

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.

Farmer training: Demand-supply matching and its effectiveness

Ru Yan, School of Public Affairs, Zhejiang University & China Academy for Rural Development, Zhejiang University (CARD), <u>yanr@zju.edu.cn</u>

Ni Zhuo, Zhejiang Academy of Agricultural Sciences, zhuon@zaas.ac.cn

Hexiao Huang, Zhejiang Academy of Agricultural Sciences, 973598123@qq.com

Selected Poster prepared for presentation at the 2024 Agricultural & Applied Economics Association Annual Meeting, New Orleans, LA: July 28-30, 2024

Copyright 2024 by Ru Yan, Ni Zhuo, and Hexiao Huang. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.



E-mail: vanr@ziu.edu.cn

Farmer training: Demand-supply matching and its effectiveness

Ru YAN¹, Ni Zhuo², Hexiao Huang²

¹ School of Public Affairs, Zhejiang University & China Academy for Rural Development, Zhejiang University ² Zhejiang Academy of Agricultural Sciences Selected Poster prepared for presentation at the 2024 Agricultural & Applied Economics Association Annual Meeting, New Orleans, LA:

Introduction

In developing countries, organizing farmer training is an essential means to enhance farmers' knowledge and skills, thereby improving agricultural production efficiency.

Training for high-quality farmers faces issues such as insufficient resources and ineffective information, which hampers the training effectiveness.



Objective

Measuring demand and supply of farmer training
 Exploring mismatch between demand and supply
 Verifying the impact of demand-supply mismatch on the training effectiveness

Empirical Strategy

Entropy weight method: Construct the evaluation index system of demand and supply satisfaction of high-quality farmer training

$Effectiveness_i = \alpha_0 + \alpha_1 Mismatch_i + \sum_{k=1}^m \gamma_k CV_{ki} + \varepsilon_{ic}$

• *Effectiveness*: The effect of farmer training (subjective, objective, intergeneration) • *Mismatch*: Demand-supply gap

•CV: Personal characteristics like gender, age, education, etc.

Data Sources

A survey conducted in May, 2022, on the training of highquality farmers in Zhejiang Province, China.

The survey targeted a total of 2,256 farmers from training sessions. A total of 1,055 questionnaires were collected, and after excluding 49 invalid responses, 1,006 valid questionnaires were obtained, resulting in an effective response rate of 95.36%.



Fig. 2 Sensitivity analysis on demand and supply score with training effect

Table 1 Demand and supply of farmer training and training effect

			(3)	(4)	(5)	(6)
	Subjective training effect			Objective training effect		Intergenerational effect
	Technology	Income	Agri-income	Real agri-incmoe	Real agri-invest	Willing children to farm
Panel A: Demand scor	e and training	effect				
Demand score	0.215***	0.202***	0.201***	0.134***	0.248***	0.064***
	(0.023)	(0.021)	(0.022)	(0.043)	(0.045)	(0.010)
Panel B: Supply score	and training e	ffect				
Supply score	0.168***	0.167***	0.166***	0.134***	0.240***	0.052***
	(0.021)	(0.018)	(0.019)	(0.037)	(0.039)	(0.009)
Panel C: Demand-sup	ply gap and tr	aining effect				
Demand-supply gap ²	-0.009	-0.009	-0.007	-0.019**	-0.019**	-0.006*
	(0.009)	(0.008)	(0.008)	(0.010)	(0.009)	(0.004)
Demand-supply gap	-0.030	-0.061*	-0.057*	-0.123**	-0.197***	-0.018
	(0.042)	(0.037)	(0.035)	(0.061)	(0.066)	(0.017)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	1,006	1,006	1,006	1,004	1,005	1,006

Note: The control variables include gender, age, age squared term, education level, total number of labor force in the family, proportion of agricultural labor force, years of agricultural work, occupation type and professional title. Heteroscedasticity robust standard errors are in parentheses. $^{+}$ y<0.1, $^{+*}$ y<0.001.

Table 2 Demand-supply gap of farmer training and training effect

		(2)	(3)	(4)		(6)			
	Subjective training effect			Objective training effect		Intergenerational effect			
	Technology	Income	Agri-income	Real agri-incmoe	Real agri-invest	Willing children to farm			
Demand>>Supply	0.215***	0.202***	0.201***	0.134***	0.248***	0.064***			
	(0.023)	(0.021)	(0.022)	(0.043)	(0.045)	(0.010)			
Demand>Supply	0.168***	0.167***	0.166***	0.134***	0.240***	0.052***			
	(0.021)	(0.018)	(0.019)	(0.037)	(0.039)	(0.009)			
Demand <supply< td=""><td>-0.009</td><td>-0.009</td><td>-0.007</td><td>-0.019**</td><td>-0.019**</td><td>-0.006*</td></supply<>	-0.009	-0.009	-0.007	-0.019**	-0.019**	-0.006*			
	(0.009)	(0.008)	(0.008)	(0.010)	(0.009)	(0.004)			
Demand << Supply	-0.030	-0.061*	-0.057*	-0.123**	-0.197***	-0.018			
	(0.042)	(0.037)	(0.035)	(0.061)	(0.066)	(0.017)			
Reference group	-0.010 -0.011 -0.010 -0.010 (0.042) (0.037) (0.035) (0.061) (0.066) (0.017) Demand≈Supply								
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes			
Obs.	1,006	1,006	1,006	1,004	1,005	1,006			

Note: The control variables include gender, age, age squared term, education level, total number of labor force in the family, proportion of agricultural labor force, years of agricultural work, occupation type and professional title. Heteroscedasticity robust standard errors are in parentheses. ${}^{*}p < 0.1$, ${}^{*}p < 0.05$, ${}^{***}p < 0.01$.

Conclusion

When the demand for farmer training is higher, the training effect is better. When farmers are more satisfied with the supply of current farmer training, the training effect is better.
The higher the matching degree of demand and supply in farmer training is, the better the training effect is.

Subjectively, the farmers think that the training effect is best

when demand \approx supply. From the objective training effect, when supply is higher than demand, the training effect is better than demand \approx supply.

