

The World's Largest Open Access Agricultural & Applied Economics Digital Library

## This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search http://ageconsearch.umn.edu aesearch@umn.edu

Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.

## AJAE Appendix:

## Farmers' Subjective Valuation of Subsistence Crops: The Case of Traditional Maize in Mexico

Aslıhan Arslan and J.Edward Taylor

Date: April 16, 2009

Note: The material contained herein is supplementary to the article named in the title and published in the American Journal of Agricultural Economics (AJAE).

Variable	Whole sample	Subsample		
Plot Level Varie	ables			
Yield (kg./ha.)	1087.17	1140.53		
Seed amount/ha.	24.88	19.69		
Plot area (ha.)	1.91	2.14		
Irrigation dummy	0.14	0.15		
Soil quality (1: Bad, 2: Regular, 3: Good)	2.28	2.31		
Slope (1: Plain, 2: Sloped, 3: Very steep)	1.54	1.53		
Walking time from the parcel to the com-	38.99	39.01		
munity center (mins.)				
Total labor (days/ha.)	73.66	$55.58^{*}$		
Total input cost/ha.	677.42	497.64		
Total machinery hours/ha.	5.83	$4.46^{*}$		
Total animal hours/ha.	18.79	14.52		
Number of observations	868	491		
Household Level Variables				
Wealth index	2.31	2.28		
Gender of household head $(=1 \text{ if male})$	0.90	0.91		
Indigenous language dummy	0.36	0.40		
Total land owned (ha.)	7.15	7.09		
Number of plots cultivated	1.78	1.87		
Number of plots owned	1.45	1.52		
Total farm income (\$MX)	8707.04	9066.55		
% land cultivated with maize	0.74	$0.88^{*}$		
% maize production sold	0.14	0.14		
Maize purchase dummy $(=1 \text{ if bought})$	0.47	0.43		
Off-farm income dummy	0.48	0.45		
Maize sale dummy $(=1 \text{ if sold})$	0.25	0.25		
Number of observations	557	314		

TABLE 1. Means of plot level and household level variables for the whole sample and the subsample of mono-cropped maize plots

Note: \* indicates that the difference of the sample means is statistically significant at 5% level using a two-sided t-test.

Variable	Coefficient	(p-value)	Coefficient	(p-value)
ln(yield)	TV		MV	
ln(land)	-0.32***	(0.00)	-0.32	(0.44)
ln(labor)	$0.18^{***}$	(0.01)	0.17	(0.74)
ln(seed)	$0.20^{***}$	(0.00)	0.55	(0.36)
ln(input cost)	$0.11^{***}$	(0.00)	0.04	(0.70)
ln(machinery)	$0.13^{**}$	(0.01)	0.52	(0.81)
ln(animals)	0.04	(0.15)	-0.08	(0.94)
drought	-0.07	(0.67)	-0.63	(0.83)
soil quality <sup><math>a</math></sup>	$0.25^{***}$	(0.01)	0.51	(0.67)
$slope^{a}$	0.07	(0.60)	-0.17	(0.95)
irrigation	$0.29^{**}$	(0.02)	0.2	(0.89)
altitude	-0.04	(0.80)	-1.02	(0.01)
age	-0.01	(0.15)	-0.01	(0.95)
education	-0.03	(0.27)	0.01	(0.98)
South-Southeast	-0.62	(0.24)	0.6	(0.91)
Central	-0.31	(0.58)	-0.25	(0.98)
Western Central	-0.2	(0.69)	-0.42	(0.77)
Northwest	$3.45^{***}$	(0.00)	0.61	(0.79)
commercial dummy	$0.69^{***}$	(0.00)	0.47	(0.73)
Intercept	$5.11^{***}$	(0.00)	5.84	(0.30)
	p(TV) $p(MV)$			
% vil. plots with TV(MV)	0.81*	(0.09)	0.83	(0.84)
% vil. maize marketed	-0.01**	(0.04)	0.01	(0.86)
% vil. off-farm inc. MX	0	(0.95)	-0.01	(0.95)
% vil. off-farm inc. US	-0.02	(0.56)	0.04	(0.85)
indigenous	$0.90^{***}$	(0.00)	-0.97***	(0.00)
saved seed $> 2$ yrs.	$0.68^{***}$	(0.00)	-0.57	(0.72)
soil quality	0.19	(0.26)	-0.1	(0.82)
slope	0.06	(0.69)	0.04	(0.87)
irrigation	-0.76**	(0.01)	0.78***	(0.00)
age	0.01	(0.23)	-0.01	(0.81)
education	0.02	(0.56)	-0.01	(0.95)
South-Southeast	0.26	(0.48)	-0.45	(0.65)
Central	$0.81^{*}$	(0.07)	-0.94	(0.57)
Western Central	$0.74^{**}$	(0.01)	-0.91	(0.54)
Intercept	-0.53	(0.52)	-0.23	(0.87)
Lambda (IMR)	0.16		-1.04	
p-Wald test $(rho=0)$	0.48		0.86	
N	425		66	

TABLE 2. Production functions estimated with Heckman model

<sup>a</sup> Soil quality and slope variables are rescaled to (-1,0,1) to prevent unnecessary imposition of a cardinal meaning to categorical variables.
Note: \*, \*\* and \*\*\* for 10%, 5% and 1% significance levels, respectively.

Variables	TV	MV
ln(land)	-0.317***	-0.18
$\ln(\text{labor})$	$0.189^{*}$	0.215
$\ln(\text{seed})$	$0.196^{**}$	$0.661^{**}$
$\ln(\text{input cost})$	$0.117^{***}$	0.071
$\ln(machinery)$	$0.162^{*}$	0.650**
ln(animals)	0.033	0.053
drought	-0.079	$-0.750^{*}$
soil quality	$0.298^{***}$	0.227
slope	0.062	-0.624**
irrigation	0.405	$0.530^{***}$
altitude	-0.044	-1.026***
age	-0.008	-0.030*
education	-0.044	-0.05
South-Southeast	-0.739	-0.39
Central	-0.58	-1.240***
Western Central	-0.487	0.43
commercial dummy	0.931	0.333
Constant	$5.427^{***}$	5.755***
Ν	425	66

TABLE 3. Production functions estimated with IV (probit) to control for the endogenous commercial farmer dummy (Dep. var:  $\ln(yield)$ )

Note: \*, \*\* and \*\*\* for 10%, 5% and 1% significance levels, respectively.