Figure 1: Average probability of o shoring inputs to a given destination, by export experience - 2011

production, and whether these are sourced from the export destination market. We can therefore precisely investigate the determinants of service sourcing through commercial presence (mode 3 of GATS), which account for more than 50% of total trade in services (WTO, 2019), as well as transactions that take place at arm's length and that remain undetected in trade statistics.[1]

sourcing:

$$Max_q q(\quad c^p \qquad q)\ )\ q^d = \frac{c^p}{2}. \tag{2}$$

Clearly, if the rm chose to source domestically at $\hat{t}$

That is, the rm chooses to engage in long-term commitment (and invest F^o accordingly) if it nds out that its is su ciently high. If, instead, it nds out that its is too low, it gives up exporting. For intermediate cases, it keeps exporting while sourcing services domestically. Figure 2 illust..95-6

2.3 Period t 2 $t_2; \hat{t}$ 1

to exit. Hence, when the rm starts exporting while sourcing services domestically, its

If instead

institutions or the network of suppliers and distributors. Accordingly, in our baseline empirical speci cation we test Prediction 1 considering exporting and sourcing at the domestically, as equations (6) and (9) show. This effect is reinforced by selection at entry:

Prediction 4 *All else equal, exit rates are lower if the rm o shores.*

In our empirical analysis, we test the Prediction 4 activities that take place outside and within the boundaries of the business group (either a direct affiliate of the firm or another firm of the same group), which we identify henceforth as "Offshoring Out" and "Offshoring In," respectively.

To the best of our knowledge, only Bernard et al. (2020) have so far used a similar type of data, for Denmark, but to approach a different question. Furthermore, they focus on the core activities of manufacturing firms, while we use the full information set covering

Table 1: Summary Statistics of by Trade Status - 2011

	All rms				Non-exporters	Exporters
	mean	median	sd	count		

level, i.e. the most granular level available in our data, allow us to control for the most detailed set of fixed effects.

imply a zero value. As we control for firm, activity and destination fixed effects ($'_i$, $_a$, $_d$), all firm-specific regressors that are not destination-specific are absorbed by the firm fixed effect.

The main coefficient of interest is $_1$, which is expected to be positive: better knowledge

markets, i.e., any of the 11 destination markets other than d. A first measure simply averages the firm's experience across all destinations $k \neq d$; a second measure considers all destinations $k \neq d$

Table 5: O shoring and Destination Characteristics

	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
Experience								

5 Trade Consequences of O shoring

5.1 O shoring and Trade Volumes

Table 6: O shoring and Trade Volumes

	(I)	(II)	(III)	(IV)	(V)	(VI)
O shoring						

market at least once between 2012 and 2017 by 4.6 percentage points. For comparison, the average probability of exit is 33 percent. The same switch in o shoring status decreases the period in which the rm does not export to the destination by 0.026 units, or about

As a consequence, we expect export experience to increase the relative probability of vertical integration relative to arm's length contracting.

In Tables 9 and A.6, we investigate the role of export experience in determining the probability of offshoring in-house rather than arm's length, estimating both a linear and by 3.4 to 4 percentage points. In Table A.6 in the Appndix, we re-estimate the same relationship with a non-linear speci cation and obtain compatible results.

7 Conclusions

An extensive literature has recensions

References

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Appendix

Table A.3: O shoring by Destination - Di erent Depreciation Methods

Table A.4: O shoring by Destination - Robustness on the Speci cations

	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)
	No Exporter Dummy		Exporter Firms Only		Manuf. Only		All rms - WLS		All rms - Logit	
Experience	0.008***	0.007***	0.005***	0.005***	0.004***	0.004***	0.006***	0.005***	0.881***	0.851***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)	(0.037)	(0.038)
Exporter					0.005**	0.005**	0.006*	0.004	0.483***	0.470***
					(0.002)	(0.002)	(0.003)	(0.003)	(0.059)	(0.060)
Num. exp. countries										

Table A.6: O shoring: Vertical Integration vs Arm's Length - Robustness

B Proofs

Proof of Lemma 1. First, we use equation (12) to calculate

$$\frac{d \quad \sim^{o}_{>\hat{t}} \qquad \sim^{d}_{>\hat{t}}}{d} = \frac{2}{4} g$$

where CR is de ned in (B.2) and the sign follows from Lemma 1 (which implies $@CR=@\quad <$ 0) and Lemma 2 (which implies $@CR=@c^p > 0$). Hence, $\frac{dpr(o_T)}{d}$ < 0 at any T.

Observe now that

$$\frac{d^2 pr(o_T)}{d\ dT} = \quad \frac{dpr(o_1)}{d}[1 \quad G(\sim)]\frac{dp^T}{dT} \quad [1 \quad pr(o_1)]\, g(\sim)\frac{d\sim}{d}\frac{dp^T}{dT}.$$

This expression has an ambiguous sign, because the rst term is negative whereas the second is positive.ositir2(s3416,viserv)2(isk)-328(no)2(is)-228(cond)-228(()]TJ 0 0.1 0.5 rg 0 0.1 0.5 RG