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Standards: An Imperative for Integration in Value Chains? Evidence from Agricultural Producers in Honduras

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Introduction

Producers participating in global value chains are increasingly required to conform to a number of standards (Kaplinsky, 2004). These standards can be set by international bodies or private sector lead firms. Reardon *et al*. (2001) point out that in developing countries these changes have tended to exclude small producers from participating in market growth, because of the implied investments. According to Humphrey (2005) the enforcement of standards leads to learning processes along the chain and as a result, increased upgrading opportunities are present. Humphrey (2004) states that the insertion into value chains can facilitate the entry of developing country firms into export markets as they can specialize in production and do not have to be concerned about such issues as product design, logistics or market requirements in importing countries because these issues are already addressed by the buyers and their agents. Furthermore, the increasingly stringent requirements (i.e. standards) of global buyers in areas such as quality and delivery may offer firms opportunities to add value to products.

Methods

A systematic sample of agricultural producers in northern Honduras (Figure 1) was taken. These belonged to the traditional primary commodity chain (coffee, n=42), the plantation product chain (palm oil, n=22) and fresh produce chain (horticulture, n=38). The field research was conducted from May to August 2006 in northern Honduras. The questionnaire included 78 questions divided into 6 sections: General Information, Firm Characteristics, Performance, Relationship with Buyers and Suppliers, Upgrading, and Standards.

Fig. 1: Area sampled in study

Results

The enforcement of standards is becoming increasingly relevant in the value chain analysis and the discussion on integration of developing country firms in global value chains. As a matter of fact, the firms studied – no matter the size – are aware of the importance of standards. Although a few firms had not complied with standards, they were aware of the importance of standards and knew that this could be a determining factor in their success in the business or better yet, in their survival in a competitive market. Agricultural producers have become more aware about these issues since talks began in 2000 on the Central America Free Trade Agreement. Although not all firms export directly, many of them have to comply with lead firm standards because in the end, their products could be exported. This is particularly true in the coffee chain, since most of the coffee production is exported.

Table 1: Type of Standards

	Frequency	Percent
No Standard	17	16.7
1 standard:		
Quality	31	30.4
Environmental	15	14.7
Organic	4	3.9
Fair Trade	2	2.0
Food Safety	1	1.0
Origin	1	1.0
More than 1 standard:		
Quality, Origin	18	17.6
Quality and Environmental	7	6.9
Quality, Environmental, Origin, Best Practice	6	5.9
Total	102	100.0

There are numerous standards a producer can comply with. In many cases, producers had to comply with more than one standard (Table 1). Firms cited different reasons for implementing standards, such as competitiveness, customer demand, and to remain in the market (Figure 2).

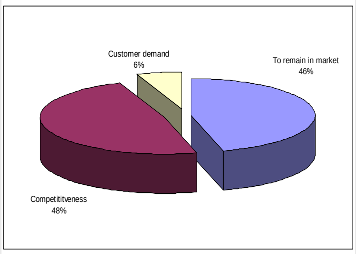

Fig. 2: Reasons Standard Implementation

Firms were asked if the implementation of standards has led to a gain in new knowledge and 82% of those firms asked agree that they have acquired new knowledge. They were also asked if they have acquired new technology because of these changes and if they feel that they have a more secure position in the chain as a result of the implementation of standards and upgrading (Figure 3).

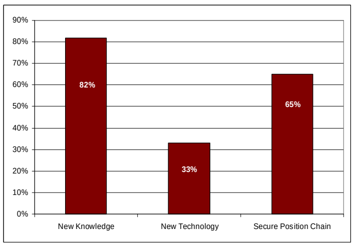

Fig. 3: Gains from Standard Implementation

A regression analysis was used to test whether the implementation of standards has an effect on knowledge gain and achieving a secure position in the chain. Specifically, a logistic regression analysis was used because the dependant variable (i.e. position in chain, knowledge gain) is a categorical dichotomy and the predictor variables are continuous or categorical. The logistic regression finds an equation of the form:

$$\log[Y/(1-Y)] = b_0 + b_1X_1 + b_2X_2 + \ldots + b_nX_n + \varepsilon_i$$

where b_1 is the partial regression coefficient of $\log[Y/(1-Y)]$ on X_1, or what the slope of the regression line of $\log[Y/(1-Y)]$ on X_1 would be if all the other X variables could be kept constant. The predictor variable used was implementation of standards.

The producers were asked if they perceive that the position they have in the chain is more secure as a results of their compliance with standards. Over half of the producers agreed that they had achieved a secure position in the chain. The results of the logistic regression (Table 2) indicate that the implementation of standards makes a significant contribution in the prediction of the outcome, in this case, a secure position in the chain.

Table 2: Regression Results – Position in Chain

				95.0% C.I.for EXP(B)	
	B	S.E.	Exp(B)	Lower	Upper
Standards	4.447**	1.0.64	0.011	0.001	0.091
Constant	-1.482	0.286	4.4		

Note R^2 = 0.38 (Hosmer & Lemeshow), 0.36 (Cox & Snell), 0.497 (Nagelkerke).
Model $\chi^2(1) = 45.53$, $p < 0.001$ * $p<0.01$, ** $p<0.001$

According to Humphrey (2005) the enforcement of standards leads to learning processes along the chain. The results of the regression (Table 3) confirm this hypothesis. The implementation of standards makes a significant contribution in the prediction of the outcome, which was gain in knowledge in this case.

Table 3: Regression Results – Knowledge Gain

				95.0% C.I.for EXP(B)	
	B	S.E.	Exp(B)	Lower	Upper
Standards	5.829**	1.149	0.003	.000	.020
Constant	4.382	1.006	80.00		

Note R^2 = 0.67 (Hosmer & Lemeshow), 0.465 (Cox & Snell), 0.767 (Nagelkerke).
Model $\chi^2(1) = 63.84$, $p < 0.001$ * $p<0.01$, ** $p<0.001$

Conclusion

In the case of agricultural producers in Honduras, compliance with either international or private-sector, lead-firm enforced standards seems to be the only way to participate in value chains. Firms not implementing any standards clearly were profiting less than those firms that had implemented standards. Competition in international markets is not possible if producers do not comply with the required standards. At the local level, private lead firm standards are increasingly becoming the norm. Furthermore, the implementation of standards resulted in learning and the acquisition of new knowledge and thus a more secure position in the chain. Integration in value chains depends largely on the ability of the firm to upgrade its products, processes or functions and to comply with standards.

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