked by wealth, growth, trade and FDI differences. There is some evidence that African investors show higher productivity levels (not growth) in Africa's wealthier economies while the opposite is true for OECD South investors. For sales growth, there appears to be no investment bias between North and South investors.

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Tables**Table 1:** Share of Southern FDI-recipients for different definitions of South

Definition of South	Percent of 'Southern' firms
Africa	24.1
Developing countries	30.1
Non-OECD	53.6

Table 2: North-South FDI Differences w.r.t. Firm Performance

VARIABLES	productivity_gth		lnsales_gth		lnemploy_gth		ln_productivity_LFY	
	coeff	Std	coeff	Std	coeff	std	coeff	std
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign investment	0.271*** (0.063)	0.249*** (0.058)	0.325*** (0.079)	0.263*** (0.064)	0.005 (0.015)	0.012 (0.040)	0.736*** (0.080)	0.433*** (0.047)
Foreign investor is South (Africa)	-0.027 (0.049)	-0.025 (0.045)	0.037 (0.070)	0.030 (0.057)	0.050** (0.019)	0.129** (0.049)	0.178 (0.110)	0.104 (0.064)
Adj. R-squared	0.251		0.229		0.0836		0.167	
Foreign investment	0.274*** (0.060)	0.252*** (0.055)	0.340*** (0.076)	0.275*** (0.062)	0.014 (0.020)	0.037 (0.051)	0.770*** (0.074)	0.453*** (0.044)
Foreign investor is South (Non-Developed)	-0.032 (0.053)	-0.029 (0.049)	-0.022 (0.070)	-0.018 (0.057)	0.006 (0.024)	0.016 (0.061)	0.024 (0.089)	0.014 (0.052)
Adj. R-squared	0.251		0.229		0.0826		0.167	
Foreign investment	0.314*** (0.067)	0.289*** (0.062)	0.363*** (0.086)	0.294*** (0.070)	0.001 (0.032)	0.003 (0.082)	0.836*** (0.088)	0.492*** (0.052)
Foreign investor is South (non-OECD)	-0.094* (0.048)	-0.087* (0.044)	-0.056 (0.081)	-0.045 (0.065)	0.029 (0.039)	0.075 (0.102)	-0.112 (0.065)	-0.066 (0.038)
Adj. R-squared	0.252		0.229		0.0826		0.167	
Observations	5,222		5,222		5,222		5,222	

Note: OLS regressions with standardized coefficients, robust p-values in parentheses, standard errors clustered at country-level. *** p<0.01, ** p<0.05, * p<0.10. Other covariates (lagged logged productivity levels, lagged logged employment size, firm age, location, technology). We exclude lagged productivity levels in columns 7 – 8. Sector dummies comprise broad categories and distinguishes by the technology level in the category e.g. High-tech manufacturing.

Table 3: Effect heterogeneity: Productivity Growth

VARIABLES	gdp_pc		gdp_growth		trade_openness		fdiinflows_gdp	
	low	high	low	high	low	high	low	high
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign investment	0.216*** (0.038)	0.260** (0.097)	0.214** (0.070)	0.277** (0.092)	0.244*** (0.059)	0.260* (0.125)	0.266*** (0.065)	0.226* (0.115)
Foreign investor is South (Africa)	-0.020 (0.044)	-0.001 (0.069)	0.043 (0.078)	-0.069 (0.052)	0.008 (0.056)	-0.083 (0.083)	-0.061 (0.056)	0.025 (0.072)
Adj. R-squared	0.260	0.253	0.281	0.222	0.265	0.226	0.270	0.221
Foreign investment	0.213*** (0.054)	0.266** (0.085)	0.232** (0.079)	0.268*** (0.073)	0.285*** (0.073)	0.210* (0.099)	0.280*** (0.076)	0.219** (0.088)
Foreign investor is South (Low-Development)	-0.009 (0.056)	-0.029 (0.087)	-0.045 (0.086)	-0.028 (0.042)	-0.104* (0.056)	0.197 (0.138)	-0.078 (0.062)	0.057 (0.099)
Adj. R-squared	0.260	0.253	0.281	0.222	0.265	0.227	0.270	0.221
Foreign investment	0.246*** (0.053)	0.308** (0.097)	0.275** (0.090)	0.300*** (0.075)	0.331*** (0.083)	0.224* (0.103)	0.333*** (0.084)	0.226** (0.095)
Foreign investor is South (non-OECD)	-0.063* (0.034)	-0.101 (0.083)	-0.120 (0.071)	-0.070* (0.033)	-0.152** (0.056)	0.040 (0.073)	-0.153** (0.055)	0.010 (0.065)
Adj. R-squared	0.260	0.254	0.282	0.222	0.267	0.226	0.272	0.221
Observations	2,391	2,831	2,620	2,602	3,386	1,836	2,997	2,225

Note: OLS regressions with standardized coefficients, robust p-values in parentheses, standard errors clustered at country-level. *** p<0.01, ** p<0.05, * p<0.10.

Other covariates (lagged logged productivity levels, lagged logged employment size, firm age, location, technology). Sector dummies comprise broad categories and distinguishes by the technology level in the category e.g. High-tech manufacturing.

Table 4: Effect heterogeneity: Employment Growth

VARIABLES	gdp_pc		gdp_growth		trade_openness		fdiinflows_gdp	
	low	high	low	high	low	high	low	high
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign investment	0.011 (0.034)	0.043 (0.062)	0.053 (0.064)	-0.031 (0.041)	-0.001 (0.050)	0.036 (0.052)	0.010 (0.036)	0.005 (0.057)
Foreign investor is South (Africa)	0.053 (0.032)	0.247** (0.077)	0.140 (0.096)	0.127* (0.056)	0.159** (0.061)	0.069 (0.091)	0.115** (0.045)	0.141 (0.097)
Adj. R-squared	0.0364	0.132	0.0893	0.0768	0.0905	0.0713	0.0779	0.0939
Foreign investment	0.018 (0.041)	0.083 (0.079)	0.102 (0.075)	-0.037 (0.053)	0.018 (0.066)	0.058 (0.060)	0.038 (0.050)	0.020 (0.066)
Foreign investor is South (Low-Development)	0.027 (0.042)	-0.007 (0.118)	-0.106 (0.127)	0.109 (0.059)	0.049 (0.070)	-0.043 (0.134)	-0.010 (0.057)	0.087 (0.102)
Adj. R-squared	0.0361	0.130	0.0890	0.0764	0.0892	0.0711	0.0772	0.0930
Foreign investment	-0.021 (0.047)	0.046 (0.130)	0.113 (0.098)	-0.136 (0.091)	0.023 (0.105)	-0.035 (0.112)	0.065 (0.082)	-0.104 (0.117)
Foreign investor is South (non-OECD)	0.085* (0.044)	0.074 (0.195)	-0.079 (0.140)	0.230* (0.107)	0.023 (0.119)	0.187 (0.169)	-0.058 (0.108)	0.274 (0.149)
Adj. R-squared	0.0372	0.130	0.0889	0.0808	0.0891	0.0741	0.0775	0.0991
Observations	2,391	2,831	2,620	2,602	3,386	1,836	2,997	2,225

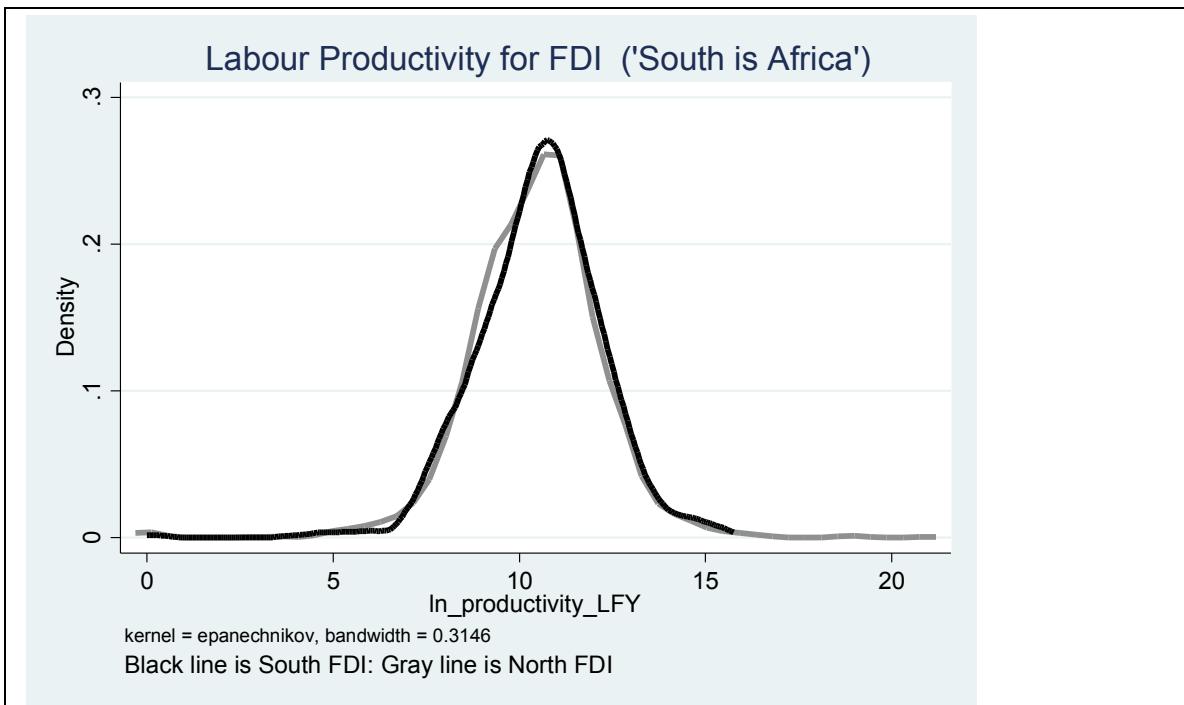
Note: OLS regressions with standardized coefficients, robust p-values in parentheses, standard errors clustered at country-level. *** p<0.01, ** p<0.05, * p<0.10.

Other covariates (lagged logged productivity levels, lagged logged employment size, firm age, location, technology). Sector dummies comprise broad categories and distinguishes by the technology level in the category e.g. High-tech manufacturing.

Table 5: North-South Differences in support measures

VARIABLES	AccFin std (1)	AccForSuppNet std (2)	TechTrans std (3)	UpgQual std (4)	UsePat std (5)
Foreign investor is South (Africa)	0.191*** (0.057)	0.245*** (0.054)	0.172*** (0.058)	0.188*** (0.060)	0.129** (0.057)
Adj. R-squared	0.0388	0.0564	0.0807	0.0540	0.0856
Foreign investor is South (Low-Development)	0.085 (0.049)	0.045 (0.065)	0.037 (0.051)	0.044 (0.066)	0.002 (0.056)
Adj. R-squared	0.0341	0.0470	0.0761	0.0486	0.0829
Foreign investor is South (non-OECD)	0.076 (0.054)	0.085 (0.063)	0.013 (0.072)	0.058 (0.063)	0.002 (0.067)
Adj. R-squared	0.0340	0.0481	0.0759	0.0489	0.0829
Observations	1,708	1,708	1,708	1,708	1,708

Note: OLS regressions with standardized coefficients, robust p-values in parentheses. *** p<0.01, ** p<0.05, * p<0.10. Other covariates (employment size, lagged productivity levels, type of firm, sector).

Figure 1**T-Test**

\bar{x} North	\bar{x} South	SD	t	p value
10.44	10.54	1.78	-1.22	0.22

Rank Sum (Wilcox)

# North	# South	z-value	prob.	FDI_N = FDI_S
1638	500	-1.36	0.17	

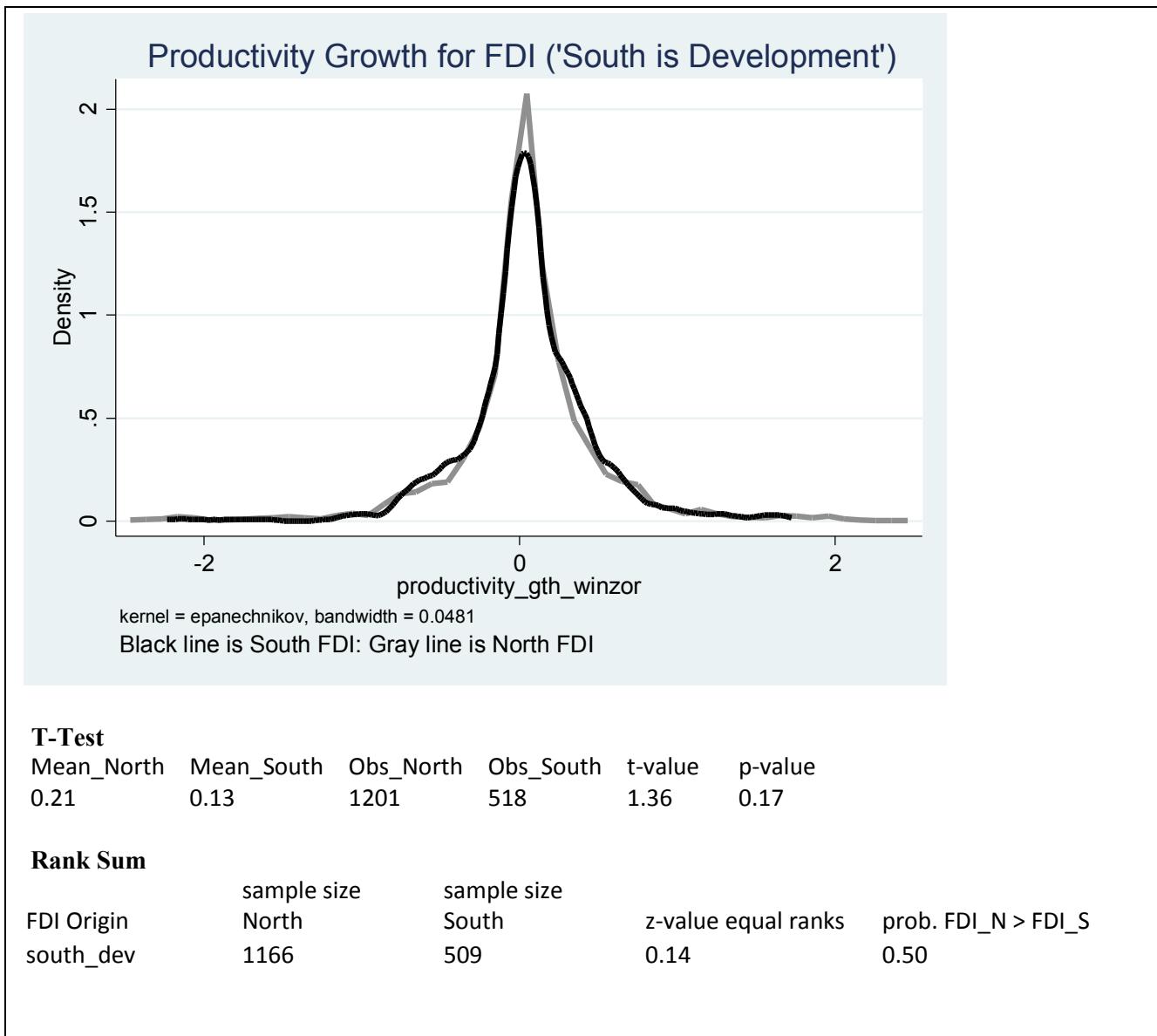
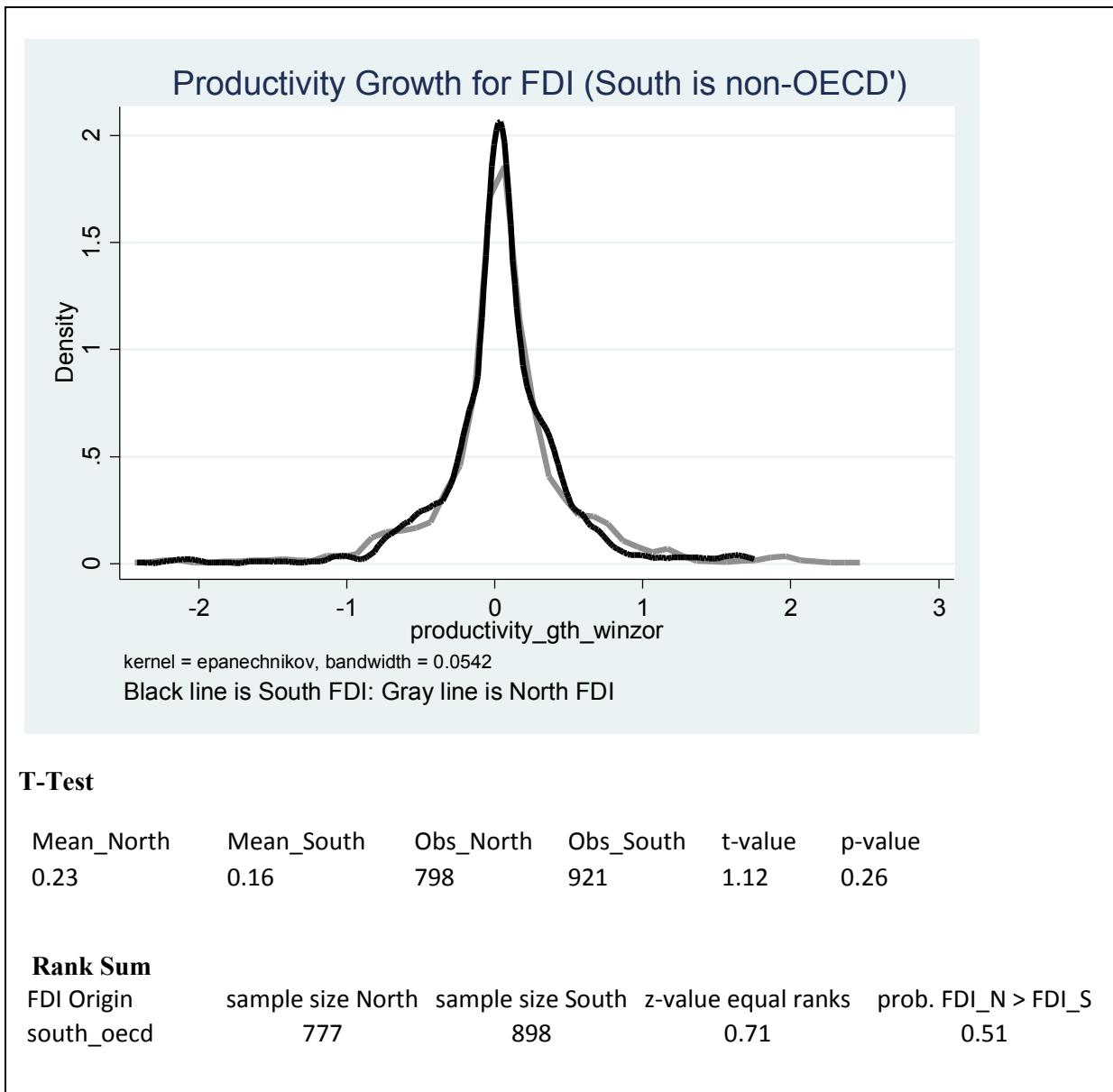
Figure 2

Figure 3

APPENDIX

Table A1: Effect heterogeneity: Logged and Lagged Productivity (Levels)

VARIABLES	gdp_pc		gdp_growth		trade_openness		fdiinflows_gdp	
	low	high	low	high	low	high	low	high
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign investment	0.436*** (0.091)	0.419*** (0.048)	0.392*** (0.044)	0.477*** (0.080)	0.453*** (0.062)	0.395*** (0.064)	0.434*** (0.066)	0.423*** (0.055)
Foreign investor is South (Africa)	0.093 (0.097)	0.144** (0.053)	0.201*** (0.037)	0.035 (0.084)	0.098 (0.093)	0.119 (0.065)	0.043 (0.066)	0.185** (0.073)
Adj. R-squared	0.147	0.180	0.176	0.145	0.156	0.179	0.162	0.177
Foreign investment	0.443*** (0.082)	0.447*** (0.049)	0.437*** (0.052)	0.471*** (0.074)	0.483*** (0.062)	0.406*** (0.043)	0.441*** (0.065)	0.462*** (0.048)
Foreign investor is South (Low-Development)	0.064 (0.053)	-0.020 (0.094)	-0.036 (0.063)	0.040 (0.070)	-0.018 (0.052)	0.093 (0.169)	0.006 (0.053)	0.038 (0.127)
Adj. R-squared	0.146	0.179	0.174	0.145	0.155	0.178	0.162	0.175
Foreign investment	0.484*** (0.093)	0.486*** (0.062)	0.458*** (0.064)	0.534*** (0.086)	0.541*** (0.063)	0.409*** (0.070)	0.500*** (0.069)	0.474*** (0.070)
Foreign investor is South (non-OECD)	-0.032 (0.059)	-0.093* (0.050)	-0.065 (0.065)	-0.079 (0.047)	-0.115** (0.039)	0.027 (0.057)	-0.108** (0.035)	-0.005 (0.076)
Adj. R-squared	0.146	0.179	0.174	0.146	0.156	0.178	0.163	0.175
Observations	2,391	2,831	2,620	2,602	3,386	1,836	2,997	2,225

Note: OLS regressions, standard errors in parentheses, clustered on country level. *** p<0.01, ** p<0.05, * p<0.10. Other covariates (lagged logged employment size, lagged logged productivity levels, logged firm age, technology and country dummies).

Table A2: Effect heterogeneity: Logged Sales Growth

VARIABLES	gdp_pc		gdp_growth		trade_openness		fdiinflows_gdp	
	low	high	low	high	low	high	low	high
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign investment	0.229*** (0.042)	0.284** (0.107)	0.248** (0.090)	0.267** (0.083)	0.258*** (0.078)	0.274** (0.113)	0.294*** (0.085)	0.215* (0.115)
Foreign investor is South (Africa)	0.011 (0.055)	0.094 (0.080)	0.118 (0.114)	-0.021 (0.038)	0.083 (0.083)	-0.070 (0.073)	-0.015 (0.071)	0.088 (0.085)
Adj. R-squared	0.264	0.206	0.250	0.209	0.243	0.204	0.252	0.192
Foreign investment	0.229*** (0.057)	0.305** (0.097)	0.280** (0.097)	0.262*** (0.062)	0.310*** (0.092)	0.224** (0.087)	0.320*** (0.094)	0.212** (0.085)
Foreign investor is South (Low-Development)	0.008 (0.064)	-0.027 (0.100)	-0.050 (0.105)	-0.002 (0.055)	-0.089 (0.063)	0.210 (0.153)	-0.084 (0.072)	0.106 (0.083)
Adj. R-squared	0.264	0.206	0.250	0.209	0.243	0.205	0.253	0.193
Foreign investment	0.238*** (0.050)	0.330** (0.112)	0.323** (0.114)	0.250*** (0.050)	0.351*** (0.108)	0.200** (0.065)	0.375*** (0.107)	0.169** (0.068)
Foreign investor is South (non-OECD)	-0.010 (0.032)	-0.066 (0.124)	-0.123 (0.093)	0.020 (0.062)	-0.133 (0.079)	0.128 (0.096)	-0.161* (0.076)	0.129 (0.072)
Adj. R-squared	0.264	0.206	0.251	0.209	0.244	0.205	0.254	0.193
Observations	2,391	2,831	2,620	2,602	3,386	1,836	2,997	2,225

Note: OLS regressions, standard errors in parentheses, clustered on country level. *** p<0.01, ** p<0.05, * p<0.10. Other covariates (lagged logged employment size, lagged logged productivity levels, logged firm age, technology and country dummies).