

THE IMPACT OF EXPORTS ON FIRMS

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INTRODUCTION

The analysis in this report deals with the question of whether firms that start exporting become more productive, that is better off when they involve in international trade or are already very productive before they embark on international trade.

Firstly, and most importantly, we note the empirical findings which indicates that exporters are better off than non exporters. Some studies confirm facts from numerous countries, which imply that on average, exporting firms are more productive and more capital intensive, because they pay higher wages and have larger scale of production.

There are two mechanisms which can confirm that there are positive correlation between firms productivity and its exports status. The first hypothesis is the self-selection hypothesis, which talks about firms that were previously productive before engaging in export activities to compete in international competitive markets. Then the second hypothesis, is the learning by exporting hypothesis which refers to firms that learn different things and expertise that enables them increase productivity and level of efficiency by entering into the export market. The cause for the increase in productivity in the learning by export hypothesis, is the access to new and improved and of course more advance technologies, product designs, technical and managerial expertise plus economies of scale, these all contribute to the general improvement.

Recent studies by Aw Chung and Roberts(2000) for Korea and Van Biesebroeck(2006) for Cote- d' Ivore have recorded that firms experience significant productivity rise after entering the export market. According to Melitz(2003), Benard et al(2003) and Clerides et al(1993), provide theoretical evidence that firms have to be more productive to overcome sunk costs and enter international markets which supports the self selection hypothesis rather than the learning by entry hypothesis. Also Damijan et al (2005) in his study in Slovenian firms indicates that in average higher productivity is vital for firms that start exporting to improve markets and not for firms that

target developing countries. Some other studies have also found evidence in support of both self selection and learning by exporting effects.

DISCUSSION AND RESULTS

The data set used analyses and provides some evidence on the difference between exporting and non-exporting firms. The result of the estimation is for self-selecting and learning by export hypothesis at the firm level looking at the hotel industry.

Productivity is often estimated as the deviation between observed output and the output predicted by a Cobb-Douglas production function estimated by an Ordinary Least squares. The regular approach used to measure TFP suggests estimating production function using an equation to obtain the elasticity's of turnover with reverence to inputs such as capital, labour and intermediaries. We also Augment the production function with another variable export , and we do this because we want to consider the extent to which exports increase productivity.

The production function estimation is written below as;

$$L_n(Y)_{it} = \beta_0 L_n(C)_{it} + \beta_1 L_n(L)_{it} + \beta_2 L_n(K)_{it} + \beta_3 L_n(M)_{it} + \varepsilon_{it}.$$

Y represents the firms output for example, a firm's turnover, L is the firms input in time t, K is the capital stock, M are the materials while C is the Hicksian neutral level of efficiency, ε_{it} is the producer specific deviation from the mean value, β_0 is a mean efficiency level across firms in time t. (Van Beveren, 2000). To calculate the TFP , following the standard approach, two steps are used. First is to estimate the elasticity of the output using the inputs (labour, capital and intermediates), the second step then involves obtaining TFP as a sum of the residual from the equation.

The problems associated with the production functions are; endogeneity of input choices, selection bias, imperfect competition in inputs and output markets, omitted variables, estimation product level. This simultaneity is present because productivity is said to be known to the profit-maximizing firms(but not the econometrician). When they choose their input levels. (Marshak and Andrews 1994). Firms would increase the use of their inputs in relation to positive productivity shocks. The simultaneity biases can be downward on capital and upward on labour and material. When this is the case, we are faced with the empirical question of whether it is likely to vary by sector or dependent on the balanced inputs. The OLS estimation of the production function would in turn produce biased estimates due to lack of knowledge for the unobserved productivity shocks. A fixed-effects estimator would

possibly solve the problem of simultaneity if we assume the unobserved, firm specific productivity is time invariant.(Yasar,M. et al 2008). Some of the problems associated with the production function should be seen in the OLS regression table in figure 1, then we will check if these problems were corrected or fixed by the fixed effect regression in figure2 because the fixed effects is one of the traditional means of solving the problem of simultaneity bias. When OLS estimates of production functions are biased, they lead to biased estimates of productivity and the important quantity for the estimation question.

Olley and pakes also introduces a semi parametric method that controls for these biases seen in a Cobb-Douglas production function, allowing us to estimate the production function parameters consistently and thus obtain dependable productivity estimates.

The coefficients in figure 1 are correlated with the error term and there is heteroscedasticity in our data, but notwithstanding the robust clustering, our most important variables remain largely significant. Given that this is a Cobb Douglas production function, our variables can be interpreted as elasticity's. Summing up the coefficients capital, employment and intermediates will give us an indication of returns to scale ($0.27+0.03+0.70 = 1$) this shows virtually constant returns. After running the fixed effect regression in figure 2 we see that the problem of co linearity still persist even though the regressors are jointly significant, because the overall F statistic of 146.97 has a p-value of 0.000.

In table 4 we compare the parameters estimated from OLS and the Fixed Effect regression. Whether the OLS coefficient on capital will be upward biased or downward biased depends on the degree of correlation among the inputs of productivity shocks. The fixed effects estimates differ quite considerably from the OLS estimates. The extent of each firms productivity shock differs over time and is not a constant fixed effect. The coefficients for each estimator, summed up to 1 as seen earlier which implies that there is increasing return for this industry.

In production function estimation the key thing is the correlation between un observed productivity shocks and input levels. Profit maximizing firms react to positive productivity shocks by expanding output, which involves the use of additional outputs. Negative shocks lead firms to trim.

The most essential problem to be considered when a firm intends to engage in international trade is the entry mode in which the firm chooses to attend to the foreign markets(Root 1987). Firms who fail to do this correctly will eventually become less efficient and depending on the market forces, on the long run could potentially be taken off the competition completely.

In the case of the hotel trade, the higher the level of control on the external operation permits to alleviate the tendency towards the opportunism on the part of the hotels in two fold sense, first is property rights offer a greater potential to establish a richer rewarding system and secondly, the organisational culture shared by a chain of hotels and its hotels in property provides with a set of norms and values more aligned with the interest of the chain(Brown ,Dev 200). The variables that affect export performance in the hotel industry includes; managerial variables e.g staff, organisational variables e.g foreign activities, Environmental variables e.g market goal, Marketing mix variables e,g price, place , promotion.

In common with other service organisations, hotels have traditionally had a great labour intensity, which invariably accounts for the greatest proportion of total hotel costs. Despite the pressure of productivity improvements in hotels, productivity managements has not progressed quickly. Hotels engage in a lot of export activities as they have to satisfy there customers in other to improve productivity. The hotel inputs are the resources they basically need to run the hotels which are labour, capital, raw materials, energy and essentially customers. While using a single input as output production is seen as unsatisfactory, it is the continuous combination of inputs factors that should be used to measure and accumulate total productivity of the industry.

The variables which include managerial, organisational and environmental, indirectly influences the export performance of the hotel industry. The marketing-mix variables are directly in relation to their export performance. According to studies, it may be stated easily that the foreign market entry mode is not a determining factor of export performance. It may then be said that there is a direct or indirect relationship between the entry mode and the export performance of a firm.

The size and investment in training are said to be firm specific in determining the advantages of export activities of the hotel industry. Some hotels lay emphasis on their advantages in marketing and concentrate on referral system and franchising, while others see themselves as providing a package of professional managerial and organisational service which cover most stages in hotel operations (e.g Hilton international, which explicitly rejects the involvement solely through franchise agreements).

For the sole reason of value of the value of a hotel to a customer which cannot be separated from its location, the choice of country from which the needs of hotel guests should be served, is not one which normally has to be made. As in the case of some essential products, the location hotels is country specific because they have to be situated where the tourists are positioned. There are also cases where hotels are located near the border of one

country which tourist may pay day visits time to stay, or hotels sited in areas which are reroute to the final destinations of the travelers.

What determines the forum of involvement by foreign firms in the hotel industry? Such involvement ranges from 100% equity stake through to a franchising agreement with the minimum amount of influence consistent with protecting the name and reputation of the franchisor.

The eclectic theory of international production provides a useful framework in explaining reasons for, and ways foreign involvement in international hotel industry. International hotel chain secures a standard service with certain characteristics demanded by their customers who are mostly foreign tourists, and they also operate on superior production function to hotels who only operate locally. This is because being a multinational hotel or involving in export activities, gives them a wider learning process gotten from dealing in different economic environments and also gives them the ground to source for more inputs to enhance both quality of services and competitiveness with other hotels in the international market. Another reason they are better of than hotels operating locally only is that, knowledge gotten firstly from servicing in their local market in combination with that of the foreign market, which is essentially done by meeting up with the needs of the foreign tourists, improves their overall productivity and increases their turnover.

CONCLUSION

The relationship between the productivity of the hotel industry and export experience are robust or said to be very high. The average productivity is highest for the hotels that continuously engage in international trade than hotels who only operate locally and those who exit the international trade. Firms that go into the export market have higher productivity before entry because they have enough turnovers or profit to enable them engage in international trade. The self-selection hypothesis has higher productivity into the export market. There also seems to be a higher difference between exporters and non exporters as export experiences increases but this assumption is only limited to the enter and exit of the export market and not for continuous exporters. (Bee Yan Aw et al, 1999)

APPENDIX

lturn	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ltemp	.2748971	.0162771	16.89	0.000	.2429802	.3068141
lk	.0348568	.005684	6.13	0.000	.0237114	.0460022
linter	.6966172	.0170396	40.88	0.000	.6632051	.7300293

FIGURE 1

Fixed-effects (within) regression
 Group variable: crn

Number of obs = 10400
 Number of groups = 2696

R-sq: within = 0.6700
 between = 0.9405
 overall = 0.9456

obs per group: min = 1
 avg = 3.9
 max = 9

corr(u_i, xb) = 0.3860

F(11,2695) = 146.97
 Prob > F = 0.0000

(Std. Err. adjusted for 2696 clusters in crn)

lturn	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
linter	.5321404	.0363002	14.66	0.000	.4609613	.6033195
lk	.0249615	.0085492	2.92	0.004	.0081979	.0417251
ltemp	.3798392	.036644	10.37	0.000	.307986	.4516924
year						
2003	-.0171359	.0082629	-2.07	0.038	-.0333383	-.0009336
2004	.0050871	.0090273	0.56	0.573	-.0126141	.0227883
2005	-.0056329	.0104784	-0.54	0.591	-.0261794	.0149137
2006	-.0018712	.0109557	-0.17	0.864	-.0233537	.0196112
2007	.0202831	.0118616	1.71	0.087	-.0029756	.0435419
2008	.0281228	.012336	2.28	0.023	.0039337	.0523119
2009	.0445225	.0126049	3.53	0.000	.0198062	.0692387
2010	.0658481	.016322	4.03	0.000	.0338431	.0978531
_cons	2.198566	.2080493	10.57	0.000	1.790614	2.606518
sigma_u	.38489501					
sigma_e	.22387379					
rho	.74720795	(fraction of variance due to u_i)				

FIGURE 2

. regress lturn ltemp export_dum lk linter i.year i.sic_4d, robust cluster(crn) noheader
(Std. Err. adjusted for 2696 clusters in crn)

lturn	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
ltemp	.2752255	.01626	16.93	0.000	.2433422	.3071088
export_dum	.0491162	.0578344	0.85	0.396	-.0642881	.1625205
lk	.0347709	.0056674	6.14	0.000	.0236581	.0458837
linter	.6961755	.0170655	40.79	0.000	.6627127	.7296382
year						
2003	-.0089649	.0096344	-0.93	0.352	-.0278563	.0099266
2004	.0093111	.0108652	0.86	0.392	-.0119938	.0306161
2005	-.0075449	.0110531	-0.68	0.495	-.0292184	.0141285
2006	-.0077816	.0116372	-0.67	0.504	-.0306003	.0150371
2007	.0113289	.0139246	0.81	0.416	-.015975	.0386328
2008	-.0018744	.0148186	-0.13	0.899	-.0309314	.0271826
2009	.0066338	.0118572	0.56	0.576	-.0166163	.0298839
2010	.0232445	.0138035	1.68	0.092	-.0038221	.050311
sic_4d						
5521	.1090839	.1128982	0.97	0.334	-.1122918	.3304596
5522	.1198684	.0219611	5.46	0.000	.076806	.1629307
5523	.1306644	.0319522	4.09	0.000	.068011	.1933178
5530	-.0198236	.0147513	-1.34	0.179	-.0487485	.0091014
5540	-.075958	.0188619	-4.03	0.000	-.1129433	-.0389727
5551	.0744295	.0617448	1.21	0.228	-.0466424	.1955014
5552	.1124347	.0316278	3.55	0.000	.0504174	.174452
_cons	1.317154	.0547299	24.07	0.000	1.209837	1.424471

FIGURE 3

PARAMETER	OLS	FIXED EFFECT
LINTER	0.6966 (0.017)	0.5321 (0.0363)
LK	0.0349 (0.0057)	0.0249 (0.0085)
LEMP	0.2748 (0.0163)	0.3798 (0.0367)
SUM	1.006	0.9368

FIGURE 4

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