The Value of Managers' Export Experience: Lessons from the Angolan Civil War*

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Abstract

We investigate how managers help firms grow by entering a new export market. We conduct an event study on the decision to export to Angola using data on Portuguese firms and workers. We evaluate the impact of the presence of managers with experience in exporting to the Angolan market on a firm's entry success in the aftermath of an exogenous shock: the sudden end of the Angolan civil war. We show that the presence of managers doubles the probability of a firm entering the market. We do not find any significant impact on the intensive margin of exports.

Keywords: Knowledge, Experience, Managers, Firm Performance, Exporting, Event Study, Angola.

JEL Classification: M2, L2, F16, J62

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1 Introduction

We investigate how managers help firms growing by entering a new export market. While it is plausible to think that the success of a firm in expanding its demand, for example by entering new markets, is tightly linked to the leadership of its managers, little is known about how managers help firms growing. Does a better manager help entering a new market by reducing the fixed cost of entry, or by reducing the variable costs of getting new customers? Is it more important for the manager to have experience in selling a given product or to better know the idiosyncracies of a target customer base? How to overcome the potentially non-random matching between firms and managers and establish a causal link? We aim to provide answers to these questions.

Understanding how firms manage to enter a new market provides insights on how firms become so diverse in terms of size. This is important because size diversity may have aggregate consequences: shocks that hit large firms can affect GDP volatility (Di Giovanni and Levchenko, 2012); changes in the firm size distribution, and in the associated organization of production, can affect the diffusion of knowledge within a society (Jarosch et al., 2021), as well as the evolution of earnings inequality (Garicano and Rossi-Hansberg, 2006; Song et al., 2019). The recent literature on managers and managerial practices ((Bloom and Van-Reenen, 2010; Bloom et al., 2013)) has established a clear link between managerial best practice and firm productivity. However, much less is known about the relationship between managers and other key dimensions of firm heterogeneity, like demand and access to customers, that are considered of first-order importance in explaining firm size heterogeneity (Foster et al., 2016; Hottman et al., 2016; Bernard et al., 2019a,b).

We are interested in understanding how managers help firms to reach new consumers, and in a particular a new export market. To do so, we use data on the universe of Portuguese firms and managers to construct a manager-market-specific measure of experi-

ence based upon the export experience that a manager has matured in the past in previous jobs. We then link such a measure to firm performance and in particular to the capacity of the firm to enter a new export market. In doing so, we focus on a setting allowing us to exploit exogenous variation in the data. In particular, we draw our attention to Angola as a potential new export market while concentrating our analysis on the time frame corresponding to the end of the Angolan civil war.

The Angolan civil conflict represents an ideal setting for our study. Angola is a former Portuguese colony and one of the fastest growing developing economies in the world. Since 1974, the Angolan civil war has dramatically affected the country with the economic and political instability representing a sizeable barrier to entry for any new firm. However, the Angolan civil war suddenly ended with the death of the rebels' leader Jonas Savimbi in February 2002, putting the country into a new peace and stability trajectory leading to both strong economic growth and a boost in international trade. This allows us to conduct an event study to evaluate the impact of the presence—within the firm—of managers with relevant market-specific experience on firm's entry success in the aftermath of a sudden exogenous shock causing an abrupt uplift in the openness of a market.

Our findings indicate that the presence of managers with Angola-specific export experience doubles the probability of a firm to enter the (post-2002) Angolan market with respect to the unconditional average entry rate. To put this into context, this impact is comparable to increasing firm size by more than 1.2 standard deviations. At the same time, firms that have managers with Angola-specific export experience do not have any positive edges compared to other firms before the end of the civil war in 2002, so suggesting that our identification strategy is sound. In order to better qualify the meaning of these results, we conduct a number of additional investigations.

First, we don't find any significant impact of the presence of managers with Angola-specific export experience on the value of exports conditional upon entry, i.e., the intensive margin. This is consistent with managers' export experience contributing towards

reducing fixed rather than variable export costs. Second, in order to delineate the scope of the experience that is relevant to better succeed in entering a new market, we consider several complementary measures of export experience: i) export experience in war-torn countries; ii) export experience in other Portuguese ex-colonies; iii) export experience in a given product; iv) experience in exporting a given product to Angola. Our results suggest that neither export experience in war-torn countries nor export experience in other ex-colonies are much valuable to enter the Angolan market. Furthermore, when analyzing the capacity of firms to start exporting a specific product to Angola, we find that Angola-specific export experience still contributes positively along with experience in exporting a given product to Angola. On the other hand, experience in exporting a given product elsewhere does not positively influence entry. These findings are consistent with the idea that managers can significantly improve their employing firm's capacity to reach new markets only if they possess a quite specific—country-specific and/or country-product-specific—experience edge over their competitors.

A recent strand of literature has highlighted the importance of managerial practices and managers' characteristics on firm performance (Bertrand and Schoar, 2003; Lazear and Oyer, 2007; Bloom and Van-Reenen, 2010; Bloom and Van Reenen, 2011; Bloom et al., 2013). However, less progress has so far been made about the impact of managerial knowledge on specific measures of firm performance that can be more directly linked to specific attributes of the managers and ultimately allow a stronger causality claim. Some contributions in this directions have been provided by Bisztray et al. (2018), Meinen et al. (2018), Mion and Opromolla (2014) and Pautault and Lenoir (2020). We improve upon these studies by means of three key innovations. First, we develop a novel set-up using an event study that leverages on the sudden end of a civil war to provide a more compelling evidence of the causal link between managerial knowledge and firm performance. Second, we dig deeper into the nature of the managerial knowledge relevant for firm export performance by carefully examining several dimensions (destination, product and

destination-product). Third, we shift the focus to a developing country case.

While the export entry behavior of firms has been largely studied, the export entry behavior of firms into a country that has been plagued, or continued to be plagued, by harsh internal conflicts has been much less studied. This is an important new area of research, as there is an increasing awareness, among practioners and policymakers, that peacekeeping and humanitarian aid efforts are often insufficient to tackle environments affected by fragility, conflict and violence, and that is necessary to find new solutions that involve a more proactive role of the business sector.[1] In this respect, our study provides important lessons on the determinants of export entry of developed countries firms' into a war-torn emerging market.[2]

The remainder of the paper is organized as follows. In Section 2 we describe the key features of the Angolan civil conflict. In Section 3 we present the data and the main variables of interest. Section 4 contains our empirical strategy and key results while in Section 5 we provide a number of additional findings to further characterize the features of the knowledge brought by managers. Section 6 concludes. The Online Appendix provides additional details about the data and definitions as well as a more in-dept discussion of endogeneity and a number of complementary Tables and results.

2 The Angolan Civil War

Angola is a fast-growing developing economy, despite having been plagued by three decades of civil war until very recently.[3] In fact, following its independence from Por-

[1]See for example the Fragility, Conflict and Violence initiative of the World Bank, and the World Economic Forum Global Agenda Council on Fragility, Conflict, and Violence.

[2]Our results, in this respect, can then complement the work of Artopoulos et al. (2013) on the importance of export pioneers—as new exporters can pave the way for a subsequent entry of followers—and the work of Sonno (2020) on the the impact of multinational enterprises on civil conflict.

[3]The Angolan average annual real GDP growth rate between 1980 and 2020 has been slightly higher than 5 percent. In comparison, the average for all emerging markets and developing economies is 4.3 percent, while the average for the World is 3.3 percent (IMF World Economic Outlook). Besides its stark dynamics, Angola is particularly relevant in our case because it is a former Portuguese colony still having strong ties with Portugal, while being part of the Community of Portuguese Language Countries (CPLC).

tugal in 1974, Angola has been tormented by a long civil war between the "Movimento Popular de Libertação de Angola" (MPLA) and the "União Nacional para a Indipendência Total de Angola" (UNITA).[4] As a result of the national elections held in September 1992, the leader of MPLA, José Eduardo dos Santos, became prime minister with a very small margin. The UNITA's leader Jonas Savimbi never recognized his rival's victory and initiated a civil war.

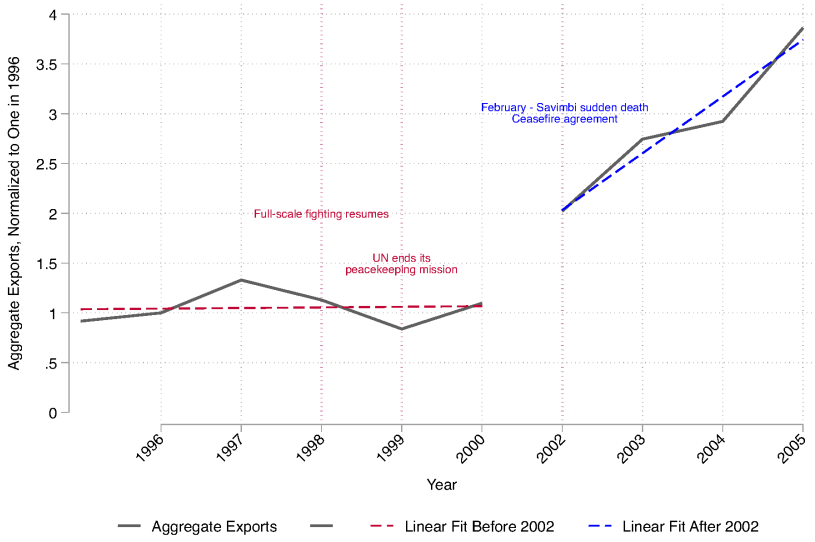
The Angolan civil war had several phases that went hand in hand with structural transformations of the economy from a centrally-planned economy between 1975 and 1992 to a market-oriented economy from 1992 to 2002 (Aguilar, 2004). Indeed, the latter period was characterized by large privatizations of public enterprises from manufacturing to agriculture and commerce which essentially benefitted a small group of emergent entrepreneurs and economic groups closely related to the MPLA, the ruling political party. The privileges enjoyed by these groups, including access to credit and hard currency, effectively pushed out of the market any potential competitors. In sum, such economic nepotism became a formidable barrier to entry for any new economic activity.

In this respect, it is a well known export destination for Portuguese firms and with a significant amount of trade occurring before, during and after the civil war.

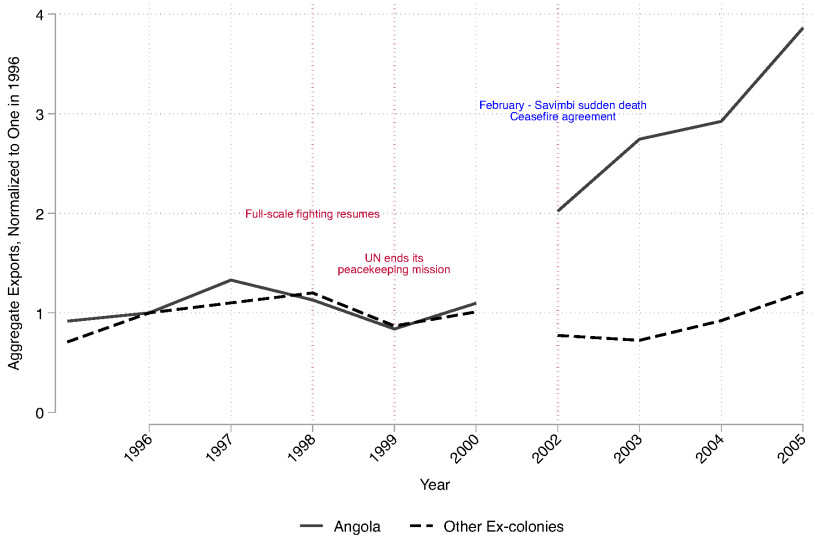
[4]See Appendix A for a timeline of the civil war.

Figure 1: Descriptive evidence

(a) Evolution of Portuguese aggregate exports to Angola, normalized to one in 1996 (year 2001 data is missing)



(b) Evolution of Portuguese aggregate exports to Angola vs. other ex-colonies, both normalized to one in 1996 (year 2001 data is missing)



Notes: In both panels (a) and (b) we report three major events occurring over the period 1995-2005: 1) Full-scale fighting resumes (year 1998); 2) UN ends peacekeeping mission (year 1999); 3) Savimbi sudden death and related ceasefire agreement (year 2002). The two dashed lines in panel (a) represent linear fits for the 1995-2001 and 2002-2005 periods, respectively. The value of aggregate exports of Portugal to Angola in 1996 was about 290 million euros.

The Angolan civil war suddenly ended with the death of the rebels' leader, Jonas Savimbi, on February 22nd, 2002, followed by the ceasefire signed a few weeks later, on April 4th. This, in turn, implied an opening of the Angolan market leveraged by both new firms and firms that faced barriers during the civil war period.[5]

Figure 1 panel (a) reports the evolution of Portuguese aggregate exports to Angola from 1996 to 2005 (data for 2001 is missing),[6] while Figure 1 panel (b) compares the evolution of aggregate Portuguese exports towards Angola and the other ex-colonies over the same period (again data for 2001 is missing). The political instability, together with the economic nepotism, represented a substantial barrier to the growth of exports to Angola before 2002. Starting from 2002, exports instead boomed with respect to both the pre-2002 trend, as shown by Figure 1 panel (a), and the post-2002 trend of other Portuguese ex-colonies, as shown by Figure 1 panel (b). Indeed, the end of the civil war came together with a new peace agreement between the two old parties, MPLA and UNITA, and also with a new attention to the growth of the country and a gradual removal of barriers to new economic agents (Aguilar, 2004).

As discussed in Guidolin and La Ferrara (2007), the end of Angolan civil war was completely unexpected and represents an exogenous conflict-related event in which one party gained an unambiguous victory over the other and restored order. However, potential new entrants, and in particular Portuguese firms wishing to trade with the opening Angolan market, were heterogeneous in terms of their readiness to exploit the new political and economic climate. In the remainder of the paper we focus on one key dimension of heterogeneity, namely the presence in the firm of at least one manager with previous export experience to Angola, and show that such export experience specific to the Angolan market is key to understand the evolution of Portuguese exports to Angola in the

[5]See for instance evidence reported in le Billon (2001) and Witness (1998).

[6]As explained more in detail in the next Section, a key element of our analysis (the matched employer-employee data) is not available for the year 2001, which has a number of repercussions also for the trade data. For example, in our analysis we focus on manufacturing firms with the industry affiliation information coming from the employer-employee data. For consistency, we thus exclude completely the year 2001 from our analysis.

aftermath of a 30 years long civil war.

3 Data

In order to evaluate the determinants of export entry into Angola, we create a panel of Portuguese firms and workers for the 1995-2005 period by combining data from two different sources: matched employer-employee panel data (*Quadros de Pessoal)* and international trade data at the transaction level. Matched employer-employee data for the year 2001 is not available and so in our analysis we do not consider this year.[7] In some of our analyses, we also use information on the presence of armed conflicts at the country-year-level from the UCDP/PRIO Armed Conflict Dataset by the Uppsala Conflict Data Program and the Oslo International Peace Research Institute.

In our study we focus on manufacturing firms with at least one manager, hence larger and more organizationally-structured firms, while partitioning workers into managers and non-managers.[8] However, managers are not all alike: their set of skills and knowledge is likely to be connected to the experiences they faced along their careers. We focus on one specific type of knowledge that can be acquired through experience: exporting knowledge.

We exploit the matched employer-employee feature of our dataset to track managers over time: for each firm-year pair, we identify the subset of (currently employed) managers that have previously worked in a different firm. Moreover, we exploit the informa-

[7]Worker-level information for Quadros de Pessoal was not collected in 1990 (which is outside our sample period) and 2001. In order to minimize the impact of the 2001 data gap on the measurement of a worker's export experience we exploit the information on the date a worker was hired. For example, if we observe a worker as being employed by firm A in 2002 and the year in which the worker was hired (by firm A) is before or on 2001, we assign the worker to firm A in 2001. See Appendix A for further details.

[8]In our analysis we employ, as explained in detail in Appendix A, a relatively wide definition of a manager. More specifically, we do not consider only CEOs but more widely top managerial positions as well as intermediate ones, i.e., jobs related to the organization and adaptation of the guidelines established by the superiors and directly linked with the executive work. Furthermore, we do not impose the constraint that current managers must have had a managerial position in previous jobs. However, de facto it happens very rarely that someone who is currently a manager was not a manager in his/her previous jobs.

tion contained in the trade dataset to identify those managers that were employed in the past by an exporting firm. We define such managers, as having export experience.[9] We describe more in details the variables, samples, datasets and their merging in Appendix A.

[9]We do not consider the export experience potentially acquired by the manager within the current employing firm.

Table 1: Number of potential entrants, entry rate and export experience

	1998	1999	2000	2002	2003	2004	2005
# Potential entrants	5598	6066	6135	5398	6402	8148	8435
—Share of pot. entrants with export exp. to Angola	0.121	0.134	0.152	0.159	0.163	0.159	0.164
Entry rate of potential entrants	0.029	0.024	0.036	0.047	0.039	0.034	0.036
—Entry rate of pot. entrants with export exp. to Angola	0.081	0.058	0.081	0.109	0.088	0.070	0.084

Notes: The Table provides the number of firms that can potentially enter Angola as a new export destination (# potential entrants) for years 1998 to 2005 (data for the year 2001 is missing), as well as the share of such potential entrants that have at least one manager with previous export experience in Angola. The Table also provides the average entry rate of potential entrants as well as the average entry rate of potential entrants that have at least one manager with previous export experience in Angola.

Table 1 reports the number of 'potential entrants' into the Angolan market in each year of the period 1998-2005 (data for 2001 is missing), and the share of such firms with at least one manager with experience in exporting to Angola. It also shows the overall entry rate and the entry rate of firms that have at least one manager with export experience in Angola.[10]

4 Main Results

This Section presents our empirical strategy and key results about the impact of the presence of managers' export experience on a firm's export performance. Our results are consistent with the hypothesis that exporting requires market-specific knowledge, that managers acquire such knowledge via their working experience, and carry the knowledge along with them as they move across firms. In particular, we show below that firms which—other things equal—have at least one manager with experience in exporting to Angola are more likely to start exporting to Angola only after the end of the war.

We divide this Section in three parts. First, we present some motivating evidence, through a case study, highlighting some key aspects and providing intuition for the logic of the identification strategy. Second, we present our difference-in-difference econometric model exploiting the unexpected sudden end of Angolan civil war. Finally, we provide estimation results.

4.1 A Case Study

To illustrate the economic mechanisms we are after and to provide a flavor of the identification strategy that we will exploit later in our econometric analysis, we present an example of an actual firm (anonymous given confidentiality requirements), producing insulated wires and cables, that started exporting to Angola after the end of the war.

[10]Table I.8 in Appendix D provides a sectoral breakdown of aggregate Portuguese exports to Angola while Tables I.9 and I.10 in Appendix D contain firm-level and worker-level descriptives for the year 2005.

This firm is reasonably large by Portuguese standards, with a workforce of more than 100 employees in 2002, and a turnover of about 30 million euro. It is an average firm in terms of export intensity, exporting more than 13 percent of its production in 2002, part of it towards major European and OECD countries, part of it towards two Portuguese ex-colonies, namely Brazil and Mozambique. As a matter of fact, the firm hired, before 2002, a number of managers with experience in exporting towards Brazil and Mozambique. While the firm was not exporting to Angola before 2002, some of the managers employed at the time had experience in exporting to Angola as well, experience that they acquired by working for other firms in previous jobs.

In 2002, when the Angolan war suddenly ends, these managers with experience in exporting to Angola were already in charge of some key departments: three of them were directing and coordinating activities related to the production of goods, one was in charge of directing personnel and industrial relations activities, and one was in charge of research and development activities. In 2002, the firm starts exporting to Angola, which initially represents about 0.8 percent of its total exports. In 2003 the share of exports going to Angola doubles to 1.6 percent, and two of the managers described above are promoted to being directors and chief executives.

Overall, this example aligns with the idea that some firms were more likely to start exporting to Angola in 2002 (or later) because the end of the war triggered a "dormant" comparative advantage consisting in the presence, within their workforce, of managers that already had experience with the Angolan market. In the next Section, we describe the identification strategy we use to quantify the value of export experience exploiting the natural experiment provided by the end of the Angolan civil war.

4.2 Regression Framework

To estimate the quantitative importance of the value of managers' export experience in terms of the export performance of the firm, we restrict our analysis to the sample of

firms that were not exporting to Angola at time $t-1$.[11] The baseline linear probability model we estimate is

$$Entry_{ft} = \delta + \alpha ManExp_{ft} + \beta ManExp_{ft} * I\left[Year_t \geq 2002\right] + Z'_{ft}\Gamma + \mu_f + \nu_t + \epsilon_{ft}, \quad (1)$$

where the dependent variable $Entry_{ft}$ is a dummy equal to one if firm f starts exporting to Angola at time t and zero otherwise. We also consider in some regressions another dependent variable, namely the value of exports to Angola conditional on entry.

Our main covariate of interest is $ManExp_{ft}$, a dummy indicating the presence of (at least) one manager with export experience specific to Angola in firm f at time t. We consider both $ManExp_{ft}$ alone and its interaction with a dummy $I\left[Year_t \geq 2002\right]$ denoting years post end of war and including the year 2002. The key parameter of interest of our difference-in-differences setting is the one corresponding to the interaction term: β. Controls in (1) include Z_{ft}, a vector of observable firm-time-varying characteristics affecting entry,[12] as well as a full set of time (ν_t) and firm (μ_f) fixed effects.[13]

The natural experiment of the end of the Angolan civil war allows us to compare the entry probability in the Angolan market of firms that happen to have a manager with export experience in Angola versus firms with managers with no export experience or with experience in other markets.[14] When further considering firm fixed effects, we restrict the

[11] In Appendix C we show complementary results obtained restricting our analysis to the sample of firms that were exporting to at least one country (but not to Angola) in $t-1$.

[12] Observables are firm size, apparent labor productivity, share of skilled workers, age, foreign ownership, mean and standard deviation of both age and education of the firms' managers, as well as the number of export destinations in t-1. In Appendix C we provide complementary results obtained without using firm-time controls.

[13] Firm fixed effects, among other factors, capture the unobservable relationships between Portuguese firms' founders and entrepreneurs and the specificities of the Angolan market. Indeed, trade relationships between Angola and Portugal have deep roots in colonial times and a significant fraction of the Portuguese population has family ties with Angola. In all estimations we use the Stata program reghdfe.

[14] Demand/productivity shocks differentially affecting firms before 2002 are essential for identification in our exercise. Indeed, it is because some firms expand (and hire managers with some of them having experience in exporting to Angola) while others do not that firms find themselves differentially affected (in terms of having or not a manager with export experience in Angola) in the aftermath of the end of the Angolan war. At the same time, these shocks might be correlated with post-2002 demand/productivity shocks and one way of getting a sense of whether this correlation might be problematic is to control for the

attention to within-firm differences in entry behavior pre- vs. post-2002. In other words, conditional on a firm's starting to export to Angola, we study if the likelihood of pre- vs. post-2002 entry is affected by the presence of managers' export experience specific to Angola.

To be more specific, identification of causal effects relies on a crucial assumption.

Assumption 1 *Conditional on covariates, the matching between firms and managers with export experience to Angola is random before 2002.*

In this respect it is important to have an adequate set of observables and fixed effects. For example, it is important to condition on firm productivity as more productive firms might both be the ones that are more likely to start exporting and the ones that are more likely to hire managers, including those with export experience to Angola. Still, there could be some firm characteristic that we are not controlling for or that we are not measuring well. Therefore, in some specifications, we control for firm fixed effects. Again, even in this case, it could happen that a firm hires a manager with export experience to Angola at a particular moment in time because it has planned to export there. This is where the natural experiment comes in.

The Angolan civil war, like any other long-lasted civil war, faced several conflict episodes that led to an intensification or lessening in the intensity of the conflict. However, none of the several episodes was perceived as a clear increase or decrease in the likelihood of conflict resolution. The death of the rebel leader Jonas Savimbi was instead a clear and unambiguous sign of the end of the civil war. In fact, one and a half months after Savimbi's death, on the 4th of April 2002, a formal ceasefire was signed and the civil war in Angola was over.

During the war, experience in exporting to Angola was little useful.[15] So it's unlikely

presence of managers with similar export experience like experience in other ex-colonies or other war-torn countries; something we do later on.

[15]In Appendix C we show that the wage premium that manager usually receive for having experience

that the firm hired the manager before the end of the war because of the experience in the Angolan market. Indeed, in the case study described above, the firm had managers with experience in exporting to Angola during the war. However, the firm only started exporting to Angola after the war, when the market boomed, and those managers were likely hired because of their experience in exporting to Brazil and Mozambique, two of the current export destinations at the time of hiring. The firm could not anticipate the end of the civil war but found itself in luck by having managers with export experience specific to Angola in the aftermath of the end of the conflict and the subsequent flourishing of the Angolan market.

In order to further strengthen our results, we provide some additional specification employing instrumental variables. More specifically, we instrument the presence of a manager with experience in the Angolan market in firm i at time t, with the presence of a manager with experience in the Angolan market in the same firm in the three preceding years. This simple instrumental variable approach allows us to allay concerns over any strategic behavior of the firm, potentially anticipating the end of the civil war in Angola.[16] At the same time, the use of lagged export experience as an instrument allows us to analyze not simply firm's reaction right after the end of the war but a more extended period of time (2002-2005).[17] We provide some more in-depth discussion about endogeneity in Appendix B.

in one of the export destination currently served by their firm is (before the end of the war) much lower for Angola. This completely reverses after the end of the war.

[16]To be more specific suppose that, although Savimbi's murder was a big surprise to many, some firms who have been monitoring the situation, saw early signs that Savimbi's side was going to be defeated. These firms could have started preparing to export to Angola and eventually hired a manager with export experience specific to Angola. In order to deal with this anticipation possibility, we use past information (coming from years $t-1$, $t-2$ and $t-3$) on the presence of managers with export experience specific to Angola to instrument for the presence of managers with export experience specific to Angola in t. The underlying idea behind this IV approach is that the time lags we use are far enough in the past to avoid anticipation while still being good predictors of whether a firm has managers with export experience specific to Angola at time t. The over-identifying restrictions test, as well as the under-identification and weak-identification tests, reported in Table 2 are supportive of the above.

[17]To the extreme one could argue that only firm export performance in the year 2002, compared to pre-2002 one, fits a causal interpretation. In this respect, the dynamic diff-in-diff reported in Appendix C reveals that the post-end of the war effect is positive, significant and of similar magnitude in each the years of the interval 2002-2005 so including the key year 2002.

4.3 Estimation Results

Table 2 presents our estimation results for the key covariates.[18] In column (1) of Table 2 we estimate a simplified version of equation (1) in which we do not consider the interaction term $ManExp_{ft} * I[Year_t \geq 2002]$ and we replace firm fixed effects with industry (NACE-2 sectors) fixed effects. This specification serves the purpose of showing to what extent, looking at both the pre- and post-end of the war period, having a manager with export experience specific to Angola is related to the likelihood of a firm to start exporting to Angola conditional on a number of relevant covariates. In this respect, column (1) does indicate a strongly significant relationship.

In column (2) of Table 2 we estimate the full equation (1) and, in doing so, we find that having a manager with export experience specific to Angola positively and significantly affects the likelihood of entry only after the end of the war. Furthermore, the value of the interaction coefficient (0.029) reveals that the post-end of the war impact of having a manager with export experience specific to Angola is quantitatively very large. The unconditional entry rate of firms belonging to the estimation sample of column (2) is 0.033 (3.3%), and so having a manager with export experience specific to Angola post-end of the war roughly doubles this number. To put this into more context, the related 0.024 coefficient on log firm size in column (2) of Table I.7 indicates that one would need to consider an increase of log firm size by more than 1.2 standard deviations to match the impact of having a manager with export experience specific to Angola post-end of the war.[19]

In column (3) we formally test the results of column (2) using our instrumental variable approach. Test statistics and p-values indicate that our instruments are strong and that the over-identifying restrictions are likely to hold. At the same time, IVs results confirm both the absence of a positive impact before the end of the war and the strong

[18] Estimation results for all other covariates are provided in Table I.7 in Appendix D.

[19] Firm-time controls, including log firm size, have been divided by their respective standard deviation in order to deliver a comparable metric.

positive impact (roughly doubling the unconditional entry rate) after the end of the war.

In Appendix C we provide a number of additional results regarding wage premia, the intensive margin of exports, a more general dynamic diff-in-diff and various robustness results. With respect to the intensive margin, we do not find any significant relationship between the (log) value of exports to Angola conditional on entry and the presence of a manager with export experience specific to Angola pre- and/or post-end of the war. This is consistent with managers' export experience specific to Angola contributing towards reducing fixed rather than variable export costs. Furthermore, the dynamic diff-in-diff reveals that the post-end of the war effect is positive, significant and of similar magnitude in all the years of the interval 2002-2005.

Table 2: Probability to start exporting to Angola

Unconditional entry rate	0.035	0.033	0.042
	(1)	(2)	(3)
	Baseline	Event Study	IV Event Study
Manager w/ experience	0.030***	-0.011	-0.032
in exporting to Angola	(0.004)	(0.008)	(0.030)
$\times$ I[*Year* $\geq$ 2002]		0.029***	0.041***
		(0.009)	(0.015)
Observations	46,182	41,628	27,436
R-squared	0.039	0.384	0.009
Firm-time controls	X	X	X
Year FE	X	X	X
Industry FE	X		
Firm FE		X	X
Estimation Method	OLS	OLS	IV
Under-identif. statistic			215.454
Under-identif. p-value			0.000
Weak identif. statistic			45.566
Hansen J statistic			6.932
Hansen J p-value			0.139

Notes: The Table reports OLS (columns 1 and 2) and IV (column 3) coefficients and standard errors of the main covariates of interest of our model of firm's entry into the Angolan market (see equation (1)). Estimation results for all other covariates are provided in Table I.7 in Appendix D. The dependent variable takes value one when a firm f starts exporting to Angola at time t. The key independent variable is a dummy indicating if the firm has at least one manager with export experience in Angola. In column (1) we do not consider the interaction between the dummy indicating the presence of at least one manager with export experience in Angola and the time dummy indicating years from 2002 onwards. We do consider such interaction in columns (2) and (3). In column (3) we instrument the presence of a manager with experience in the Angolan market in firm i at time t with its lagged value at times $t-1$, $t-2$, and $t-3$. Firm-time controls are firm size, productivity, number of export destinations in $t-1$, share of skilled workers, age, foreign ownership, as well as mean and standard deviation of both age and education of firm f managers. Firm-time controls have been divided by their respective standard deviation in order to deliver a comparable metric. The under-identification test statistic is the 'Kleibergen-Paap rk LM statistic' while the weak identification test statistic is the 'Kleibergen-Paap rk Wald F statistic'. Standard errors clustered at the firm-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

Finally, using back of the envelope calculations, we find that starting exporting to Angola right after the end of the war quickly attains a substantial impact on firms' exporting activities. More specifically, if we consider those firms that start exporting to Angola in 2002 over a 4 year period we find that, for the median firm, the cumulative exports to Angola amount to more than 7 percent of its 2002 total exports to any destination.

5 Digging Deeper

In this Section, we further characterize the features of the knowledge brought by managers that help their firms to enter new export markets.

Experience in Conflict Zones Our results are consistent with the hypothesis that managers' previous export experience in the Angolan market improves the likelihood of entry for the current employing firm after the end of the civil war. However, an alternative explanation is that the type of experience that matters is a more general experience in exporting to armed conflict zones, rather than the experience in exporting specifically to Angola. In fact, one could argue that familiarity with war zones is crucial in dealing with post-conflict situations of any war zone.

In order to investigate this further, we use the UCDP/PRIO Armed Conflict Dataset to build a measure of managers' experience in exporting to war-torn ($\geq 1,000$ deaths) countries (excluding Angola). In column (1) of Table 3, we augment equation (1) with experience in other armed conflict zones, both alone as well as interacted with the post-war dummy. In doing so, we fully confirm the strong positive impact of export experience specific to Angola only in the post war period. At the same time, export experience in other conflict zones does not significantly affect entry pre- or post-2002. This finding helps qualifying our results, and in particular points into the direction that the effect that we capture in Table 2 is related to knowledge that is country-specific.

Experience in Ex-colonies A second alternative interpretation for the findings in Table 2 concerns the colonial roots of Angola. Indeed, Angola has been a Portuguese colony for over 400 years, together with Brazil, Cape Verde, Guinea-Bissau, Mozambique, Sao Tome and Principe, and Timor-Leste. Symmetrically to the case presented above, one could argue that export experience in ex-colonies could be a crucial element at play.

To rule out this potential confounding mechanism, we build a measure of managers' experience in other Portuguese ex-colonies and augment equation (1) with such a measure, both alone as well as interacted with the post-war dummy. Estimation results are provided in column (2) of Table 3 and fully confirm the baseline findings of Table 2. Again, this speaks about the country specificity of the knowledge that is valuable to enter a new export market.

Table 3: Probability to start exporting to Angola: alternative experiences

Unconditional entry rate	0.033	0.033
	(1)	(2)
	Conflict Zones	Ex-colonies
Manager w/ experience	-0.011	-0.007
in exporting to Angola	(0.008)	(0.008)
$\times$ I[*Year* $\geq$ 2002]	0.028***	0.027***
	(0.009)	(0.009)
Manager w/ experience	0.002	
in other conflict zones	(0.005)	
$\times$ I[*Year* $\geq$ 2002]	0.004	
	(0.005)	
Manager w/ experience		-0.005
in other ex-colonies		(0.006)
$\times$ I[*Year* $\geq$ 2002]		0.012
		(0.009)
Observations	41,628	41,628
R-squared	0.384	0.384
Firm-time controls	X	X
Year FE	X	X
Firm FE	X	X
Estimation Method	OLS	OLS

Notes: The Table reports OLS coefficients and standard errors of the main covariates of interest of our model of firm's entry into the Angolan market (see equation (1)) augmented with: i) a dummy indicating the presence of at least one manager with export experience in other conflict zones, and its interaction with the time dummy indicating years from 2002 onwards (column 1); ii) a dummy indicating the presence of at least one manager with export experience in other Portuguese ex-colonies, and its interaction with the time dummy indicating years from 2002 onwards (column 2). Estimation results for all other covariates are provided in Table I.7 in Appendix D. The dependent variable takes value one when a firm f starts exporting to Angola at time t. Firm-time controls are firm size, productivity, number of export destinations in $t-1$, share of skilled workers, age, foreign ownership, as well as mean and standard deviation of both age and education of firm f managers. Firm-time controls have been divided by their respective standard deviation in order to deliver a comparable metric. Standard errors clustered at the firm-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

Experience in Exporting a Given Product to Angola The third issue we want to address is whether what is key is not just knowledge of the destination country (Angola) but a more specific knowledge about exporting a given product to a given country. In order to do so, we run a regression at the product-country-year level where the key explanatory variables are 3 measures of experience (country-specific, product-specific and product-country-specific) and their interactions with the post-war dummy.

Estimation results, provided in Table I.1 in Appendix C, confirm that the export experience knowledge relevant to firms post-2002 has a strong country specificity, while at the same time indicating that the combination of product and country experience provides an additional contribution to firms' export performance.

6 Conclusion

We use data on Portuguese firms and managers to study the impact of managers on the capacity of the employing firm to reach new consumers, and in a particular a new export market.

Our findings are consistent with the idea that managers can significantly improve their employing firm's capacity to reach new markets only if they possess a quite specific – country-specific and/or country-product-specific – experience/connections edge over competitors. At the same time, the impact of having a manager with export experience specific to Angola is quantitatively very large and corresponding to an increase of log firm size by more than 1.2 standard deviations.

On a broader perspective, our analysis provides some insights about the far reaching implications of the mobility of managers across firms in diffusing knowledge and practices acquired on the job. We believe more research in this direction is needed.

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Online Appendix

A Civil War Timeline, Data and Definitions

A.1 Civil War Timeline

The following is a concise timeline of the civil war in Angola, from 1974 to 2002 (based on BBC News, complemented with other sources).

- 1974: April – Revolution in Portugal, colonial empire collapses. November – Angola independence.
- 1975: Angola Civil War begins between MPLA and the National Union for the Total Independence of Angola (UNITA) movement.
- 1979: MPLA leader Agostinho Neto dies. José Eduardo dos Santos takes over as President.
- 1989: Dos Santos and Unita leader Jonas Savimbi agree on a ceasefire, which collapses soon afterwards, and guerrilla activity resumes.
- 1991: May – Dos Santos, Savimbi sign peace deal in Lisbon which results in a new multiparty constitution.
- 1992: September – Presidential and parliamentary polls certified by UN monitors as generally free and fair. Dos Santos gains more votes than Savimbi. Dos Santos narrowly misses outright victory, and second round is scheduled for November. Savimbi rejects results and resumes guerrilla war. Fighting erupts amid mutual accusations of military build-up.
- 1993: UN imposes sanctions against Unita. The US acknowledges the MPLA. UN peace talks begin in Lusaka, Zambia. Fighting continues.
- 1994: Government and Unita sign Lusaka Protocol peace accord (October 31st).
- 1995: Dos Santos, Savimbi meet, confirm commitment to peace. First of 7,000 UN peacekeepers arrive.
- 1996: Dos Santos, Savimbi agree to form unity government join forces into a national army.
- 1997: April – Unified government inaugurated, with Savimbi declining post in the unity government and failing to attend the inauguration ceremony. May – Tension mounts, with few Unita troops having integrated into the army. Skirmishes in rural areas continue, prompting the UN to impose further sanctions on the rebels.
- 1998: August - Unita ceases collaboration with international observers. November - Full-scale fighting resumes. Angolan army launches a nationwide offensive against Unita. Thousands killed in next four years of fighting.
- 1999: UN ends its peacekeeping mission.
- 2002:
  - February – Savimbi killed by government troops. Government, Unita sign ceasefire shortly afterwards.
  - May – Unita's military commander says 85% of his troops have gathered at demobilisation camps. There are concerns that food shortages in the camps could threaten the peace process.
  - June – UN appeals for aid for thousands of refugees heading home after the ceasefire.
  - August – Unita scraps its armed wing. "The war has ended," proclaims Angola's Defence Minister.

A.2 Data

A.2.1 Trade data

International trade data are collected by Statistics Portugal and, besides small adjustments, aggregate to the official total exports and imports of Portugal. For the purpose of this research, we use data on export transactions only, aggregated at the firm-destination-product-year level.

Statistics Portugal collects data on export and import transactions by firms that are located in Portugal on a monthly basis. These data include the value and quantity of internationally traded goods (i) between Portugal and other Member States of the EU (intra-EU trade) and (ii) by Portugal with non-EU countries (extra-EU trade). Data on extra-EU trade are collected from customs declarations, while data on intra-EU trade are collected through the Intrastat system, which, in 1993, replaced customs declarations as the source of trade statistics within the EU. The same information is used for official statistics and, besides small adjustments, the merchandise trade transactions in our dataset aggregate to the official total exports and imports of Portugal. Each transaction record includes, among other information, the firm's tax identifier, an eight-digit Combined Nomenclature product code, the destination/origin country, the value of the transaction in euros, the quantity (in kilos and, in some case, additional product-specific measuring units) of transacted goods, and the relevant international commercial term (FOB, CIF, FAS, etc.).[20] We were able to gain access to data from 1995 to 2005 for the purpose of this research. We use data on export transactions only, aggregated at the firm-destination-year level.

A.2.2 Matched Employer-employee Data

Employer-employee data come from *Quadros de Pessoal* (henceforth, QP), a dataset collected by the Ministry of Employment, drawing on a compulsory annual census of all firms in Portugal that employ at least one worker. Reported data cover the firm itself, as well as each of its workers. Each firm and each worker entering the database are assigned a unique, time-invariant identifying number which we use to follow firms and workers over time. Currently, the data set collects data on about 350,000 firms and 3 million employees. *Quadros de Pessoal*, is a longitudinal dataset matching virtually all firms and workers based in Portugal.[21] Currently, the data set collects data on about 350,000 firms

[20] In the case of intra-EU trade, firms have the option of "adding up" multiple transactions only when they refer to the same month, product, destination/origin country, Portuguese region and port/airport where the transaction originates/starts, international commercial term, type of transaction (sale, resale,...etc.), and transportation mode. In the case of intra-EU trade, firms are required to provide information on their trade transactions if the volume of exports or imports in the current year or in the previous year or two years before was higher than 60,000 euros and 85,000 euros respectively. More information can be found at: INE.

[21] Public administration and non-market services are excluded. Quadros de Pessoal has been used by, amongst others, Cabral and Mata (2003) to study the evolution of the firm size distribution; by Blanchard and Portugal (2001) to compare the U.S. and Portuguese labor markets in terms of unemployment duration and worker flows; by Cardoso and Portugal (2005) to study the determinants of both the contractual wage and the wage cushion (difference between contractual and actual wages); by Carneiro et al. (2012) who, in a related study, analyze how wages of newly hired workers and of existing employees react differently to

and 3 million employees. As for the trade data, we were able to gain access to information from 1995 to 2005. The data are made available by the Ministry of Employment, drawing on a compulsory annual census of all firms in Portugal that employ at least one worker. Each year, every firm with wage earners is legally obliged to fill in a standardized questionnaire. Reported data cover the firm itself, each of its plants, and each of its workers. Variables available in the dataset include the firm's industry, total employment, sales, ownership structure (equity breakdown among domestic private, public or foreign), and legal setting. The worker-level data cover information on all personnel working for the reporting firms in a reference week. They include information on gender, age, occupation, schooling, hiring date, earnings, hours worked (normal and overtime), etc. The information on earnings includes the base wage (gross pay for normal hours of work), seniority-indexed components of pay, other regularly paid components, overtime work, and irregularly paid components.[22]

Each firm entering the database is assigned a unique, time-invariant identifying number which we use to follow it over time. The Ministry of Employment implements several checks to ensure that a firm that has already reported to the database is not assigned a different identification number. Similarly, each worker also has a unique identifier, based on a worker's social security number, allowing us to follow individuals over time. The administrative nature of the data and their public availability at the workplace---as required by the law---imply a high degree of coverage and reliability. The public availability requirement facilitates the work of the services of the Ministry of Employment that monitor the compliance of firms with the law (e.g., illegal work).

A.2.3 Armed Conflict Dataset

We resort to version 17.2 of the UCDP/PRIO dataset in order to build a panel of armed conflicts at the country-year-level. UCDP defines conflict as "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in a calendar year". Using the time-varying information on the intensity of the conflicts we consider a country at war once the cumulated number of battle-related deaths exceeds 1,000.

A.3 Combined Dataset and Data Processing

We exploit a quasi-exhaustive mapping between the trade data firm id and the matched employer-employee dataset firm id, based on firm's observable characteristics, in order to merge the two datasets. As in Cardoso and Portugal (2005), we account for sectoral

the business cycle; by Caliendo et al. (2020) to study the changes in productivity observed in Portuguese firms when they reorganize their management structure by adding or dropping layers of management. See these papers also for a description of the peculiar features of the Portuguese labor market.

[22]It is well known that employer-reported wage information is subject to less measurement error than worker-reported data. Furthermore, the Quadros de Pessoal registry is routinely used by the inspectors of the Ministry of Employment to monitor whether the firm wage policy complies with the law. It does not include employers' contributions to social security.

and geographical specificities of Portugal by restricting the sample to include only firms based in continental Portugal while excluding agriculture and fishery (Nace rev.1, 2-digit industries 1, 2, and 5) as well as minor service activities and extra-territorial activities (Nace rev.1, 2-digit industries 95, 96, 97, and 99). Concerning workers, we consider only single-job, full-time workers between 16 and 65 years old, and working between 25 and 80 hours (base plus overtime) per week. Our analysis focuses on manufacturing firms only (Nace rev.1 codes 15 to 37) because of the closer relationship between the export of goods and the industrial activity of the firm. Even though we focus on manufacturing firms we use data both on manufacturing and non-manufacturing firms to build some of our variables, including export experience as well as the Nace rev.1 2-digit code, size, and productivity of the previous employing firm.

Each worker in *Quadros de Pessoal* (QP) has a unique identifier based on her social security number. We drop from the sample a minority of workers with an invalid social security number and with multiple jobs. If a worker is employed in a particular year, we observe the corresponding firm identifier for that year. Since worker-level variables are missing in 2001, we assign a firm to workers in 2001 in the following way: if a worker is employed by firm A in 2002 and the year in which the worker had been hired (by firm A) is before 2001 or is 2001, then we assign the worker to firm A in 2001 as well; for all other workers, we repeat the procedure using 2003. In case neither 2002 nor 2003 allow us to assign a firm to a worker in 2001, we leave the information as missing.

All the information in QP is collected during the month of November of each year. Worker-level variables refer to October of the same year. To control for outliers, we apply a trimming based on the hourly wage and eliminate 0.5 percent of the observations on both extremes of the distribution. We thank Anabela Carneiro for providing us with the conversion table between education categories (as defined in QP) and number of years of schooling. Firm-level variables refer to the current calendar year (except firm total sales that refer to the previous calendar year). In the trade dataset, we restrict the sample to transactions registered as sales as opposed to returns, transfers of goods without transfer of ownership, and work done.

A.4 Estimation Sample

In our study we focus on manufacturing firms with at least one manager. Our trade performance analysis is therefore representative of larger and more organizationally-structured firms that account for the bulk of trade in Portugal. Indeed, firms with at least one manager represent (in 2005) 71 percent of exporting firms, account for 97 percent of exports, and 76 percent of manufacturing employment.

In the estimation sample we focus on potential exports from Portugal to Angola: for each year t we keep all the observations in which a firm was not exporting to Angola in $t-1$ and study the decision to enter (or not) the Angolan market in the current year. The estimation sample includes 22,451 firms and 77,048 firm-year observations over the period 1995 to 2005. In some of our analyses, we employ an instrumental variables approach based on lagged values of the presence of export experience within the firm. For better comparability in the estimation, in all analyses we discard some of the earlier years and focus on the period 1998-2005 for which there are 40,357 firm-year observations.

Some of the key firm-level variables employed in our study, as well as the worker-level variables used in the wage analysis described in Appendix C, rely on our matched employer-employee dataset, which virtually includes all the workers and firms of the Portuguese economy. In particular, we follow workers as they move from firm to firm in order to be able to construct, by using the information on firms' export activity in each year, a time-varying measure of the workers', and in particular managers', export experience. This is possible thanks to an exhaustive coverage of firms, their workers, and their trade activity as well as a high degree of reliability of the data.

A.5 Definitions

Some concepts/measures are recurring in the explanation of a majority of the Tables and Figures. We define them here.

Firm-level Variables

Firm Age Firm age at time t is equal to the (log) difference between t and the year (minus one) the firm was created. The year the firm was created is replaced to missing whenever it is earlier than 1600.
Firm Export Status We divide firms into new, never, continuing, exiting and other exporters. Firm f at time t is a new exporter if the firm exports in t but not in $t-1$. If the opposite happens, the firm is an exiting exporter at time t. If the firm exports both in $t-1$ and in t it is a continuing exporter in t. If the firm does not export neither in $t-1$ nor in t then it is a never exporter in t. If the firm is not observed in $t-1$ then we classify it as other exporter in t. Never exporter is the reference category in the wage analysis.
Firm Productivity Firm (apparent labor) productivity at time t is equal to the (log) ratio between total sales (sales in the domestic market plus exports) and the number of all workers employed by the firm as resulting from the firm record.
Firm Size Firm size at time t is equal to the (log) number of all workers employed by the firm as resulting from the firm record.
Foreign Ownership A firm is defined as foreign-owned if 50 percent or more of its equity is owned by a non-resident.
 # Export Destinations in $t-1$ It is the number of export destination groups served by firm i at time $t-1$. We group countries into seven destination groups: Spain (the most frequent destination), other top 5 export destination countries (Italy, UK, France, and Germany), other EU countries, OECD countries not belonging to the EU, countries belonging to the Community of Portuguese Language Countries (CPLP in Portuguese), China, and the rest of the World.
Share of Skilled Workers Share of firm's workers with 12 or more years of education.
Product-groups We use the Isic rev2 3-digit classification to divide export products into 29 categories ranging from "Food manufacturing" (code 311) to "Other Manufacturing Industries" (code 390). The Isic rev2 is a widely used classification allowing to bridge products to industries and for which information on the degree of product differentiation – borrowed from Rauch (1999) – is readily available. The 29 product categories we end up working with represent a balance between a sufficient level of detail on the one side

and the need to economize on the dimensionality of the dataset involved in estimations of product-specific and product-destination-specific export experience on the other side.

Worker-level Variables

Hourly Wage (Log) hourly wage is computed adding base and overtime wages plus regular benefits (at the month-level) and dividing by the number of regular and overtime hours worked in the reference week multiplied by $4.\bar{3}$. We apply a trimming of the top and bottom 0.5 per cent. Regular and overtime hours worked are set to (i) missing if (individually) greater than 480 per month, (ii) to zero if negative.
Hiring Date The year the worker was hired in the firm is a variable that is directly registered in QP. Since there are few instances when the hiring date changes from year to year for the same worker-firm spell, we create a robust version of the hiring date computed using the mode for each firm-worker spell. If there is a tie, we take the minimum year in the spell.
Tenure This variable is measured as the difference between the current year and the hiring date.

A.6 Variable Definitions

In this Section we draw the distinction between managers and non-managers, and we define the measures of export experience that are employed in the analysis.

Managers In our analysis, we partition workers into managers and non-managers. Managers are responsible for strategic decisions taken within the firm including the organization of the firm, planning, and the shaping of technical, scientific and administrative methods or processes.

In practice, we identify managers using a (compulsory) classification of workers, according to eight hierarchical levels, defined by the Portuguese law (Decreto Lei 121/78 of July 2nd 1978). The classification is based on the tasks performed and skill requirements of each worker, and each level can be seen as a layer in a hierarchy defined in terms of increasing responsibility and task complexity.[23] We define managers as the workers belonging to one of the top three hierarchical levels: 'Top management', 'Middle management', and 'Supervisors and team leaders'; non-managers are workers belonging to lower hierarchical levels.

Measures of Export Experience Managers are not all alike: their set of skills and knowledge is likely to be connected to the experiences they faced along their careers. In this paper, we focus on one specific type of knowledge that can be acquired through experience: exporting knowledge.

We exploit the matched employer-employee feature of our dataset to track managers over time: for each firm-year pair, we identify the subset of (currently employed) man-

[23] See Caliendo et al. (2020) and Sforza (2018) for a description of the mapping of our occupational categories into a knowledge based hierarchy.

agers that have previously worked in a different firm. Moreover, we exploit the information contained in the trade dataset to identify those managers that were employed in the past by an exporting firm. We define such managers, as having export experience.[24] Finally, for each manager i with export experience at time t, we consider the set of countries and products involved in the exporting activities of previous firms and define three specific measures of the export experience: destination-specific export experience (for example, Angola-specific export experience), product-specific export experience (for example, shoes-specific export experience), and product-destination-specific export experience (the combination of the previous two). For example, we assign to manager i at time t experience in exporting shoes to Angola if manager i was previously employed by another firm which used to export shoes to Angola.[25]

B Some More In-Depth Discussion About Endogeneity

There are a number of reasons for which Assumption 1 is likely to hold in our setting:

1. We have firm fixed effects in our key regressions. Therefore, unobservables like their products portfolio, their wider export interests, their (non-managerial) owners, etc., do not interfere in our estimations as long as they are roughly time-invariant within the time frame we consider (1996-2005). Indeed, time-invariant unobservables potentially correlated with the presence of managers with export experience in Angola are part of our covariates.

2. As for the presence of time-varying unobservables correlated with the presence of managers with export experience specific to Angola there are two things to consider:

   (a) Suppose these unobservables are indeed important for the capacity of the firm to start exporting to Angola and that they are positively correlated with the presence of managers with export experience in Angola. For the sake of the argument, let's consider an actual scenario in which these time-varying unobservables correspond to signing or not a commercial contract with the Angolan government in a particular year t. If firm f at time t gets the contract, this will highly increase the likelihood of firm f exporting to Angola at time t. Let's also assume that firms who are likely to export to Angola have an incentive to hire managers with export experience specific to Angola (positive correlation).

   By standard results from the omitted variables literature, the coefficient of our key variable should thus be inflated by an amount that depends on the coefficient related to the unobservables (firm f signing or not a contract at time t)

[24] We do not consider the export experience potentially acquired by the manager within the current employing firm.

[25] In the wage analysis reported in Appendix C, we also use another measure of experience: matched export experience. In particular, we assign to manager i at time t matched export experience if the manager has destination-specific export experience in a least one of the countries the current employing firm f exports to in t.

and the correlation between the unobservables and the presence of managers with export experience in Angola.

Without the event study represented by the unexpected end of the civil war in Angola, it would be hard to establish whether and how much the coefficient of our key variable is biased by the presence of time-varying unobservables. However, we do have an exogenous shock in our time frame: "The end of the war in Angola was unexpected, and Savimbi's murder was a clear and uncontroversial sign of the end of the civil war." If there is an important bias this should apply both before and after the end of the civil war. Indeed, contracts with the Angolan government can be signed both before and after 2002.

In this respect, Table 2 indicates that, prior to 2002, the coefficient associated to the presence of managers with export experience specific to Angola is not significant and if anything slightly negative (columns 2 and 3). This suggests that the bias is either zero (zero correlation with unobservables) or slightly negative (actually a negative correlation between unobservables and the presence of managers with export experience in Angola); more on this below. Furthermore, it is important to note that whether it is more or less easy/frequent to sign a contract with the Angolan government (likely easier/more frequent post 2002) does not really matter for our argument above. If all of a sudden it becomes easier to sign a contract, simply more firms will start exporting to Angola, which is picked up by our time dummies. Crucially, as long as the correlation between the unobservables and the presence of managers with export experience specific to Angola (as well as the coefficient related to those unobservables) is constant across time, the fact that we find a very small and, if anything, negative coefficient pre-2002 does suggest that the coefficient of our key variable is not inflated by an omitted variables issue.

(b) Although appealing and apparently intuitive, a positive correlation between time-varying unobservables and the presence of managers with export experience in Angola crucially hinges on the existence of complementarities between the two. For example, there would be complementarity if having managers with export experience specific to Angola would increase more the likelihood to start exporting to Angola for firms who have signed a contract with the Angolan government (as compared to those who have not).

Suppose that instead there is no complementarity. Also suppose managers are paid for their productivity/contribution to the firm, which includes a possible contribution of the manager to a higher likelihood of entering into a new export market (Angola in our case). Now denote a manager with i and consider wages w_{ift} for all the possible firm-worker pairs. Firm f hires in t the most productive manager from a set I which means d_{ift}=$\mathbf{1}\left(\mathbf{X}'_{ift}\beta + \varepsilon_{ift} \geq \max_{i^* \in I} \mathbf{X}'_{i^*ft}\beta + \varepsilon_{i^*ft}\right)$, where d_{ift} is a dummy taking value one if manager i is employed by firm f at time t, $\mathbf{1}(.)$ is an indicator function, $\mathbf{X}_{ift}$ is a set of covariates including fixed effects and information about whether the manager has export experience in Angola or not, and ε_{ift} stands for unobservables including whether or not firm

f has signed a contract with the Angolan government at time t. Note that the cross derivative of the two effects (experience and having signed a contract) is zero in terms of wages/firm productivity because of the simple sum of the two components (substitutes rather than complements).

Whether firm f employs a manager with export experience specific to Angola in t or not depends on both $\mathbf{X}_{ift}^{'}\beta$ and ε_{ift}, while $\mathbb{E}\left[\varepsilon_{ift}|\mathbf{X}_{ift}, d_{ift}=1\right]$ **decreases** in those components of the covariates vector $\mathbf{X}_{ift}^{'}$ corresponding to a positive coefficient (like export experience in Angola) so inducing a **downward** bias of β (basically the same effect as measurement error). Intuitively, given that firm f has chosen manager i ($d_{ift}=1$), an increase in $\mathbf{X}_{ift}^{'}\beta$ (the manager has export experience specific to Angola) means that the unobserved component ε_{ift} needs not to be that large (the firms does not necessarily need to have signed a contract with the Angolan government) for manager i to be chosen: **negative** correlation between unobservables ε_{ift} and covariates $\mathbf{X}_{ift}^{'}\beta$ **conditional** on $d_{ift}=1$.

C Additional Results

Experience in Exporting a Given Product to Angola The issue we want to address is whether what is key is not just knowledge of the destination country (Angola) but a more specific knowledge about exporting a given product to a given country. In order to do so, we use the Isic rev2 3-digit classification to divide export products into 29 categories. The Isic rev2 is a widely used classification allowing to bridge products to industries and for which information like the degree of product differentiation – borrowed from Rauch (1999) – is readily available.[26]

We use information on both products and countries involved in exporting activities by previous employing firms to additionally measure product-specific and product-country-specific export experience for managers. We then expand our dataset at the firm-product-time level and analyze the entry process of firm f potentially starting exporting product p to Angola at time t. We consider the same firm-time controls and firm fixed effects of equation (1), while further allowing for product-year fixed effects, and separately analyze homogeneous and differentiated products. The key explanatory variables are the 3 measures of experience (country-specific, product-specific and product-country-specific) and their interactions with the post-war dummy.

Estimation results, provided in Table I.1, display two key patterns. First, export experience seems to matter only for differentiated products. Second, a positive post-war impact arises for country-specific and (particularly) for product-country-specific export experience but not for product-specific export experience. This confirms that the export experience knowledge relevant to firms has a strong country specificity, while at the same

[26]The 29 product categories we end up working with represent a balance between a sufficient level of detail on the one side and the need to economize on the dimensionality of the dataset involved in estimations of product-specific and product-country-specific export experience on the other side.

time indicating that the combination of product and country experience provides an additional contribution to firms' export performance.

Table I.1: Probability to start exporting a specific product to Angola: experience in a country vs. experience in a product vs. experience in a product-country

Unconditional entry rate	0.0002	0.0014
	(1)	(2)
	Homogeneous Products	Differentiated Products
Manager w/ experience	0.0001	-0.0018***
in exporting to Angola	(0.0006)	(0.0005)
$\times$ I[$Year \geq 2002$]	0.0008	0.0013**
	(0.0006)	(0.0005)
Manager w/ experience	0.0023	0.0026***
in exporting a specific product	(0.0019)	(0.0004)
$\times$ I[$Year \geq 2002$]	-0.0019	0.0001
	(0.0021)	(0.0005)
Manager w/ experience	0.0014	0.0047***
in export. a specif. prod. to Angola	(0.0034)	(0.0012)
$\times$ I[$Year \geq 2002$]	0.0048	0.0054***
	(0.0048)	(0.0018)
Observations	92,364	1,246,914
R-squared	0.220	0.035
Firm-time controls	X	X
Product-Year FE	X	X
Firm FE	X	X
Estimation Method	OLS	OLS

Notes: The Table reports OLS coefficients and standard errors of the main covariates of interest of an enriched model of firm's entry into the Angolan market. The dependent variable takes value one when a firm f starts exporting product p to Angola at time t. We use three measures of export experience: i) presence of at least one manager with previous export experience in Angola; ii) presence of at least one manager with previous export experience of product p; iii) presence of at least one manager with previous export experience of product p in Angola. We use the Isic rev2 3-digit classification to divide export products into 29 categories ranging from "Food manufacturing" (code 311) to "Other Manufacturing Industries" (code 390). Column (1) provides results for the subset of products that are classified as homogeneous while column (2) provides results for the subset of products that are classified as differentiated. The distinction between homogeneous and differentiated is borrowed from Rauch (1999). Firm-time controls are firm size, productivity, number of export destinations in $t-1$, share of skilled workers, age, foreign ownership, as well as mean and standard deviation of both age and education of firm f managers. Firm-time controls have been divided by their respective standard deviation in order to deliver a comparable metric. Standard errors clustered at the firm-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

Wage Premiums When we run a series of Mincerian wage regressions, where we consider both managers and other workers, we find that having previous experience in exporting to a country where your current firm is exporting to ('matched export experience')

commands a wage premium for managers. However, when the experience we are talking about is in exporting to Angola, the wage premium is lower than the average one for other destinations during the civil war and it becomes higher than the average one for other destinations after the end of the war.

The baseline specification is the following:

$$w_{it} = \delta + \alpha Exp_{it} + \beta Man_{it} \times Exp_{it} + \gamma Mexp_{it} + \theta Man_{it} \times Mexp_{it} +$$

$$+ X'_{it}\Lambda + S'_{ft}\Omega + \mu_t + \mu_s + \epsilon_{fmt},$$

where w_{it} is the log hourly wage for worker i at time t; Exp_{it} is a dummy equal to one if worker i has export experience at time t; Man_{it} is a dummy variable equal to one if worker i is a manager at time t; $Mexp_{it}$ is a dummy equal to one if worker i has *matched* export experience, i.e., export experience in at least one of the countries the current employing firm is exporting to, at time t; X_{it} is a vector of worker-time controls including age, age squared, number of years of schooling, tenure, a dummy variable for managerial status, a set of dummies capturing the number of times (from one to nine) the worker has changed firm, and a similar set of job mobility dummies for managers; S_{ft} is a vector of firm-time controls including the size, apparent labor productivity, age, share of skilled workers (and a corresponding dummy for when the share is missing), size of the previous firm (and a corresponding dummy for when the previous firm size is missing), apparent labor productivity of the previous firm (and a corresponding dummy for when the previous firm productivity is missing), industry of the previous firm (and a corresponding dummy for when the previous firm industry is missing), mean and standard deviation of the age and of the number of years of schooling of the managers of firm f at time t, a set of trade status dummies (new exporter, continuing exporter, exiting exporter, and other type of exporter); μ_t are year dummies; μ_s are sector NACE-2 dummies.

Results for the baseline specification are reported in column (1) of Table I.2. Column (2) includes firm fixed effects (and drops industry dummies); column (3) includes both firm and worker fixed effects. In columns (4) and (5) we allow for the effect of matched export experience for the case in which the experience is about exporting to Angola—both for managers and non-managers—to be different before and after the end of the civil war.

Value of Exports to Angola Conditional on Entry We also explored the possibility that the presence of managers with previous export experience to Angola might influence the value of the exports of a firm in the year in which the firm eventually enters the Angolan market. We build upon (1) and replace the dependent variable with log exports to Angola of firm f in the year t in which we observe the firm entering. This reduces considerably the number of observations available for estimation. [27], We find that there is no significant relationship (neither overall nor post-2002) between the value of exports to Angola conditional on entry and the presence of managers with previous export experience to

[27]We do not employ firm fixed effects in the regressions we present below because that would mean relying for parameter identification on episodes where firms enter the Angolan market more than once in the sample period, which is a rather inconvenient variation. However, results obtained using firm fixed effects, available upon request, are qualitatively identical to those reported in Table I.3.

Table I.2: Wage premiums for managers related to matched export experience

	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline	Firm FE	Worker & Firm FE	Angola	Angola with Firm FE	Angola Worker & Firm FE
Matched Export Experience × Manager	0.080***	0.077***	0.013***	0.082***	0.079***	0.013***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
Matched Export Experience for Angola × Manager				-0.028***	-0.048***	-0.052***
				(0.006)	(0.006)	(0.004)
Matched Export Experience for Angola × Manager × Post 2002				0.026***	0.050***	0.081***
				(0.007)	(0.007)	(0.004)
Firm FE		X	X		X	X
Worker FE			X			X
Observations	5,140,844	5,138,256	4,668,511	5,140,844	5,138,256	4,668,511
R-squared	0.652	0.747	0.937	0.652	0.747	0.937

Notes: Standard errors clustered at the worker-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

Angola. The value of exports in the year of entry is driven by variables like firm size and productivity, which is in line with standard trade models.

Table I.3: Log value of exports conditional upon entry into the Angolan market

	(1) Baseline	(2) Event Study	(3) IV Event Study
Manager w/ experience	0.013	-0.096	0.0020
in exporting to Angola	(0.104)	(0.154)	(0.236)
$\times$ I[$Year \geq 2002$]		0.220	0.228
		(0.185)	(0.268)
Observations	1,631	1,631	1,244
R-squared	0.116	0.079	0.082
Firm-time controls	X	X	X
Year FE	X	X	X
Industry FE	X	X	X
Estimation Method	OLS	OLS	IV
Under-identif. statistic			312.481
Under-identif. p-value			0.000
Weak identif. statistic			208.255
Hansen J statistic			4.866
Hansen J p-value			0.301

Notes: The Table reports OLS (columns 1 and 2) and IV (column 3) coefficients and standard errors of the main covariates of interest of a model of firm's exports value conditional on entry into the Angolan market. Starting from equation (1), we replace the dependent variable with log exports to Angola of firm f at time t, where t is the year where we observe entry, and did not consider firm and/or sector fixed effects. The key independent variable is a dummy indicating if the firm has at least one manager with export experience in Angola. In column (1) we do not consider the interaction between the dummy indicating the presence of at least one manager with export experience in Angola and the time dummy indicating years from 2002 onwards. We do consider such interaction in columns (2) and (3). In column (3) we instrument the presence of a manager with experience in the Angolan market in firm i at time t with its lagged value at times $t-1$, $t-2$, and $t-3$. Firm-time controls are firm size, productivity, number of export destinations in $t-1$, share of skilled workers, age, foreign ownership, as well as mean and standard deviation of both age and education of firm f managers. Firm-time controls have been divided by their respective standard deviation in order to deliver a comparable metric. The under-identification test statistic is the 'Kleibergen-Paap rk LM statistic' while the weak identification test statistic is the 'Kleibergen-Paap rk Wald F statistic'. Standard errors clustered at the firm-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

Table I.4: Probability to start exporting to Angola - dynamic difference in difference

Unconditional entry rate	0.035	0.033	0.042
	(1)	(2)	(3)
	Baseline	Event Study	IV Event Study
Manager w/ experience	0.030***	-0.011	-0.036
in exporting to Angola	(0.004)	(0.008)	(0.028)
$\times$ I[*Year* = 2002]		0.034***	0.045**
		(0.012)	(0.019)
$\times$ I[*Year* = 2003]		0.027**	0.033*
		(0.011)	(0.017)
$\times$ I[*Year* = 2004]		0.021**	0.034**
		(0.011)	(0.017)
$\times$ I[*Year* = 2005]		0.034***	0.052***
		(0.011)	(0.017)
Observations	46,182	41,628	27,436
R-squared	0.039	0.384	0.009
Firm-time controls	X	X	X
Year FE	X	X	X
Industry FE	X		
Firm FE		X	X
Estimation Method	OLS	OLS	IV
Under-identif. statistic			230.177
Under-identif. p-value			0.000
Weak identif. statistic			20.178
Hansen J statistic			8.548
Hansen J p-value			0.575

Notes: The Table reports OLS (columns 1 and 2) and IV (column 3) coefficients and standard errors of the main covariates of interest of our model of firm's entry into the Angolan market (see equation (1)). The dependent variable takes value one when a firm f starts exporting to Angola at time t. The key independent variable is a dummy indicating if the firm has at least one manager with export experience in Angola. In column (1) we do not consider the interaction between the dummy indicating the presence of at least one manager with export experience in Angola and the time dummies indicating years from 2002 onwards. We do consider such interactions in columns (2) and (3). In column (3) we instrument the presence of a manager with experience in the Angolan market in firm i at time t with its lagged value at times $t-1$, $t-2$, and $t-3$. Firm-time controls are firm size, productivity, number of export destinations in $t-1$, share of skilled workers, age, foreign ownership, as well as mean and standard deviation of both age and education of firm f managers. Firm-time controls have been divided by their respective standard deviation in order to deliver a comparable metric. The under-identification test statistic is the 'Kleibergen-Paap rk LM statistic' while the weak identification test statistic is the 'Kleibergen-Paap rk Wald F statistic'. Standard errors clustered at the firm-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

Table I.5: Probability to start exporting to Angola - only firms that export in t-1

Unconditional entry rate	0.059	0.053	0.063
	(1)	(2)	(3)
	Baseline	Event Study	IV Event Study
Manager w/ experience	0.044***	-0.012	-0.074
in exporting to Angola	(0.006)	(0.012)	(0.046)
$\times$ I[*Year* $\geq$ 2002]		0.043***	0.050***
		(0.013)	(0.021)
Observations	17,660	15,945	12,440
R-squared	0.047	0.394	0.001
Year FE	X	X	X
Industry FE	X		
Firm FE		X	X
Estimation Method	OLS	OLS	IV
Under-identif. statistic			129.554
Under-identif. p-value			0.000
Weak identif. statistic			83.589
Hansen J statistic			3.361
Hansen J p-value			0.499

Notes: See notes of Table 2 in the main text. Unlike in that table, in this regressions we condition on firms that export in at least one destination (but not to Angola) in $t-1$. Standard errors clustered at the firm-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

Table I.6: Probability to start exporting to Angola - no firm-year controls

Unconditional entry rate	0.035	0.033	0.042
	(1)	(2)	(3)
	Baseline	Event Study	IV Event Study
Manager w/ experience	0.049***	-0.010	-0.029
in exporting to Angola	(0.004)	(0.008)	(0.030)
$\times$ I[*Year* $\geq$ 2002]		0.031***	0.044***
		(0.009)	(0.015)
Observations	46,182	41,628	27,436
R-squared	0.018	0.383	0.001
Year FE	X	X	X
Industry FE	X		
Firm FE		X	X
Estimation Method	OLS	OLS	IV
Under-identif. statistic			218.033
Under-identif. p-value			0.000
Weak identif. statistic			203.190
Hansen J statistic			7.480
Hansen J p-value			0.112

Notes: See notes of Table 2 in the main text. Unlike in that table, in this regressions we do not consider firm-time controls. Standard errors clustered at the firm-level in parentheses: ***p < 0.01, **p < 0.05, *p < 0.1.

D Summary Statistics and Controls

Table I.7 provides estimation information for the additional covariates of Tables 2 and 3. Table I.8 shows the sectoral breakdown of Portuguese exports to Angola for every year in between 1995 and 2005. Tables I.9 and I.10 show the mean, standard deviation, minimum and maximum of firm-level and worker-level variables employed in the analysis for the year 2005.

Table I.7: Additional covariates of Table 2 and 3

	Baseline	Event Study	IV Event Study	Conflict Zones	Ex-colonies
Year 1999	-0.005*	0.008***	-0.033***	0.008***	
	(0.003)	(0.003)	(0.005)	(0.003)	
Year 2000	0.005	0.018***	-0.023***	0.018***	
	(0.003)	(0.003)	(0.005)	(0.003)	
Year 2002	0.015***	0.031***	-0.011***	0.029***	
	(0.003)	(0.004)	(0.004)	(0.004)	
Year 2003	0.011***	0.032***	-0.011***	0.033***	
	(0.003)	(0.004)	(0.003)	(0.004)	
Year 2004	0.009***	0.036***	-0.008***	0.036***	
	(0.003)	(0.005)	(0.003)	(0.005)	
Year 2005	0.010***	0.043***		0.044***	
	(0.003)	(0.005)		(0.005)	
Firm Size (log)	0.008***	0.024***	0.023***	0.022***	0.024***
	(0.001)	(0.005)	(0.008)	(0.005)	(0.005)
App. Labor Productivity (log)	0.006***	0.003	0.004	0.003	0.003
	(0.001)	(0.003)	(0.004)	(0.003)	(0.003)
Firm Age (log)	0.007***	-0.0153**	-0.015*	-0.013**	-0.014**
	(0.001)	(0.006)	(0.008)	(0.006)	(0.006)
Foreign Ownership (0/1)	-0.003**	0.001	0.001	0.001	0.001
	(0.001)	(0.003)	(0.003)	(0.003)	(0.003)
# Export Dest in $t-1$ (count)	0.010***	0.004**	0.004*	0.004**	0.004**
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Share of Skilled Workers (share)	0.001	0.003	0.002	0.003	0.003
	(0.001)	(0.003)	(0.004)	(0.003)	(0.003)
Avg. Managers' Age (years)	0.002**	-0.001	0.000	-0.001	-0.001
	(0.001)	(0.002)	(0.003)	(0.002)	(0.002)
Std. Dev. Managers' Age (years)	-0.000	-0.002	-0.004**	-0.002	-0.002
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Avg. Managers' Education (years)	0.000	-0.001	-0.002	-0.001	-0.001
	(0.001)	(0.002)	(0.003)	(0.002)	(0.002)
Std. Dev. Managers' Education (years)	-0.000	-0.001	0.000	-0.001	-0.001
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	46,182	41,628	27,436	41,628	41,628
R-squared	0.039	0.384	0.009	0.384	0.384
Firm-time controls	X	X	X	X	X
Year FE	X	X	X	X	X
Industry FE	X				
Firm FE		X	X	X	X
Estimation Method	OLS	OLS	IV	OLS	OLS

Table I.8: Sectoral breakdown of aggregate Portuguese exports to Angola

ISIC code	*Industry*	*1998*	*1999*	*2000*	*2002*	*2003*	*2004*	*2005*
311	Food products	0.02	0.02	0.02	0.02	0.03	0.03	0.03
313	Beverages	0.02	0.01	0.01	0.02	0.02	0.02	0.02
314	Tobacco	0.00	0.00	0.00	0.00	0.00	0.00	0.00
321	Textiles	0.09	0.09	0.09	0.08	0.07	0.05	0.08
322	Wearing apparel, except footewear	0.11	0.11	0.11	0.09	0.09	0.07	0.10
323	Leather products	0.01	0.01	0.01	0.01	0.01	0.00	0.01
324	Manufacture of footwear	0.05	0.06	0.06	0.05	0.04	0.04	0.05
331	Wood products, except furnitures	0.05	0.05	0.05	0.04	0.05	0.04	0.05
332	Furniture, except metal	0.01	0.02	0.02	0.02	0.03	0.03	0.02
341	Paper and products	0.07	0.07	0.08	0.07	0.07	0.06	0.07
342	Printing and publishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00
351	Manufacture of industrial chemicals	0.04	0.04	0.05	0.04	0.03	0.06	0.04
352	Other chemicals	0.02	0.01	0.02	0.02	0.02	0.02	0.02
353	Petroleum refineries	0.02	0.02	0.00	0.00	0.00	0.04	0.01
354	Misc. petroleeum and coal products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
355	Rubber products	0.01	0.00	0.02	0.01	0.02	0.02	0.02
356	Plastic products	0.01	0.01	0.01	0.01	0.02	0.02	0.01
361	Pottery, china, earthenware	0.02	0.02	0.01	0.01	0.01	0.01	0.02
362	Glass and products	0.01	0.01	0.02	0.02	0.01	0.02	0.01
369	Other non-metallic products	0.01	0.01	0.01	0.01	0.01	0.02	0.01
371	Iron and steel	0.01	0.02	0.02	0.02	0.02	0.03	0.02
372	Non-ferrous metals	0.00	0.00	0.00	0.00	0.00	0.01	0.00
381	Fabricated metal products	0.03	0.03	0.04	0.04	0.04	0.04	0.04
382	Machineries, except eletricals	0.05	0.05	0.07	0.07	0.08	0.09	0.07
383	Machineries, electric	0.13	0.15	0.18	0.16	0.14	0.11	0.14
384	Transport equipment	0.18	0.16	0.06	0.16	0.15	0.14	0.14
385	Prof and scient equipment	0.01	0.01	0.01	0.01	0.01	0.01	0.01
390	Other manufactured products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
999	Residuals	0.01	0.01	0.01	0.01	0.01	0.02	0.01

Table I.9: Firm-level descriptives for the year 2005

Variable	*Observations*	*Mean*	*Std. Dev*	*Min*	*Max*
Entry (0/1)	8,435	0.036	0.186	0	1
Angola export experience (0/1)	8,435	0.164	0.370	0	1
Firm Size (log)	8,435	3.057	1.159	0	7.937
App. Labor Productivity (log)	8,435	10.69	0.9723	3.322	15.41
Firm Age (log)	8,435	2.712	0.762	0	5.081
Foreign Ownership (0/1)	8,435	0.055	0.229	0	1
Share of Skilled Workers (share)	8,435	0.207	0.235	0	1
Avg. Managers' Age (years)	8,435	42.36	8.2280	18	65
Std. Dev. Managers' Age (years)	8,435	4.59	5.160	0	26.16
Avg. Managers' Education (years)	8,435	9.133	3.627	0	16
Std. Dev. Managers' Education (years)	8,435	1.860	2.265	0	9.485

Table I.10: Key worker-level descriptives for the year 2005

Variable	*Observations*	*Mean*	*Std. Dev*	*Min*	*Max*
Age (years)	609,581	35.23	11.14	17	65
Education (years)	609,581	6.166	3.153	0	16
Tenure (years)	609,581	9.369	9.029	0	54
Manager (0/1)	609,581	0.088	0.284	0	1