The objective of this research is to provide a preliminary examination of the role of human capital in farms and ranches that sell through local food markets. We provide national descriptive statistics to investigate if the repositioning of food and agricultural supply chains towards more localized markets affects the role of human capital in the business, which we measure in terms of the share of business activities spent on labor, and the returns to human capital measured by wages.

» Wages are significantly higher, on average, for producers with local sales relative to those that do not sell through local channels.

» Farms that sell through local markets use significantly more labor as a share of expenditure (variable expense) than farms without local sales.

### Average labor expenditures and wage rate for U.S. producers, by local and nonlocal sales

<table>
<thead>
<tr>
<th>Category</th>
<th>Labor expenditures as a % of total variable expense</th>
<th>Wage ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonlocal</td>
<td>8.71</td>
<td>19.91</td>
</tr>
<tr>
<td>Local</td>
<td>15.70</td>
<td>23.64</td>
</tr>
</tbody>
</table>

* Wages are significantly higher, on average, for producers with local sales relative to those that do not sell through local channels.

* Farms that sell through local markets use significantly more labor as a share of expenditure (variable expense) than farms without local sales.

### The Approach and Data

* We use data from the 2013-2016 Phase III ARMS, a nationally representative survey that targets about 30,000 farms, providing annual, national-level data on farm business.

* Of the total sample, 78,559, 98% (77,090) reported positive labor expenditures and 36% (28,263) have reported hired labor expense and hours and thus have positive wages. As there are concerns with the accuracy of the hired labor hours variable in ARMS, our emphasis here is on the relative differences in the wage rates between local and nonlocal food market participants and not on the rate itself.

* Local food marketing channels include sales of products direct-to-consumer (e.g., farmers’ markets, CSAs, farm stands) and sales through intermediated channels (e.g., restaurants, groceries, regional food aggregators).
Average labor expenditures as a % of total variable expense by scale and type of local food market channel

- As farms selling through local markets get larger, they invest a higher portion of total variable expense on labor. Interestingly, this is the opposite for many commodity-oriented operations, which tend to spend more on costs related to machinery (i.e., fuel/oil) as they get larger.
- Across all size classes, producers that report direct-to-consumer only sales have the lowest share of labor expenditure as a percent of total variable expenses compared to producers selling through direct-to-consumer and intermediated channels, or those selling into intermediated only channels.
- Producers that report both direct-to-consumer and intermediated sales are more similar to those that report intermediated only sales.

Average labor expenditures as a % of total variable expense (top) and hourly wages (bottom) by scale for local and nonlocal producers

- Labor expenditures and wages are statistically significantly different across market channels for all scales (except $350,000 - $1,000,000 for wage).
- Labor expenditures as a percent of total variable expense consistently represent a larger share of total variable expense for those producers that sell through local food markets.
- For the middle two sales classes, we see small or insignificant differences across wages, however for the largest producers in our sample (> $1,000,000), we see that wages for producers selling through local food markets are almost double that of farms without local food sales.

Data Sources: