Cómo la facilitación de inversiones y comercio afectan el nivel de actividad de las subsidiarias de multinacionales: evidencia a nivel de firma

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Resumen

La evidencia empírica muestra que las empresas multinacionales (EMN) crean empleo, perfeccionan la estructura productiva y contribuyen a mejorar la productividad del país anfitrión. Por lo tanto, no es de extrañar que los gobiernos realicen importantes esfuerzos en todos los ámbitos políticos para atraer las operaciones de estas empresas a sus países. A este respecto, poco se sabe sobre si los cambios en la normativa y los procedimientos nacionales que determinan la facilidad para hacer negocios afectan a las actividades de las EMN y a su integración en las cadenas de valor mundiales. En este documento, se llena este vacío en la literatura utilizando datos de ingresos a nivel de empresa combinados con datos a nivel de país sobre el número de días necesarios para exportar, importar e iniciar un negocio durante el período 2006-2019.

Los resultados sugieren que niveles más bajos de facilitación del comercio y la inversión en los países anfitriones están asociados con niveles más bajos de ingresos de las filiales extranjeras en ellos. Estos resultados son robustos al utilizar varias muestras. El efecto negativo de los plazos más largos para comerciar sobre los ingresos de las filiales extranjeras es menor en el caso de Costa Rica que en el de otros países, pero ocurre lo contrario con los plazos más largos para iniciar un negocio, especialmente en el caso de los sectores de servicios. Este último resultado plantea una importante recomendación de política pública para el país. Si se mejora el marco normativo y se reducen los costos para facilitar los flujos de IED a nivel de empresa, esta dimensión de facilitación de la inversión aportaría un impulso adicional a los ingresos de las filiales en relación con otros países anfitriones, lo que crearía nuevos incentivos para que las EMN buscaran Costa Rica como destino de sus inversiones.

Palabras clave: Facilitación de Comercio e Inversión, Datos de Panel, Multinacionales, Política Económica, Costa Rica

Clasificación JEL.: F61, L60, L80, O19

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How does investment and trade facilitation affect foreign affiliates performance: Firm-level evidence

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The ideas expressed in this paper are those of the authors and not necessarily represent the view of the Central Bank of Costa Rica.

Abstract

Empirical evidence shows that MNEs create jobs, refine the productive structure, and help improve the productivity of the host country. It is therefore not surprising that any governments make significant efforts across policy areas to attract these firms' operations to their countries. In this regard, little is known about whether and how changes in domestic regulations and procedures that determine the easiness of doing business affect MNEs' activities in and integration into global value chains from the host country. In this paper, we are filling in this gap in the literature using firm-level revenue data combined with country-level data on the number of days required to export, import, and start a business over the period 2006-2019.

Our results suggest that lower levels of trade and investment facilitation in host countries are associated with lower levels of foreign affiliates' revenues therein. These results are robust to using several samples. The negative effect of longer times to trade on foreign affiliates' revenues is smaller for Costa Rica than for other countries but the opposite holds for longer times to start a business, especially in the case of service sectors. This latter result poses an important policy recommendation for the country. If it improves the regulatory framework and lowers costs to facilitate FDI flows at the firm level, this investment facilitation dimension would bring an extra boost to affiliate revenues relative to other host countries, which would create new incentives to MNEs to look for Costa Rica as a destination for their investments.

Key words: Trade and Investment Facilitation, Panel Data, Multinationals, Economic Policy, Costa Rica

JEL codes: F61, L60, L80, O19

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Contenido

How does investment and trade facilitation affect foreign affiliates performance:
Firm-level evidence

1. Introduction

In recent decades, research in international trade and multinational production has shifted its attention from countries and industries to the microeconomic decisions of firms. A high share of international trade is dominated by large Multinational Enterprises (MNEs) that actively participate in Global Value Chains (Bernard et al., 2018; Antràs and Chor, 2021; Antràs and Yeaple, 2014). Moreover, Foreign Direct Investment (FDI) by these firms results in valuable production externalities for the host countries which lead to higher economic growth and development (Alfaro, 2017; Rodríguez-Clare, 1996). Among the most relevant mechanisms are the increase and variety of exports, knowledge spillovers, and productive linkages between domestic firms and MNEs (Harrison and Rodríguez- Clare, 2010; Havranek and Irsova, 2011; Alfaro, 2017; Alfaro-Urena et al., 2022; Carballo et al., 2023). Thus, to understand the interplay between international trade, FDI and multinational production, economic growth, and the consequences thereof it is key to study those microeconomic level decisions. This is particularly important for developing countries like Costa Rica –the country we will focus on this paper.

There are several reasons why firms develop into MNEs. For example, an ownership advantage to allow firms to compete in unfamiliar environments, a location advantage that makes it efficient to produce in multiple countries, and an internalization advantage related to market failures in the transfer of technology and to inefficiencies associated with market exchanges. Useful overview studies of MNEs include Antràs and Yeaple (2014); Caves (2007); Markusen (2002); Navaretti and Venables (2004), and Antras and Rossi-Hansberg (2009).[1]

The literature specifically examines MNEs' decisions related to ownership, location, employment, and production levels. The existing evidence reveals that multinational activity is primarily concentrated in developed countries and that developing countries are more likely to be the destination rather than the source. Furthermore, both MNEs' parents and their subsidiaries tend to be larger, more productive, and more export oriented than non-multinational firms (Antràs and Yeaple, 2014). That is true also for Costa Rica (Alfaro-Urena et al., 2022; Huertas-Morales et al., 2021).

Multinational production faces significantly higher costs than exporting (Gumpert et al., 2020). What do MNEs then look in a developing country to locate and develop their activities? Could these countries do something to attract more MNEs and allow them to grow in their territories?

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[1] Antràs et al. (2009), Desai et al. (2004), and Klein et al. (2002) study financial aspects of multinational activity.

Governments around the world have resorted to industrial policy to attract these multinational firms. This policy can encompass incentives to foreign firms in the form of income tax holidays, tariff exemptions, and subsidies for infrastructure (see, e.g., Greenstone and Moretti, 2003; Greenstone et al., 2010; Farole, 2011; Davies and Francois, 2015; Zeng, 2015; and Davies and Desbordes, 2018).[2] These kinds of interventions imply deviations from policy neutrality that create price distortions (Harrison and Rodriguez-Clare, 2010).

In addition to these interventions, there are other, "softer" and less controversial, industrial policies that do not involve direct financial support. This is for instance the case with investment promotion, a public policy purposely designed to reduce information frictions affecting location decisions across borders. Costa Rica has not been the exception in this regard. The country has had a clear, consistent policy of attracting multinational firms designed and implemented by CINDE, the investment promotion agency, in coordination COMEX, the Ministry of Foreign Trade (COMEX), PROCOMER, the trade promotion agency. The country stands out as a success story for the development of its exports. It was transformed from an economy that produced agricultural goods to have a business park that exports high-tech goods, medical devices, and knowledge-intensive services.[3] This evolution has been largely driven by FDI flows that have arrived in the country in recent decades.[4] Carballo et al. (2021) show that investment promotion has played an important role in this process: support through CINDE has significantly increased the probability that a multinational firm establishes its first affiliate in Costa Rica. This effect has been primarily driven by the resolution of information asymmetries.

Additionally, the recent trade policy tensions and the COVID-19 pandemic have highlighted the fragility of global chains with the disruption of trade flows from Asia. This has caused a recent trend towards *nearshoring* (producing closer to the place where it is sold; in the case of Costa Rica, it would be the United States). This is an opportunity to build more resilient and better prepared economies for Costa Rica and other developing countries by the attraction of MNEs with policies beyond fiscal incentives.

In this paper, we contribute to the literature by examining whether and to what extent administrative regulations and procedures that determine the easiness of doing business in host countries affect the level of activities of multinational firms' foreign affiliates' therein. More precisely, we assess the effect of trade and investment facilitation on MNEs subsidiaries'

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[2] Governments are adopting increasingly sophisticated approaches, such as special tax incentives focused on intangible assets (Owens and Zhan, 2018). In addition, the number of special economic zones with fiscal incentives increased from 76 in 1986 (in 47 countries) to more than 4500 in 2018 virtually worldwide (United-Nations, 2018).

[3] Among these there are computer services, telecommunications, consulting activities, architecture, design, and creative activities; activities related to marketing and communication; activities related to finance, accounting, and financial analysis, as well as other research and development.

[4] A substantial portion was associated with the special free zone regime (Law No. 7210, No. 8794, and its regulations).

revenues. In so doing, we will aim not only to help increase our understanding of the determinants of MNEs activity, but also to derive policy recommendations about what to do to attract and retain more MNEs and make it easier for them to grow, thereby improving their economic growth and development prospects, both in general and for Costa Rica in particular.

To do so, we primarily combine and use firm-level data on foreign affiliates' revenues from both the Capital IQ database and the Economics Variables Register Database (Revec) from the Central Bank of Costa Rica and country-level data on the time required to start a business and the number of days required to import and export to proxy investment and trade facilitation, respectively, from the World Bank Development Indicators over the period 2006-2019.

The estimates of our main equation, which includes fixed effects to account for relevant, systematic unobserved factors, suggest that lower levels of trade and less investment facilitation result in lower subsidiaries' revenues: the number of days required to export, to import, or to start a business in the host country have a negative impact on the revenues of foreign affiliates operating therein.[5] These results are robust to using several samples and alternative sets of fixed effects .

The negative estimated effect of the number of days to export and import on subsidiaries' revenues is smaller for Costa Rica than for other countries (i.e., the interaction between that variable and a binary indicator for Costa Rica is positive and statistically significant). This could reflect the important progress made by the country in implementing trade facilitation policies, in general, and the adoption of an electronic trade single window (one-stop shop) already several years ago, which has increased the speed, simplicity, and predictability of border formalities' completion (Carballo et al., 2016), as well as closeness to key markets such as the United Sales.

Importantly, in contrast, the negative estimated impact of the number of days to start a business is larger for Costa Rica than for other countries (i.e., the interaction between that variable and a binary indicator for Costa Rica is negative), especially in the case of service sectors.

Many countries have invested in and implemented policies to reduce the number of procedures and days to register and start a new company.[6] One of these policies is the introduction of investment single windows. Figure 1, based on IFC (2009), shows that, on average, countries with these systems have a lower number of days to establish a firm than their counterparts without them.

Costa Rica initiated the process to implement a single digital window to register a new company in 2018. Such a process has not been completed yet and, as a result, the number of days to

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[5] In our main specification, all relevant variables are expressed in natural logarithm.
[6] In some countries all businesses must be registered, in others, only those companies with legal existence separate from their owners. Registration may be a function of a central institution or may be affected at a local level.

start a business is still relatively high. Our results point to an important policy recommendation for the country. There is a clear need to further facilitate investments through improvements in the regulatory framework, in general, and to finish implementing the digital investment single window. The payoffs are likely to be high: this would bring an extra boost to subsidiaries' revenues relative to other host countries (mostly developed countries are the comparison group here) which would reinforce the incentives to MNEs to look for Costa Rica as a host country.

Figure 1: Comparative performance of the types of one-stop shop

	# of countries	Average		
		# of procedures	# of days	Ranking (out of 183)
A. Commercial Registry with other bodies on the same site	7	7.0	24	99
B. Commercial Registry which liaises with other bodies	20	6.7	19	61
C. One-Stop Shop (not a Commercial Registry) which liaises with other bodies	13	6.3	27	98
D. Integrated registration function	12	5.8	13	49
E. Online registration facility	15	5.2	14	48
All countries with one-stop shops	**67**	**6.1**	**19**	**67**
F. Other countries	116	9.3	46	106

Source: IFC (2009).

2. Data and Descriptive Evidence

We use the Capital IQ database that provides us with annual information on MNEs and its subsidiaries, including home and host country, sector of activity (in terms of the North American Industry Classification System, NAICS, which we matched to the ISIC 4-digit code), and their annual revenues in US dollars, and we complete this database with the Economics Variables Register Database (Revec) from the Central Bank of Costa Rica. This includes firm-level annual information on whether the firm is a foreign affiliate, the sector activity (in terms of the 4-digits International Standard Industrial Classification, ISIC), and revenues in US dollars. The data are available from 2006 to 2019 (14 years).[7]

In addition, we use country-level information to approximate investment and trade facilitation in the host countries. More precisely, we proxy the level of investment facilitation with the time required to start a business in days, and the level of trade facilitation with the number of days required to import plus the number of days required to export all from the World Bank Development Indicators. Finally, we also make use of data on the existence of Preferential Trade Arrangements (PTA), Bilateral Investment Treaties (BIT), and Double

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[7] To match the Capital IQ and Revec data, we look at the names of the subsidiary firms reported in both databases with Costa Rica as a host country. Then, we match them by their names. In this way, we were able to match 45 MNEs that operate in Costa Rica.

Taxation Treaties (DTT) between the home and the host countries of each subsidiary to control for their influence.

In total, we have 4,472 firms (subsidiaries), 67 host countries, 36 home countries, and 246 sectors. The number of observations increases within more recent years as shown in Figure 2.

Of the 67 host countries, 30 are developing countries. However, they represent a small share of the overall data. Figure 3 shows that host countries are mostly developed countries. For example, Great Britain (GBR) and France (FRA) account for near 24% and 11% of the data, respectively. The share of the data for developing countries as host is small, altogether being 5% of the data. Given the information from Revec, Costa Rica is the developing country with more data adding up to 1% of the overall data share. Hence, Costa Rica is going to be compared primarily to developed countries as host.

Figure 2: Number of Observations by Year
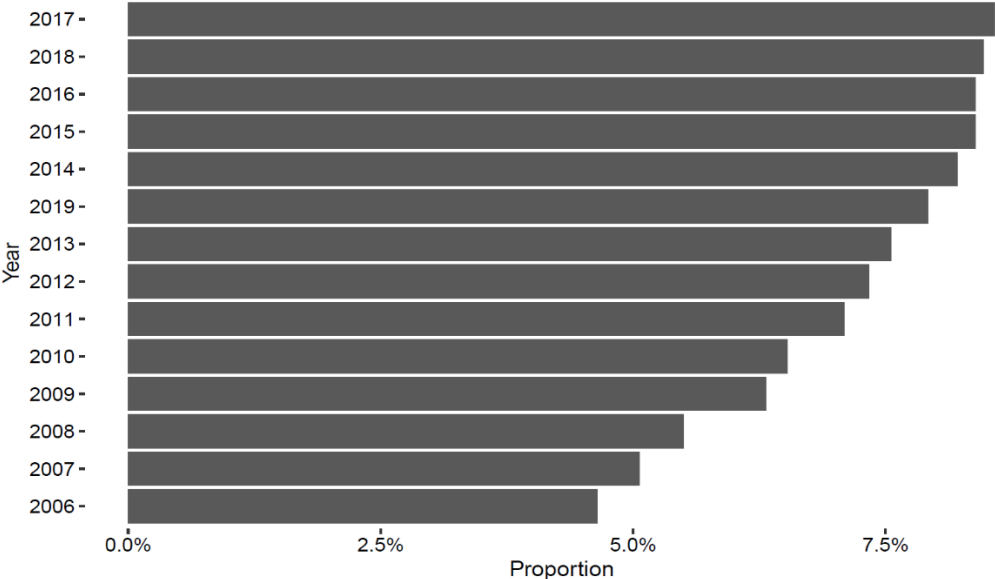
As expected, most of the home countries are developed economies. As shown in Figure 4, the United States (USA) represents 34% of the data followed by Germany (DEU) with 13%.

In regard with the data sector distribution, wholesale of other household goods (ISIC 4649) has 9%, activities of holding companies (6420) have 4%, advertising (7310) has 4%, wholesale of other types of machinery and equipment (4659) has 3%, computer programming (6201) has 3%, and wrapping and packaging activities (8292) has 3%. The remaining sectors have a 2% or lower share of the overall data points.

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Figure 3: Number of Observations by Host Country
(Main 10 Countries and Rest of the World)
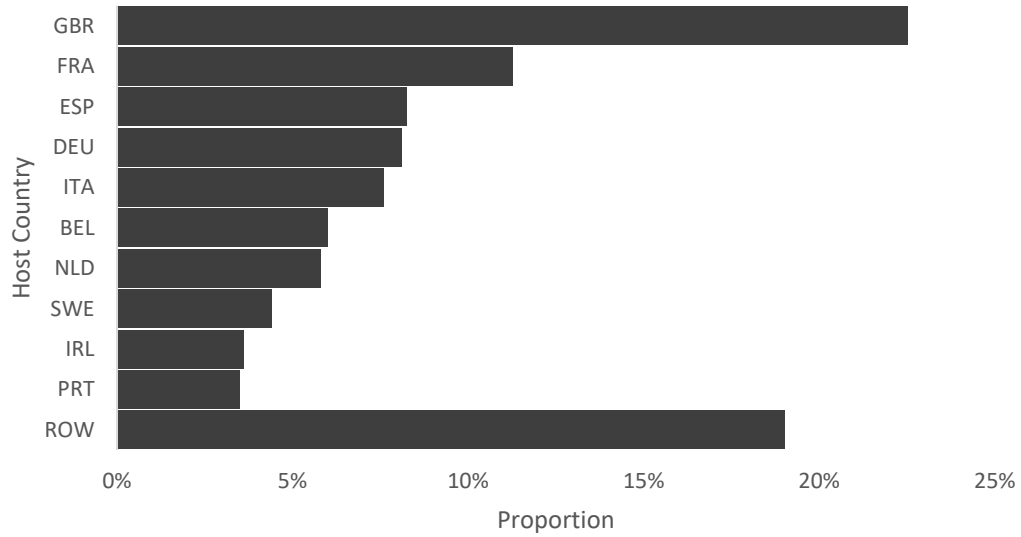
Figure 4: Number of Observations by Home Country
(10 Main Countries and Rest of the World)
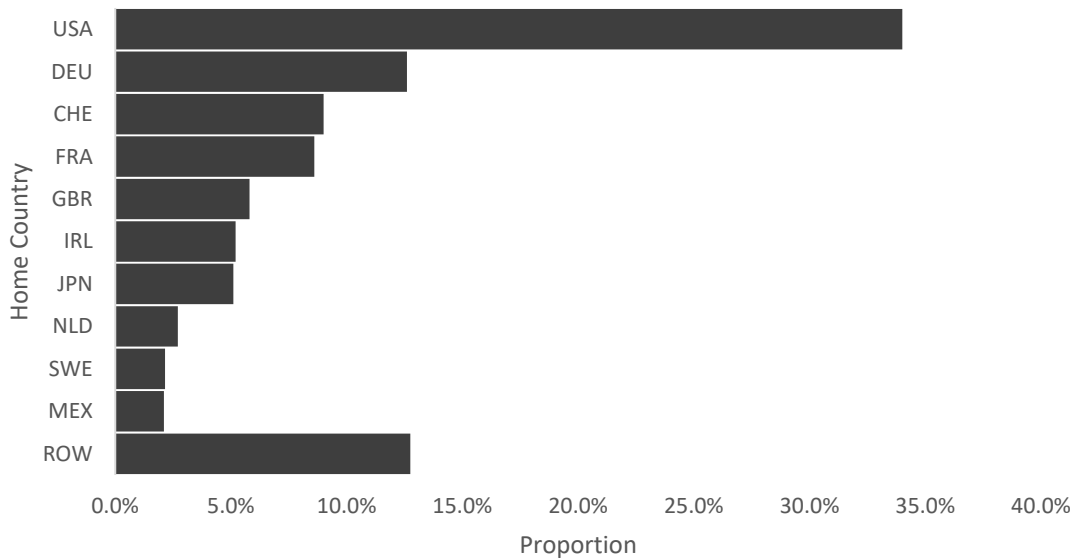
3. Empirical Methodology

We aim to estimate the effects of investment and trade facilitation on foreign affiliates' revenues in their host countries, both in general and in Costa Rica, in particular. To do so we estimate the following equation:

$$lnR_{fhcst} = \alpha lnTF_{ct} + \beta lnIF_{ct} + \gamma D_{CRI} + \alpha_{CRI} D_{CRI} * lnTF_{ct} + \beta_{CRI} D_{CRI} * lnIF_{ct}$$
$$+ \sum \kappa_j EIA_{hct}^j + \phi X_{ct} + \theta_{FE} + \varepsilon_{fhcst} \qquad (1)$$

where R is the total revenue of the foreign subsidiary f from home country h, in host country c, in sector s, and in year t. TF corresponds to the number of days to trade, namely, the number of days required to export plus the number of days required to import. IF captures the number of days to start a business. EIA represents economic integration agreement j (j = {Preferential Trade Agreements (PTA), Bilateral Investment Treaties (BIT), and Double Taxation Treaties (DTT)}) between the home country h and the host country c. ϕ represents the effects of additional controls at the host country level that vary over time, denoted by X_{ct}, which are Property Rights, Tax Burden, Labor Freedom from the Economic Freedom Index, Innovation from the Global Competitiveness Index, the Real Effective Exchange Rate Index, and the Gross Fixed Capital Formation as GDP percentage. θ_{FE} are alternative sets of home, host, sector, and year fixed effects. ε is the error term with standard deviation clustered at the fixed effects level. Finally, D_{CRI} is a dummy variable that takes the value of one when Costa Rica is the host country and zero otherwise. Hence, the estimates of α and β represent the estimated average effects of our trade and investment facilitation variables, whereas those of α_{CRI} and β_{CRI} capture the differential estimated effects for Costa Rica as a host country.

There are some challenges in performing the estimations. First, given the few observations that correspond to developing countries as host, the use of individual host country fixed effects can absorb most of the variation associated with these countries. To avoid this, we use a single pooled fixed effect for these economies. Second, wholesale of other household goods (4649) and activities of holding companies (6420), which account for a non-trivial share of the observations (see Section 2), are activities that could be not related to investment and trade facilitation in a meaningful way and, in addition when it comes to compare Costa Rica with other countries, sectors with multinational production may differ between these groups.[8]

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[8] Wholesale of other household goods (ISIC 4649) is typically used as a category when firms do not know how to categorize themselves, meaning there could be a huge variation in the actual activity of this sector. Similarly, activities of holding companies (6420) refer to the holding units of assets whose main activity consists of ownership of the group. This is not an activity related to investment and trade facilitation but a law-related issue.

Hence, we perform the estimations on several alternative samples. First, we use the entire sample. Second, the sample is restricted to MNEs whose ISIC 4-digit sectors are those of the MNEs that operate in Costa Rica. This would help create a more homogenous sample in terms of sectoral composition to compare Costa Rica and other countries. Third, given that this restriction can be very strict, we impose the previous restriction but in terms of ISIC 2-digits. Lower digits allow more data points to enter this sample as the sector is broadened to balance representativeness with degrees of freedom for the estimation. Finally, the fourth sample only includes MNEs whose sectors are the same as those present in Costa Rica according to ISIC-2-digits but excluding the sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies).

4. Results

The baseline results are shown in Table 1. These do not include the interaction with Costa Rica as a host country. Results of the interaction with Costa Rica are shown in Table 2.

Our results suggest that low levels of trade and less investment facilitation in host countries are associated with weaker performance of subsidiaries therein: the number of days required to export, import, and start a business in hosting economies have a negative effect on the revenues of foreign affiliates that operate in their territories. These results are robust using alternative sets of fixed effects and several samples (Tables A1-A4 in the Appendix).

On average, foreign affiliates' revenues do not appear to be significantly different in Costa Rica after accounting for trade and investment facilitation and other relevant factors and policies. Having said that, insufficient progress toward to investment facilitation is particularly costly for Costa Rica: the negative effect of the number of days required to start a business on firms' revenues is significantly larger for the country, especially for those operating in the case of services. In contrast, these revenues seem to be less responsive to trade facilitation in Costa Rica, which may reflect the important advances of the country in this policy area, which include an electronic single window that have been active for several years now, and the proximity to main destinations such as the United States.

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	(1)	(2)	(3)	(4)	(5)	(6)
Without industries restriction, all sectors						
Trade (α)	-0.4186***	-0.3770***	-0.3538***	-0.3843***	-1.4250***	-1.2510***
	(0.0578)	(0.0999)	(0.1057)	(0.1137)	(0.2633)	(0.2443)
Investment (β)	-0.1593	-0.6117***	-0.5711***	-0.1589	-0.6808***	-0.6303***
	(0.1460)	(0.0575)	(0.0521)	(0.1557)	(0.1497)	(0.1311)
Observations	48,446	48,446	48,446	45,257	45,257	45,257
With industries restriction ISI-4, all sectors						
Trade (α)	-0.5445***	-0.6103***	-0.6186***	-0.4829*	-0.8667***	-0.6767***
	(0.1793)	(0.1017)	(0.1025)	(0.2344)	(0.3231)	(0.3413)
Investment (β)	-0.1184	-0.2572***	-0.2674***	-0.1446	-0.7224***	-0.7352***
	(0.0983)	(0.0712)	(0.0777)	(0.1396)	(0.0699)	(0.0678)
Observations	13,221	13,221	13,221	12,278	12,278	12,278
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the samples. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table 1: Results without interaction with CRI as host (continue)

(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
With industries restriction ISIC-2, all sectors						
Trade (α)	-0.6955***	-0.7113***	-0.7177***	-0.7342***	-1.4620***	-1.3050***
	(0.1313)	(0.1026)	(0.1000)	(0.2486)	(0.2696)	(0.2327)
Investment (β)	-0.1141	-0.4720***	-0.4382***	-0.1411	-0.6534***	-0.6408***
	(0.1221)	(0.0852)	(0.0872)	(0.1558)	(0.1181)	(0.1019)
Observations	26,204	26,204	26,204	24,396	24,396	24,396
With industries restriction ISIC-2, without sectors 4649 and 6420						
Trade (α)	-0.8153***	-0.8314***	-0.8365***	-0.8024***	-1.5510***	-1.3620***
	(0.1366)	(0.0973)	(0.0929)	(0.2710)	(0.3079)	(0.2610)
Investment (β)	-0.1571	-0.5030***	-0.4666***	-0.2087	-0.7464***	-0.7292***
	(0.1280)	(0.0789)	(0.0810)	(0.1587)	(0.1223)	(0.1030)
Observations	20,273	20,273	20,273	18,788	18,788	18,788
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the samples. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table 2: Results with interaction with CRI as host

(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
Without industries restriction, all sectors						
Trade x hostCRI (α_{cri})	0.2098**	-0.0551	-0.0356	0.6831***	0.7349	0.8576***
	(0.0814)	(0.2942)	(0.2610)	(0.1958)	(0.4765)	(0.3040)
Investment x hostCRI (β_{cri})	-0.7638***	-0.5027***	-0.3722**	-0.7445***	-0.3991*	-0.3009*
	(0.0717)	(0.1675)	(0.1508)	(0.0711)	(0.2251)	(0.1679)
Observations	48,446	48,446	48,446	45,257	45,257	45,257
With industries restriction ISIC-4, all sectors						
Trade x hostCRI (α_{CRI})	0.4049**	0.5987***	0.6446***	0.6662***	0.6398	0.7328
	(0.1646)	(0.2821)	(0.2347)	(0.0723)	(0.4946)	(0.4538)
Investment x hostCRI (β_{CRI})	-0.7500***	-0.7347***	-0.7932***	-0.5865***	0.3637*	0.0791
	(0.0703)	(0.1137)	(0.1285)	(0.1113)	(0.2136)	(0.2411)
Observations	13,221	13,221	13,221	12,278	12,278	12,278
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the samples. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table 2: Results with interaction with CRI as host (continue)

(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
With industries restriction ISIC-2, all sectors						
Trade x hostCRI (α_{CRI})	0.4745**	0.1744	0.3859*	0.9088***	1.2810***	1.4240***
	(0.1684)	(0.2244)	(0.2267)	(0.2645)	(0.4177)	(0.2966)
Investment x hostCRI (β_{CRI})	-0.7677***	-0.5788***	-0.5518***	-0.7582***	-0.2132	-0.2728
	(0.0775)	(0.1310)	(0.1320)	(0.0783)	(0.2383)	(0.1962)
Observations	26,204	26,204	26,204	24,396	24,396	24,396
With industries restriction ISIC-2, without sectors 4649 and 6420						
Trade x hostCRI (α_{CRI})	0.5196**	0.2888	0.5282**	0.9137***	1.2860***	1.4250***
	(0.2172)	(0.2934)	(0.2490)	(0.2724)	(0.4530)	(0.2825)
Investment x hostCRI (β_{CRI})	-0.8152***	-0.7338***	-0.6595***	-0.7786***	-0.0633	-0.1071
	(0.0283)	(0.1351)	(0.1322)	(0.1064)	(0.2770)	(0.2276)
Observations	20,273	20,273	20,273	18,788	18,788	18,788
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the samples. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table 3 shows how much the revenues of the foreign affiliates (in million dollars) would increase, on average, if the number of days to export, import and start a business would decrease by 1 day, using the estimated elasticity and the average number of days in Costa Rica. Clearly, subsidiaries' revenues would experience a significant increase if trade and especially investment were further facilitated; in particular, this effect is higher for firms operating in the service sectors.

Table 3: Effect of an Extra Day of Investment and Trade Facilitation
Total Revenues in Millions of US Dollar

	(1)
Trade	2.18***
Investment	0.89***
Investment x hostCRI	1.74***
Investment x Services x hostCRI	2.58***

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, and World Bank Developing Indicators. Numbers are computed using the estimated coefficients of equation 1 with the respective interaction terms and the average number of days needed to start a business, to export, and to import in Costa Rica. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level. Significant level computed with the respective Wald test.

5. Conclusions and Policy Recomendations

Our results convey a clear policy message. The degree of trade and investment facilitation in their host countries matters for foreign affiliates' performance therein and, as a result, for their attractiveness as locations for the expansion of multinational production. In the case of Costa Rica, further progress toward investment is called for. Improvements in the regulatory framework and streamline and expediting of procedures to start a business through the full implementation of the digital investment single window would result in increased revenues for foreign affiliates and thus stronger incentives for multinational firms to choose Costa Rica as a destination of their investments.

Although trade and investment have always been interlinked, three related developments in the global economy — the spread of global value chains (GVCs), the growth of services, and the rise of digital trade or 'e-commerce' — are amplifying these dynamic links and making it more important for policymakers to respond in complementary and coherent ways.

Countries that implement trade facilitation reforms and enhance trade efficiency and connectivity are generally expected to attract more FDI, particularly in relationship to international production networks, which typically require low transaction costs between their members (e.g., ADB/ESCAP, 2013; UNECE, 2003).

Investment facilitation measures can foster MNEs' activities through promoting greater transparency of regulations (including notably through online publication); streamlining and speeding up administrative procedures; and establishing amicable consultation/mediation mechanisms to prevent investment disputes from escalating. Moreover, investment facilitation can also help enhance the visibility of domestic firms, notably through measures encouraging the establishment of domestic supplier databases. Global policy dialogues within the Group of Twenty's (G20) Guiding Principles for Global Investment Policymaking have stressed that investment facilitation provides avenues for small business to participate and move up in supply chains by leveraging on linkages to multinational companies.

WTO members' awareness of the importance of investment facilitation for MNEs and the benefits associated with the multinational production is well reflected in the draft negotiating document for an IFD Agreement.[9] This is made through provisions encouraging members to review their investment measures with the view to make their regime more effective in addressing the specific needs of MNEs, or to consider, when preparing major investment measures, the potential impact of those measures on MNEs.

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7. Appendix

Table A1: Results with interaction with Manufacture Firms
(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
Without industries restriction, all sectors						
Trade x Manufacture ($\alpha \times \theta$)	0.1187	0.0864	0.0986	0.1741	0.1855***	0.1898***
		(0.0741)	(0.0707)	(0.1940)	(0.0696)	(0.0681)
Investment x Manufacture ($\beta \times \theta$)	-0.0224	-0.0035	-0.0129	-0.0469	-0.0210	-0.0346
		(0.0272)	(0.0277)	(0.0684)	(0.0263)	(0.0267)
Observations	48,446	48,446	48,446	45,257	45,257	45,257
With industries restriction ISIC-4, all sectors						
Trade x Manufacture ($\alpha \times \theta$)	0.0777	0.1024	0.0835	0.0543	0.0493	0.0338
	(0.1779)	(0.0863)	(0.0830)	(0.1810)	(0.0857)	(0.0823)
Investment x Manufacture ($\beta \times \theta$)	0.0272	0.0273	0.0611	-0.0004	-0.0112	0.0223
	(0.1047)	(0.0505)	(0.0437)	(0.1220)	(0.0548)	(0.0461)
Observations	13,221	13,221	13,221	12,278	12,278	12,278
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the samples. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table A1: Results with interaction with Manufacture Firms (continue)
(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
With industries restriction ISIC-2, all sectors						
Trade x Manufacture ($\alpha \times \theta$)	-0.0318	-0.0399	-0.0423	0.0669**	0.0980*	0.0880
	(0.0882)	(0.0551)	(0.0584)	(0.0284)	(0.0549)	(0.0564)
Investment x Manufacture ($\beta \times \theta$)	-0.0422	-0.0506	-0.0292	-0.0512	-0.0495	-0.0373
		(0.0309)	(0.0309)	(0.0776)	(0.0343)	(0.0323)
Observations	26,204	26,204	26,204	24,396	24,396	24,396
With industries restriction ISIC-2, without sectors 4649 and 6420						
Trade x Manufacture ($\alpha \times \theta$)	0.0311	0.0255	0.0237	0.0883	0.1075	0.0975
	(0.1305)	(0.0692)	(0.0714)	(0.1230)	(0.0728)	(0.0720)
Investment x Manufacture ($\beta \times \theta$)	0.0022	-0.0104	0.0051	-0.0150	-0.0230	-0.0117
	(0.1233)	(0.0441)	0.0051	(0.1301)	(0.0452)	(0.0429)
Observations	20,273	20,273	20,273	18,788	18,788	18,788
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the samples. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table A2: Results with interaction with Manufacture Firms and CRI as host
(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
Without industries restriction, all sectors						
Trade x Manu x hostCRI ($\alpha_{CRI} \times \theta$)	0.0058	0.1450	0.0029	-0.3497	0.0284	-0.3770
	(0.2014)	(0.3471)	(0.3681)	(0.2441)	(0.2595)	(0.3691)
Invest x Manu x hostCRI ($\beta_{CRI} \times \theta$)	0.1785*	0.1464	0.1942	0.2473**	0.1282	0.2163
		(0.1987)	(0.1949)	(0.0888)	(0.1797)	(0.1919)
Observations	48,446	48,446	48,446	45,257	45,257	45,257
With industries restriction ISIC-4, all sectors						
Trade x Manu x hostCRI ($\alpha_{CRI} \times \theta$)	0.0696	0.1617	0.1020	-0.2219	0.3510	-0.0952
	(0.1014)	(0.3941)	(0.3783)	(0.1694)	(0.4338)	(0.4521)
Invest x Manu x hostCRI ($\beta_{CRI} \times \theta$)	0.1514	0.1538	0.1652	0.2239**	0.1373	0.2210
	(0.1032)	(0.2390)	(0.2199)	(0.0990)	(0.2461)	(0.2446)
Observations	13,221	13,221	13,221	12,278	12,278	12,278
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators.
Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the sample. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table A2: Results with interaction with Manufacture Firms and CRI as host (continue) (log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
With industries restriction ISIC-2, all sectors						
Trade x Manu x hostCRI ($\alpha_{CRI} \times \theta$)	0.1312	0.3205	0.1744	-0.2611	0.3173	-0.1954
	(0.1995)	(0.4058)	(0.3724)	(0.1838)	(0.3800)	(0.3871)
Invest x Manu x hostCRI ($\beta_{CRI} \times \theta$)	0.2064*	0.1840	0.2601	0.2378**	0.1209	0.2498
		(0.2204)	(0.2118)	(0.0978)	(0.1881)	(0.2101)
Observations	26,204	26,204	26,204	24,396	24,396	24,396
With industries restriction ISIC-2, without sectors 4649 and 6420						
Trade x Manu x hostCRI ($\alpha_{CRI} \times \theta$)	0.1925	0.5542	0.2171	-0.1752	0.5537	-0.1231
	(0.2331)	(0.4829)	(0.4107)	(0.2361)	(0.5214)	(0.4361)
Invest x Manu x hostCRI ($\beta_{CRI} \times \theta$)	0.1712	0.0948	0.2386	0.1954	0.0317	0.2348
	(0.1550)	(0.2561)	(0.2341)	(0.1554)	(0.2333)	(0.2353)
Observations	20,273	20,273	20,273	18,788	18,788	18,788
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the sample. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table A3: Results with interaction with Services
Firms (log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
Without industries restriction, all sectors						
Trade x Services ($\alpha \times \theta$)	0.0650	0.0944	0.0810	0.0302	0.0576	0.0476
	(0.1808)	(0.0641)	(0.0641)	(0.2140)	(0.0706)	(0.0702)
Investment x Services ($\beta \times \theta$)	-0.0103	-0.0350	-0.0152	0.0043	-0.0303	-0.0081
		(0.0308)	(0.0308)	(0.0820)	(0.0320)	(0.0317)
Observations	48,408	48,408	48,408	45,221	45,221	45,221
With industries restriction ISIC-4, all sectors						
Trade x Services ($\alpha \times \theta$)	0.0015	-0.0179	0.0309	0.0145	0.0295	0.0587
	(0.0932)	(0.0854)	(0.0836)	(0.1145)	(0.0847)	(0.0869)
Investment x Services ($\beta \times \theta$)	-0.1052	-0.1326**	-0.1121*	-0.0792	-0.0707	-0.0640
	(0.1411)	(0.0608)	(0.0595)	(0.1388)	(0.0611)	(0.0581)
Observations	13,183	13,183	13,183	12,242	12,242	12,242
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the sample. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table A3: Results with interaction with Services (Continue)
Firms (log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
With industries restriction ISIC-2, all sectors						
Trade x Services ($\alpha \times \theta$)	-0.1142	-0.1373	-0.1159	-0.1883	-0.2121*	-0.2039*
		(0.1028)	(0.0992)	(0.2997)	(0.1123)	(0.1100)
Investment x Services ($\beta \times \theta$)	0.0157	-0.0060	0.0076	0.0174	-0.0117	0.0073
		(0.0551)	(0.0538)	(0.1458)	(0.0576)	(0.0548)
Observations	26,166	26,166	26,166	24,360	24,360	24,360
With industries restriction ISIC-2, without sectors 4649 and 6420						
Trade x Services ($\alpha \times \theta$)	-0.1167	-0.1521	-0.1254	-0.1129	-0.1322	-0.1188
	(0.3111)	(0.1186)	(0.1129)	(0.3571)	(0.1336)	(0.1290)
Investment x Services ($\beta \times \theta$)	-0.0676	-0.0710	-0.0570	-0.0629	-0.0664	-0.0520
	(0.1678)	(0.0652)	0.0624	(0.1743)	(0.0702)	(0.0662)
Observations	20,235	20,235	20,235	18,752	18,752	18,752
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the sample. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table A4: Results with interaction with Services Firms and CRI as host
(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
Without industries restriction, all sectors						
Trade x Serv x hostCRI ($\alpha_{CRI} \times \theta$)	0.5226*	0.2970	0.5737*	0.5714	0.3114	0.7242**
	(0.2055)	(0.4678)	(0.32915)	(0.3541)	(0.4565)	(0.3234)
Invest x Serv x hostCRI ($\beta_{CRI} \times \theta$)	-0.9787***	-0.7632***	0.8878***	-1.0300***	-0.7292***	-0.8438***
		(0.2636)	(0.2068)	(0.2328)	(0.2669)	(0.2017)
Observations	48,408	48,408	48,408	45,221	45,221	45,221
With industries restriction ISIC-4, all sectors						
Trade x Serv x hostCRI ($\alpha_{CRI} \times \theta$)	0.6662*	0.2486	0.5256*	0.6850***	0.0129	0.5360
	(0.3297)	(0.4490)	(0.2834)	(0.2297)	(0.5093)	(0.4313)
Invest x Serv x hostCRI ($\beta_{CRI} \times \theta$)	-0.9240***	-0.8074***	-0.8129***	-0.9186***	-0.7997***	-0.8243***
	(0.1940)	(0.2655)	(0.2239)	(0.2020)	(0.2851)	(0.2439)
Observations	13,183	13,183	13,183	12,242	12,242	12,242
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the sample. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.

Table A4: Results with interaction with Services Firms and CRI as host (Continue)
(log) Total Revenues

	(1)	(2)	(3)	(4)	(5)	(6)
With industries restriction ISIC-2, all sectors						
Trade x Serv x hostCRI ($\alpha_{CRI} \times \theta$)	0.8069*	0.4869	0.8004***	0.8790**	0.3534	0.9088***
	(0.4242)	(0.4910)	(0.3007)	(0.3722)	(0.4773)	(0.3444)
Invest x Serv x hostCRI ($\beta_{CRI} \times \theta$)	-1.006**	-0.8114***	-0.9359***	-0.9918***	-0.7020***	-0.8424***
		(0.2733)	(0.2182)	(0.1410)	(0.2670)	(0.2062)
Observations	26,166	26,166	26,166	24,360	24,360	24,360
With industries restriction ISIC-2, without sectors 4649 and 6420						
Trade x Serv x hostCRI ($\alpha_{CRI} \times \theta$)	0.9374*	0.6362	0.9456***	0.9251*	0.5007	0.9736***
	(0.4652)	(0.4568)	(0.2931)	(0.4704)	(0.3994)	(0.3250)
Invest x Serv x hostCRI ($\beta_{CRI} \times \theta$)	-0.9143***	-0.6917***	-0.8944***	-0.8858***	-0.6263***	-0.8368***
	(0.1790)	(0.2384)	(0.2039)	(0.2075)	(0.2265)	(0.1965)
Observations	20,235	20,235	20,235	18,752	18,752	18,752
Host Country	Yes	No	No	Yes	No	No
Home Country	Yes	No	No	Yes	No	Yes
Year	Yes	No	No	Yes	No	Yes
Sector	Yes	No	Yes	Yes	No	Yes
Home Country-Year	No	Yes	Yes	No	Yes	Yes
Sector-Year	No	Yes	No	No	Yes	No
Trade Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	No	No	No	Yes	Yes	Yes

Source: Authors' calculations based on data from Capital IQ, Revec of the Central Bank of Costa Rica, World Bank Developing Indicators. Note: Host Country-Year means Host Country and Year are used as a single fixed effect, similarly for Home Country-Year, and Sector-Year. All developing countries as host and home are pooled as a single fixed effect, respectively. In the first panel (*Without industries restriction, all sectors*) the estimation uses all the sample. In the second panel (*With industries restriction ISIC-4, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-4-digits. In the third panel (*With industries restriction ISIC-2, all sectors*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2-digits. In the fourth panel (*With industries restriction ISIC-2, without sectors 4649 and 6420*) the sample used includes only sectors of the MNEs that are the same as those in Costa Rica according to ISIC-2- digits, except for sectors 4649 (wholesale of other household goods) and 6420 (Activities of holding companies). Clustered standard error at the fixed effects level. *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at the 10% level.