

PN-AAX-054 Honduras  
ISBN 5002-8

Rural Industries in the Orica-Olancho Region  
of Honduras

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This brief paper summarizes the preliminary results of the longitudinal survey of 268 rural manufacturing industries in the Orica-Olancho region of Honduras. The study, which was sponsored by the Rural Technologies Project of USAID/Honduras, was undertaken jointly by C.D.I. and Michigan State University from December, 1979 to December, 1980.

Methodology

During the one year longitudinal survey, data of such flow variables as sales, output, labor used, and material inputs were collected twice-weekly from the individual enterprises. These data, when combined with the stock information data on building, tools, equipment and inventories that was collected at other times over the year, generate an array of information similar to those obtained in a Census of Manufactures for large enterprises.

Why was such a time-consuming data collection procedure necessary for small rural enterprises? The vast majority of rural enterprises keeps no books or records; consequently, one must rely on the accuracy of the respondents' memory.

Previous studies have indicated that rural small-scale entrepreneurs cannot accurately recall sales and cost transactions beyond the previous week. Indeed, further support for failure of small entrepreneurs to accurately recall flow statistics comes from a memory recall test applied to our Honduran respondents. At the end of the 52-week enumeration, the

respondents were asked to provide their best estimate of the previous year's sales. When their estimates were compared with the information gathered from the twice-weekly enumeration, it was found that the average entrepreneur overestimated his/her yearly sales by more than 80 percent; 75 percent of the estimates deviated by more than  $\pm 25$  percent from the sales figure that was derived from our twice-weekly enumeration.

The information from the survey was used to compute the returns to the proprietor and the "economic" profit rate of each firm. For small enterprises there are many important hidden or "implicit costs" related to the family's provision of its own labor and capital, and these must be valued. In computing the returns to the proprietor, the opportunity cost of the firm's capital, which was measured in terms of the user or rental costs of capital at a 20% discount rate<sup>1</sup>, and its family labor services, which were valued at the rural industrial minimum wage of Lps 0.31 per hour, were subtracted from the firm's value added. The economic profit for each firm was obtained by subtracting from the return to the proprietor, the opportunity cost of the proprietor's labor, which was measured in terms of the average skilled wage rate in that particular sub-sector of small-scale industry. For comparative purposes, the economic profit was then expressed in rate terms as a percentage of the total value of the firm's capital stock. A firm with a zero rate of economic profit would thus be a marginal firm.

#### Overall Results

The general finding from the survey is that the rural small manufacturing sector in the Orica-Olancho region appears to be economically viable. The overall rate of economic profit, when weighted by the contribution of each

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<sup>1</sup>Using the capital recovery factor applied to the firm's capital.

firm to total production, is positive. In addition, the aggregate return to the proprietor exceeds Lps 1.00 per hour, a figure in excess of the hourly wage rate of skilled labor in any industrial sub-sector of the region.

### Sub-Sector Results

There were variations in the economic viability of different components of rural industry in Orica-Olancho. Which sub-sectors appeared to be the most viable? Those with the highest rates of economic return were tile-making; auto repair, tailoring, leather-working, and blacksmithing; baking and wood-working also generated high returns but showed somewhat more variability among firms. Activities that generated negative or marginal economic rates of return were dressmaking, flower-making, pottery-making, and basket-making.

Even within the rural industrial sub-sector, however, there are variations. An important finding of the survey is that strong differences exist between the very small family enterprises that do not hire workers and those small rural enterprises that do employ hired labor. In each industry sub-sector, the economic rates of return for family enterprises is markedly below those firms with hired labor (see Table 1). Indeed, in most instances, the family enterprises generate a negative economic profit rate, while those with hired labor generate a positive rate of economic profit.

A related finding indicates that the economic profit rate closely parallels the level of sales. In each sub-sector there appears to be a minimum sales threshold below which firms are not profitable. Evidently, the sales volume is needed to enable the enterprise to cover its fixed costs. For tailors, a minimum annual sales level is Lps 2,000 while for carpenters the level appears to be Lps 1,000.

There also appears to be a relationship between locality size and enterprise profitability. Economic profitability is lowest in the smallest

Table 1

Honduras: Rentabilidad Economica Anual  
Expresada como Porcentaje de Activos Totales,  
por Categoria de Industria y Tamano de Empresa  
(numero promedio de empleados en parentesis)

	---Pequena Industrial Rural---		Industria Grande
	<u>Familiar</u>	<u>Con Contratados</u>	<u>Urbana</u>
Ropa	-33.1% (1.0)	+107.1% (2.6)	-21.2% (207)
Madera	-141.3% (1.0)	+87.2% (4.1)	-67.2% (115)
Metal	+42.1% (1.2)	+193.7% (2.0)	-26.4% (126)

Fuentes: Pequeña Industria -- CDI/PTR Estudio Longitudinal, 1980 (solo se incluyen empresas de la region de Orica/Olancho)

Industria Grande -- Censo Industrial, 1974-75 (empresas escogidas al azar)

locality size (i.e., below 500 inhabitants) and in most cases it is negative. The profitability increases in larger rural localities, although it may not increase directly with locality size. Indeed, there are preliminary indications that for some industrial groups, economic profitability is higher in the 500-2,000 sized localities than in those localities with populations in excess of 2,000.

The final, important preliminary finding is that the economic profitability of the small, non-family rural enterprises greatly exceeds the economic profits generated by their larger-scale, urban counterparts. Preliminary calculations were derived from the 1974-75 Industrial Census for those enterprises engaged in clothing, wood-working, and metal fabrication that employed more than 50 workers. When the large firms' original capital stock are valued at a 20 percent rate reflecting the opportunity cost of that capital, none of the three large-scale, urban industrial categories generates a positive economic profit rate. Clearly, in these three major industrial categories, the rural, small-scale enterprises are more economically viable than their larger urban counterparts. The implication of these results for policy and program purposes are powerful.