Latino/a Immigrant Farmers in the Midwest Navigate Market Entry and Sales Challenges

Ervin Leiva, Corinne Valdivia, Stephen Jeanetta, and Rafael Bakhtavoryan

Plowing Through: An Insight into Latino/a Farming Challenges

The Midwest is experiencing a subtle yet profound demographic transformation, marked by an increasing number of producers identifying as Hispanic, Latino, or of Spanish origin (USDA-NASS, 2022). For clarity and consistency in this article, the terms Latino and Latina (hereafter Latino/a) will be used to refer to this diverse group of producers. According to the 2022 U.S. Agricultural Census, there are over 112,000 Latino/a farmers in the United States, cultivating approximately 37 million acres. About 9% of these farmers are based in the Midwest, highlighting the urgent need to address the unique cultural and market challenges they face.

This article examines the cultural and market obstacles that prevent Latino/a immigrant farmers from establishing sustainable farming livelihoods in the Midwest. It analyzes how these barriers affect their market entry and agricultural sales, providing insights into the strategies these farmers employ and the influence of their cultural and farming practices. Many who move to the Midwest in pursuit of farming success are met with daunting financial and cultural challenges. The insights revealed in this study not only deepen our understanding of these issues but also explain their implications for policy and practice, aiming to enhance their integration into networks for sharing information, systems that provide services to farmers, and markets for agricultural products.

Methodology: Deciphering Complex Decisions

Interviews and focus groups conducted in Missouri with both farmers and providers of agricultural services from both the public and private sectors yielded qualitative insights. These sessions assessed the relationship between Latino/a immigrant farmers and key agricultural organizations as well as these providers' awareness of the needs of immigrant Latino/a farmers in the Midwest.

Using these insights, a quantitative survey was designed and conducted through established networks with 124 farming households of Latino/a immigrants in Michigan and Missouri.

To analyze potential barriers and explore factors influencing farmers' decisions to engage in market activities and sell their farm products, the analysis initially examines a range of elements that might influence whether farmers opt to sell in markets. These elements include their investment in agriculture, the number of trainings they have received, their acculturation levels (both Anglo and Spanish), their age, total hours worked on the farm, and whether they have a business plan.

After deciding to engage in a market, the subsequent step explores the factors linked to the volume of farm product sales. This analysis considers the quantity of acres planted, the number of employees hired, the total personal plus household income, the use of hired farm labor, the total number of working hours on the farm each week, the farmers' levels of acculturation (both Anglo and Spanish), and their perceptions of the community environment. These factors are crucial in understanding what influences the volume of farm product sales once the farmer has entered the market.

The Heckman model was employed to address potential selection bias and validate the research findings. Initially, the analysis involved testing for the presence of selection bias to ensure the model's appropriateness for the data. The validation process focused on the formulation of exclusion restrictions, ensuring that the variables influencing the selection process did not affect the outcome variables. The independence of the error terms was examined, and the model's predictive performance was evaluated using pseudo-R^2 values for the selection equation and R^2 values for the outcome equation.

To further test the robustness of the findings, sensitivity analyses were conducted with variations in model specifications and sample subsets. Additionally, comprehensive post-estimation diagnostics, including Wald and likelihood ratio tests, were performed to compare the Heckman model with other bias-correction methods and confirm the necessity and effectiveness of adjustments made for selection bias.

This two-stage Heckman model elucidates the dynamics of market participation and farm product sales among immigrant Latino/a farmers, offering insights to guide the development of targeted support. While basic statistical methods reveal factors influencing market participation across households, it is crucial to recognize that not all households may choose to participate due to various market impediments, potentially introducing sample-selection bias (Greene, 1998; Costales et al., 2007; Abdelali-Martini, Dhehibi, and Aw-Hassan, 2014). To tackle this issue, we used the Heckman (1979) model, a method widely applied in studies examining market entry and participation challenges faced by smallholder farmers (Abdelali-Martini, Dhehibi, and Aw-Hassan, 2014; Adetola, Oluwatayo, and Soliu, 2014; Prifti et al., 2019; Karing'U, Isaboke, and Ndirangu, 2020; Lutta et al., 2021). Heckman's two-step approach begins with the selection equation to estimate a nonselection hazard (inverse Mills ratio, IMR), which corrects for selection bias in the subsequent outcome equation involving linear least squares regression (Wooldridge, 2010).

A lack of significance of the IMR in small samples does not necessarily indicate the absence of selection bias. Instead, it may reflect the limitations of small datasets in detecting such biases. This challenge is well-documented in the econometric literature, particularly in studies concerning the Heckman model (Verbeek and Nijman, 1992; Davidson and MacKinnon, 2004; Kennedy, 2008). Such limitations underscore the importance of interpreting IMR results cautiously, especially when dealing with small samples.

The determinants of market engagement and agricultural transactions for Latino/a immigrant farmers are informed by prior studies. These studies estimated the likelihood of market engagement based on multiple factors: agricultural asset investment (Alene et al., 2008; Oumaa et al., 2010; Okoye et al., 2016; Akhter, Awudu, and Dil, 2017; Lutta et al., 2021), access to data as indicated by the number of trainings sessions attended (Karing'U, Isaboke, and Ndirangu, 2020), knowledge of agricultural management via business planning (Okoye et al., 2016), and farmer demographics (Alene et al., 2008; Sebatta et al., 2014; Mmbando, Wale, and Baiyegunhi, 2015; Okoye, Mbanasor, and Okoye, 2019; Karing'U, Isaboke, and Ndirangu, 2020; Lutta et al., 2021). Indicators of Spanish and Anglo acculturation have not yet been used to evaluate the challenges to engage in markets or sell farm products.

Gathering Insights: How Data Was Collected

The study included 124 households with diverse farming operations across Michigan and Missouri. Most households migrated from Mexico, and a smaller number originated from South and Central America; Spanish was the mother tongue among the households.

Key variables examined include the scale of agricultural investments, encompassing expenditures on land, equipment, buildings, and livestock. The study also explored farmers' exposure to training sessions focused on farming production and business management, assessing their participation. The research examined both Spanish and Anglo acculturation—the process through which households adapt to and integrate new cultural values, customs and norms (Redfield, Linton, and Herskovits, 1936; Valdivia et al., 2012), particularly in contexts that may vary between bilingual and monolingual settings. While measures of Spanish and Anglo acculturation have been applied to understand how Latino/a immigrants acculturate to the communities in which they live or work, using Spanish and English, they have yet to be utilized to assess barriers to market engagement or farming product sales. It is crucial to understand that in this context, acculturation relates not only to general societal integration but specifically to the practices of farming and market participation. "Spanish acculturation" does not imply a baseline of 100% retention of Hispanic cultural practices for Latino/a immigrants; rather, it measures the extent to which individuals actively continue engaging with their native cultural behaviors and language after immigration.

The Spanish or Anglo acculturation variables assessed included linguistic practices among social circles (family and friends), spoken and written language abilities, and skills in utilizing digital media in Spanish or English. This approach allows for a nuanced understanding of how households integrate into or retain their cultural identities across both Anglo and Latino/a cultures, essential for effective engagement with agricultural stakeholders that conduct their business in English. Linguistic habits serve as a critical proxy for acculturation because they reflect not only an individual's ability to communicate within a new cultural context but also their integration into social, economic, and educational spheres. As described by Portes and Rumbaut (2006), language is a core component of culture that mediates assimilation and cultural identity among immigrants. Further, Chiswick and Miller (2001) and Valdivia et al. (2008) illustrate how language acquisition enhances social and economic integration, while Dustmann and Fabbri (2003) link language proficiency directly to improved economic outcomes. Last, Berry (1997) points out that bilingualism can represent a bicultural identity, facilitating adaptation to and preservation of cultural heritage.

Table 1. Farming Metrics for Latino/a Immigrant Farmers

Characteristic	Mean	Variability	Observations	Note
Log of investment in agriculture**, dollars**	9.28	2.01	90	
Number of trainings in ag**.** production and financial management	21.90	19.66	124	
Cultural adaptation scale				
Anglo acculturation	2.11	0.95	118	
Spanish acculturation	3.45	0.45	119	
Age of farmers**, years**	51.24	12.57	112	
Weekly work hours on farm	28.54	24.00	124	
Business plan prese**nce**	7% (Yes)		124	Binary variable (1=yes, 0=no)
Number of acres pla**nted**	7.76	16.63	124	
Number of employees	1.65	4.79	124	
Log of personal plus household income**, dollars**	21.19	0.99	75	
Perception of community environment	1.65	4.78	124	
Hired farm labor	31% (Yes)		124	Binary variable (1=yes, 0=no)
Quantity of agricultural product sales	14,218.24	65,280.93	124	

Source: This information was collected from Latino/a immigrant farmer households in Michigan and Missouri in 2018. The mean represents the average measure observed for each characteristic; variability indicates how much the data points differ from the average. Observations are the number of data points collected for each characteristic. The investment in agriculture and personal plus household income were converted to logarithmic form to normalize data and reduce the impact of a few outliers with exceptionally high values.

Other data points included the farmer's age, weekly working hours on the farm, acreage cultivated, employees (including compensated family members), and individual plus household earnings (see Table 1). Survey data, production, sales, and training sessions collected in 2018 encompass market transactions from that year.

The Negative Immigrant Community Experience scale, created by Flores et al., (2019), measures farmers' perceptions of their local community environments and the psychological impacts thereof. Agricultural product sales are quantified by the total revenue from crops, hay, and livestock. Additional variables indicate whether the farmers have a business plan, employ labor, and participate in the market, marked by binary indicators for each condition. This dataset paints a detailed portrait of the lives and business operations of Latino/a immigrant producers residing in the Midwest.

Farmers in the sample with market sales above zero exhibit significantly more farming experience, additional training, higher agricultural investments, and greater personal plus household income. In contrast, farmers without market sales generally show significantly higher levels of Spanish acculturation than their market-active peers (see Table 2).

Key Insights from Market Entry Barriers

The analysis identified key trends, shown in Table 3. Notably, there is a significant correlation between higher investments in agriculture and enhanced training with a greater likelihood of market engagement. Specifically, an increase in investment is associated with a 10% higher likelihood of market engagement. This implies that for each unit increase in the logarithm of investment in agriculture, the probability of engaging in the market increases by 10%. Similarly, additional training is associated with a 1% increase in market engagement likelihood, indicating that each additional unit of training in agricultural production and financial management increases market participation chances by 1%.

In contrast, cultural dynamics pose considerable challenges. Both Anglo and Spanish acculturation are associated with a significantly lower likelihood of market entry, by 20% and 26%, respectively. This means that as farmers become more acculturated to Anglo and Spanish cultures, their likelihood of entering the market decreases by these percentages. These findings highlight the multifaceted factors shaping farmers' decisions to engage in the market. A deeper comprehension of these elements is crucial for devising

Table 2. Market Participation: Comparing Participants to Nonparticipants

Variable	Market Participants (N = 74)	Nonmarket Participants (N = 50)	Pooled Sample (N = 124)	t/ X² Test
Age, years	51.42	50.97	51.24	-0.2 (2.425)
Gender, (%)				
Male	66	44	110	0.0421
Female	8	6	14	
Farm ownership (%)				
Single	57	38	76.61	
Family	13	10	18.55	0.5674
Rent	1	1	1.61	
Other	3	1	3.23	
Education, years	4.72	5.38	4.98	1.07(0.6158)
Farming as a primary activity (%)				
Yes	19	9	22.6	1.00
No	55	41	77.4	
Previous farming experience (%)				
Yes	58	40	79	0.004**
No	16	10	21	
Length of residency in the Midwest (%)				
1-3	2	1	2.42	
4-7	4	2	4.84	2.20
4-8	67	44	89.52	
All my life	1	3	2.23	
Immigration status				
Naturalized U.S. citizen	34	19	42.74	
Permanent legal resident	28	19	37.90	
Temporary legal resident	1	0	0.81	2.45
Other immigrant status				
	11	12	18.55	
Number of trainings	28.54	12.08		-5.0 (3.29)***
Anglo acculturation, index				
	2.07	2.16	2.11	0.50 (0. 1784)
Spanish acculturation, index	3.37	3.57	3.45	2.48 (0.2055)**
Investment in agriculture, dollars	51,219.24	14,570.28	36,441.44	-2.25 (16,271.17)**
Farm size, acres	22.76	24.39	23.42	0.18 (9.0)
Personal income, dollars				
	36,674	22,384	30,912	-1.84 (7,762.09)*
Household income, dollars				
	41,534	25,180	34,939	-2.09 (7,804.89)**

Notes: Data for this analysis were gathered from Latino/a immigrant farmers across Michigan and Missouri in 2018. Significant differences between market-participating and nonparticipating farmers are marked by asterisks. Single, double, and triple asterisks (*, **, ***) denote statistical significance at the 10%, 5%, and 1% level, respectively. Comparisons between participants and nonparticipants were performed using T-tests (t) or Chi-square (X²) tests.

Table 3. Influential Factors on Farmers' Market Participation

Factor	Coefficient Estimate for Market Participation	Likelihood of Market Entry	Statistical Significance
Investment in agriculture (log of investment)	Increases by 10%	More likely to participate	***
Training in ag. production & financial mgmt.	Increases by 1%	More likely to participate	***
Cultural adaptation scale			
Anglo acculturation	Reduces by 20%	Less likely to participate	***
Spanish acculturation	Reduces by 26%	Less likely to participate	**
Farmer's age	No effect	No effect	No impact
Work hours on farm	No effect	No effect	No impact
Business plan for farm	No effect	No effect	No impact

Source: This information was gathered from Latino/a immigrant farmers in Michigan and Missouri in 2018. Statistical significance is indicated by asterisks. Single, double, and triple asterisks (*, **, ***) denote statistical significance at the 10%, 5%, and 1% level, respectively.

targeted interventions that assist farmers in overcoming obstacles to market entry.

Agricultural Sales Barriers

There is a significant correlation between agricultural sales and several variables, as shown in Table 4. These factors encompass the acres planted, number of employees, use of hired labor, combined personal plus household income, and total weekly hours worked on the farm. In contrast, greater Anglo acculturation levels and a farmer's negative perception of the community environment are both significantly and inversely related to agricultural sales.

Acculturation and Farming Practices: Navigating Economic and Social Landscapes

Acculturation significantly influences the livelihoods and asset accumulation strategies of Latino/a immigrants in the Midwest. Valdivia et al., (2012) showed that Latino/a immigrants well-integrated into the Anglo culture—who can write, speak, and use information in English—often secure supplementary income through more diverse employment. In contrast, those with greater extent of Spanish acculturation tend to hold less diversified income sources, have lower earnings and build their networks among family and friends. Latino/a immigrant farmers with high Spanish acculturation encounter barriers when entering markets that predominantly operate in English, underscoring the urgent need for bilingual support in agricultural training. Conversely, those with higher English acculturation often work more off the farm, dedicating less time to agricultural pursuits (Leiva, 2023). Factors like acreage, workforce size, hired labor, combined personal and family income, and farming hours are positively associated with agricultural sales. Despite these potential advantages, farmers'

perceptions of community acceptance are significantly and negatively associated with sales. Socially, the perception of community acceptance plays a profound role in farmers' professional activities and overall well-being. Experiences of discrimination (García-Pabón, 2011; Minkoff-Zern and Sloat, 2017; Minkoff-Zern, 2018; Minkoff-Zern, Welsh, and Ludden, 2019) can significantly dampen their motivation and success in agriculture, emphasizing the urgent need for inclusive practices and policies that promote a supportive community environment (Ramos et al., 2017; Sánchez, Gorgo-Gourovitch, and Stivers, 2019; Valdivia et al., 2008).

Overcoming Economic and Social Challenges

Economically, Latino/a immigrant farmers often depend on off-farm income from personal and family sources (García-Pabón and Lucht, 2009; Lewis, 2009; García-Pabón, 2011; Minkoff-Zern and Sloat, 2017; Minkoff-Zern, 2018; Minkoff-Zern, Welsh, and Ludden, 2019, 2020; Leiva, 2023) due to their limited capacity to meet lending institutions' criteria due to poor record keeping, small operations, or cultural financing preferences. Currency devaluation in unstable economies in Latin American can lead some Latino/a immigrant farmers to favor cash as a safer means of transaction, often due to a historical distrust of banks. As a result, they tend to eschew banking services, opting to manage their finances exclusively in cash (Maurizio, 2021; Leiva, 2023). In several Latin American countries, a large part of transactions occurs outside of official systems. While the upper-middle-class segments in these regions rapidly embrace new technologies and conduct transactions online, a considerable minority continues to prefer cash transactions within the informal sector. This preference suggests a slower shift toward digital payment methods and computer-generated goods (Lehr,

Table 4. Influential Factors on Agricultural Sales for Latino/a Farmers

Factor	Coefficient Estimate for Sales Volumes	Statistical Significance
Acres planted for crops and hay	1,765.6	***
Number of employees hired	4,054.4	***
Personal plus household income	8,432.0	***
Hired farm labor	24,898.0	***
Total hours of work on the farm per week	293.4	***
Anglo acculturation	-4,005.7	**
Spanish acculturation	-4,007.1	
Farmer's perception of community disapproval	-9,313.3	**
Selection bias correction factor (IMR)	2,067.1	

Source: This information was gathered from Latino/a immigrant farmers in Michigan and Missouri in 2018. Statistical significance is indicated by asterisks. Single, double, and triple asterisks (*, **, ***) denote statistical significance at the 10%, 5%, and 1% level, respectively.

2021, as cited in EBANX, 2021).

The reliance on personal and family income sources underscores the necessity for financial services that cater to their unique financing choices and support small-scale, nontraditional farming operations, ensuring they can thrive amid economic and cultural challenges. Because of their dependence on personal and household income to finance their agricultural operations, Latino/a immigrant farmers often experience slower growth compared to other small-scale farmers.

Support and Policy Recommendations for Latino/a Immigrant Farmers

Latino/a immigrant farmers in Michigan and Missouri confront a series of complex barriers that significantly impact their market participation and agricultural sales. This study provides additional information on these challenges and their potential implications for agricultural policy. The findings show that substantial investments in agriculture and improved training in farming practices and financial planning are significantly linked to an increased likelihood of market involvement. Conversely, Spanish and Anglo acculturation are both significantly associated with a reduced likelihood of engaging in the market. In terms of farm product sales, farmed acreage, employee count, use of hired labor, combined personal and household income, and total hours dedicated to farming are significantly linked to higher farm product sales. On the other hand, greater Anglo acculturation and negative perceptions of the community environment among farmers are significantly linked to lower farm product sales.

While facing challenges common to most beginning farmers, Latino/a immigrant farmers also confront unique and substantial fixed costs. These include high investments required for acquiring or leasing land, purchasing machinery, and building necessary infrastructure. Additionally, they require extensive training to adapt to a new market characterized by different rules and norms. However, due to unique barriers stemming from cultural preferences for financing—such as an aversion to borrowing from financial institutions—and their typically smaller scale of operations, which often disqualifies them from average government small farming programs, their transition into farming can take significantly longer without tailored government support (Leiva, 2023). Further, farmers' negative perception of the community environment is significantly associated with lower agricultural sales, suggesting that the social and cultural environment surrounding these farmers can greatly affect their economic outcomes. This underscores the need for comprehensive policy approaches that address not only economic factors but also the broader social dynamics that influence farm productivity and sustainability. Moreover, beyond ownership costs, Latino/a immigrant farmers encounter unique variable operating expenses. Latino/a immigrant households who are more acculturated to the Anglo culture generally hold a broader range of livelihoods and significantly higher diverse income streams beyond farming (Valdivia et al., 2008). However, this shift can result in fewer household labor hours being dedicated to farming activities, which in turn influences their time spent farming (Leiva, 2023).

This study's diverse sample across two states, representing various types of farming operations—including small beef cattle ranches, a few larger poultry operations, and traditional Latino/a farmers who cultivate garden vegetables and blueberries—underscores the complexity of these challenges. While the findings are specific to Michigan and Missouri, they provide valuable insights for farm support services and government initiatives nationwide. Future studies could broaden this research by incorporating a larger sample size to further examine the effects of education, acculturation, and financial assistance on market involvement and farm production sales challenges. Such research would deepen our understanding of the challenges faced by Latino/a immigrant farmers and enhance the effectiveness of policy interventions in this growing population.

For More Information

Abdelali-Martini, M., B. Dhehibi, and A. Aw-Hassan. 2014. "Determinants of Small Scale Dairy Sheep Producers' Decisions to Use Middlemen for Accessing Markets and Getting Loans in Dry Marginal Areas in Syria." *Experimental Agriculture* 50(3):438–457.

Adetola, A.I., I.B. Oluwatayo, and R.O. Soliu. 2014. "Determinants of Market Participation among Maize Producers in Oyo State, Nigeria." *British Journal of Economics, Management & Trade* 4(7):1115–1127.

Akhter, A., A. Awudu, and B.R. Dil. 2017. "Farmers' Access to Markets: The Case of Cotton in Pakistan." *Asian Economic Journal* 31(2):211–232.

Alene, A.D., V.M. Manyong, G. Omanya, H.D. Mignouna, M. Bokanga, and G. Odhiambo. 2008. "Smallholder Market Participation Under Transaction Costs: Maize Supply and Fertilizer Demand in Kenya." *Food Policy* 33:318–328.

Berry, J.W. 1997. "Immigration, Acculturation, and Adaptation." *Applied Psychology* 46(1):5–34.

Chiswick, B.R., and P.W. Miller. 2001. "A Model of Destination-Language Acquisition: Application to Male Immigrants in Canada." *Demography* 38(3):391–409.

Costales, A., C. Delgado, M.A. Catelo, M.L. Lapar, M. Tiongco, S. Ehui, and A.Z. Bautista. 2007. *Scale and Access Issues Affecting Smallholder Hog Producers in an Expanding Peri-Urban Market Southern Luzon, Philippines*. International Food Policy Research Institute Research Report 151.

Davidson, R., and J.G. MacKinnon. 2004. *Econometric Theory and Methods*. Oxford University Press.

Dustmann, C., and F. Fabbri. 2003. "Language Proficiency and Labour Market Performance of Immigrants in the UK." *Economic Journal* 113:695–717.

EBANX. 2021. *Beyond Borders 2020 2021. A Study on the State of Cross-Border E-Commerce in Latin America*. Available online: https://business.ebanx.com/hubfs/EBANX-Beyond-Borders-2020.pdf

Flores, L.Y., H.N. Suh, O.F. Peres Rojas, D. Aguayo, J. Harvath-Hilgeman, C. Valdivia, S. Jeanetta, and D. Martinez. 2019. "Negative Immigrant Community Experiences (NICE): A Scale Development Study." *Journal of Latinx Psychology* 7(2):91–104.

García-Pabón, J.L. 2011. "Risk Concerns among Latino Farmers in Missouri: An Approximation." *Culture, Agriculture, Food and Environment* 33(1):15–28.

García-Pabón, J.L., and J.R. Lucht. 2009. "Latino Farmers in Missouri: Risks, Services, and Implications for Extension." *Journal of Extension, 47*(4):1–7.

Greene, W.H. 1998. *Econometric Analysis*, 5th ed. Upper Prentice Hall.

Heckman, J. 1979. "Sample Selection Bias as a Specification Error." *Econometrica* 47(1):153–161.

Karing'U, K.J., H.N. Isaboke, and S.N. Ndirangu. 2020. "Transaction Costs and Participation in Avocado Export Marketing in Murang'a County, Kenya." *Journal of Agribusiness in Developing and Emerging Economies* 11(3):221–240.

Kennedy, P. 2008. *A Guide to Econometrics*, 6th ed. Blackwell Publishing.

Leiva, E. 2023. "An Exploratory Case Study of the Barriers Latinx Immigrant Farmers Face to Enter Markets in the Midwest: A Qualitative Thematic Analysis." In E. Leiva, ed. *Three Essays on Price Risk Mitigation, Market Barriers and Livelihood Strategies of Smallholder Farmers* (pp. 79–130). PhD dissertation, University of Missouri.

Lewis, H. 2009. "From Mexico to Iowa: New Immigrant Farmers' Pathways and Potentials." *Journal of the Community Development Society* 40(2):139–153.

Lutta, A.I., O.V. Wasonga, L.W. Robinson, N.M. Nyangito, and S. Sircely. 2021. "Determinants of Livestock Market Participation among Pastoral Communities of Tana River County, Kenya." *Environment, Development and Sustainability* 23:7393–7411.

Maurizio, R. 2021. "Employment and Informality in Latin America and the Caribbean: An Insufficient and Unequal Recovery." *Labour Overview Series Latin America and the Caribbean 2021*. International Labor Organization.

Minkoff-Zern, L. 2018. "Race, Immigration, and the Agrarian Question: Farmworkers Becoming Farmers in the United States." *Journal of Peasant Studies* 45(2):389–408.

Minkoff-Zern, L., and S. Sloat. 2017. "A New Era of Civil Rights? Latino Immigrant Farmers and Exclusion at the United States Department of Agriculture." *Agriculture and Human Values* 34:631–643.

Minkoff-Zern, L., R. Welsh, and M.T. Ludden. 2019. "Immigrant Farmers, Sustainable Practices: Growing Ecological and Racial Diversity in Alternative Agrifood Spaces." *Agroecology and Sustainable Food Systems* 44(7):947–972.

———. 2020. "Immigrant Farmers, Sustainable Practice: Growing Ecological and Racial Diversity in Alternative Agrifood Spaces." *Agroecology and Sustainable Food Systems* 44(7):947–972.

Mmbando, F.E., E.Z. Wale, and L.J.S. Baiyegunhi. 2015. "Determinants of Smallholder Farmers' Participation in Maize and Pigeonpea Markets in Tanzania." *Agrekon* 54(1):96–119.

Okoye, B.C., Abass, A., Bachwenkizi, B., Asumugha, G., Alenkhe, G., Ranaivoson, R., Randrianarivelo, R., Rabemanantsoa, N., & Ralimanana, I. 2016. "Effect of Transaction Costs on Market Participation among Smallholder Cassava Farmers in Central Madagascar." *Cogent Economics & Finance* 4:1–20.

Okoye, A.C., J. Mbanasor, and B.C. Okoye. 2019. "A Heckman Selectivity Model Analyses for Market Behavior among Smallholder Sweetpotato Male and Female Farmers in South Eastern Nigeria." *Ekonomik Yaklasim* 30(111):1–23.

Oumaa, E., J. Jagweb, G.A. Obarec, and S. Abeled. 2010. "Determinants of Smallholder Farmers' Participation in Banana Markets in Central Africa: The Role of Transaction Costs." *Agricultural Economics* 41:111–122.

Portes, A., and R.G. Rumbaut. 2006. *Immigrant America: A Portrait*, 3rd ed. University of California Press.

Prifti, E., S. Daidone, N. Pace, and B. Davis. 2019. "Stuck Exchange: Can Cash Transfers Push Smallholders out of Autarky?" *Journal of International Trade & Economic Development* 29(5):495–509.

Ramos, A.K., M. Carvajal Suarez, M. Leon, and N. Trinidad. 2017. "Sense of Community, Participation, and Life Satisfaction Among Hispanic Immigrants in Rural Nebraska." *Kontakt* 19(4):308–320.

Redfield, R., R. Linton, and M.J. Herskovits. 1936. "Memorandum for the Study of Acculturation." *American Anthropologist* 38(1):149–152.

Sánchez, E., M. Gorgo-Gourovitch, and L. Stivers. 2019. "Creating a Sense of Belonging for Hispanic Farmers and Farmworkers in Agricultural Programming." *American Society for Horticultural Science* 29(4):476–481.

Sebatta, C., J. Mugisha, E. Katungi, A. Kashaaru, and H. Kyomugisha. 2014. "Smallholder Farmers' Decision and Level of Participation in the Potato Market in Uganda." *Modern Economy* 5:895–906.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA-NASS). 2024. *2022 Census of Agriculture: United States Summary and State Data.* Volume 1, Geographic Area Series, Part 51, AC-22-A-51. Available online: https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_US/usv1.pdf

Valdivia, C., P.C. Dozi, S. Jeanetta, L.Y. Flores, D. Martinez, and A. Dannerbeck. 2008. "Networks and Context of Reception in Asset Accumulation Strategies of Latino Newcomers in Rural Settlement Communities of the Midwest: A New Framework for Understanding Immigration." *American Journal of Agricultural Economics* 90(5):1319–1325.

Valdivia, C., S. Jeanetta, L.Y. Flores, A. Morales, and D. Martínez. 2012. "Latino/a Wealth and Livelihood Strategies in Rural Midwestern Communities." *Choices* 27(1).

Verbeek, M., and T. Nijman. 1992. "Can Cohort Data Be Treated as Genuine Panel Data?" *Empirical Economics* 17(1):9–23.

Wooldridge, J.M. 2010. *Econometric Analysis of Cross Section and Panel Data*, 2nd ed. MIT Press.

About the Authors: Corresponding Author: Ervin Leiva (Ervin.Leiva@angelo.edu) is an Assistant Professor of Agricultural Economics with the Department of Agriculture at Angelo State University. Corinne Valdivia (valdiviac@missouri.edu) is a Professor of Agricultural and Applied Economics with the Division of Applied Social Sciences at the College of Agriculture, Food and Natural Resources at the University of Missouri. Stephen C. Jeanetta (jeanetta@umn.edu) is an Associate Dean of the Department of Community Development Extension at the University of Minnesota. Rafael Bakhtavoryan (rafael.bakhtavoryan@etamu.edu) is an Associate Professor of Agribusiness with the College of Agricultural Sciences and Natural Resources at East Texas A&M University..