

Telecommunications expenditure in Peruvian households

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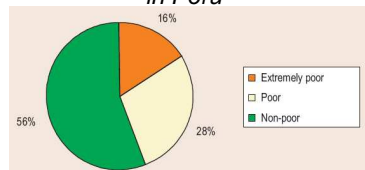
Introduction: Peru in general terms

Indicators for Peru, 2006

Variables	Indicator
Population*	27,219,264
GDP per capita	US\$ 3,366
Percentage in urban area	65.2
Average monthly household income	US\$ 347
HDI ranking	82 of 117
Percentage of population in poverty	44.2

Source: INEI, FMI, UNDP

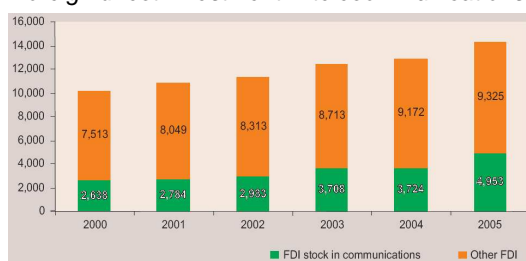
Poor, non-poor and extremely poor in Peru



Source: Nacional Household Survey

Motivation

Foreign direct investment in telecommunications



Source: Peruvian telecommunications regulatory agency

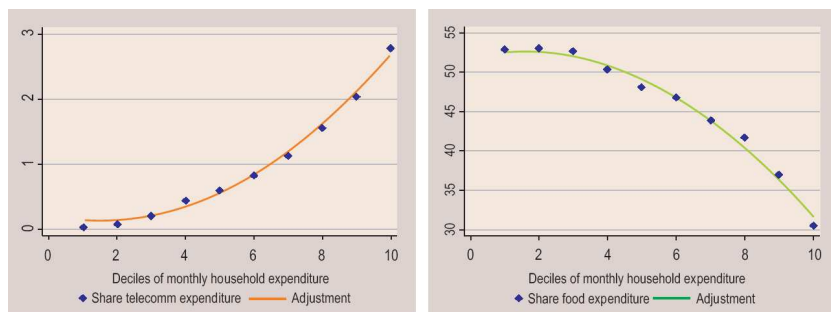
Hypothesis

Isolating supply-side constraints, the hypothesis is that in Peru telecommunications represent what is known as a luxury good.

Methodology and Results

1. The importance of telecommunications expenditure was analyzed in relation to total household expenditure, focusing on 2003, 2004 and 2005 and comparing telecommunications expenditure with food expenditure.

Expenditure deciles and telecommunications and food expenditures shares, 2004



Prepared by author.

2. An Engel curve was also estimated to determine the income elasticity of telecommunications services.

$$s_i = \alpha + \beta_i \ln G + \gamma_i (\ln G)^2 \rightarrow \epsilon = 1.97$$

3. A complementary analysis was done of the factors determining the likelihood that a household would show expenditures on these services.

Results of estimation of Probit model

Variables	Coefficients		Marginal effects	
Years of education	0.129680	***	0.039652	***
	(0.0067)		(0.0021)	
Number of people in household	0.043896	***	0.013427	***
	(0.0116)		(0.0035)	
Male head of household	-0.214191	***	-0.068349	***
	(0.0579)		(0.0192)	
Age of head of household	0.024634	***	0.007535	***
	(0.0019)		(0.0006)	
Household in urban area	1.646295	***	0.329856	***
	(0.1448)		(0.0118)	
Own home	0.196052	***	0.058313	***
	(0.0550)		(0.0158)	
Head of household worked the previous week	0.146323	***	0.044748	***
	(0.0581)		(0.0178)	
Head of household migrated	0.182289	***	0.055405	***
	(0.0481)		(0.0146)	
Constant	-4.738090	***		
	(0.2089)			
Number of observations	6,490			
Pseudo R ²	0.25450			

Prepared by author.

Conclusion

- The analysis of expenditure deciles, the Engel curve and the resulting elasticity (1.97) indicate that telecommunications represent what is known as a luxury good.
- Findings must be carefully interpreted because telecommunications cannot be treated like other luxury goods, which are subject to consumption taxes.
- Factors such as the head of household's years of schooling, whether the head of household had worked the previous week and location of the household in an urban area had a mainly positive influence on the probability that households will have telecommunications expenditure. In contrast, the fact that the head of household was male had a negative effect on this probability.

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