Education, mobile phone use and production decisions: A rural case study in Peru

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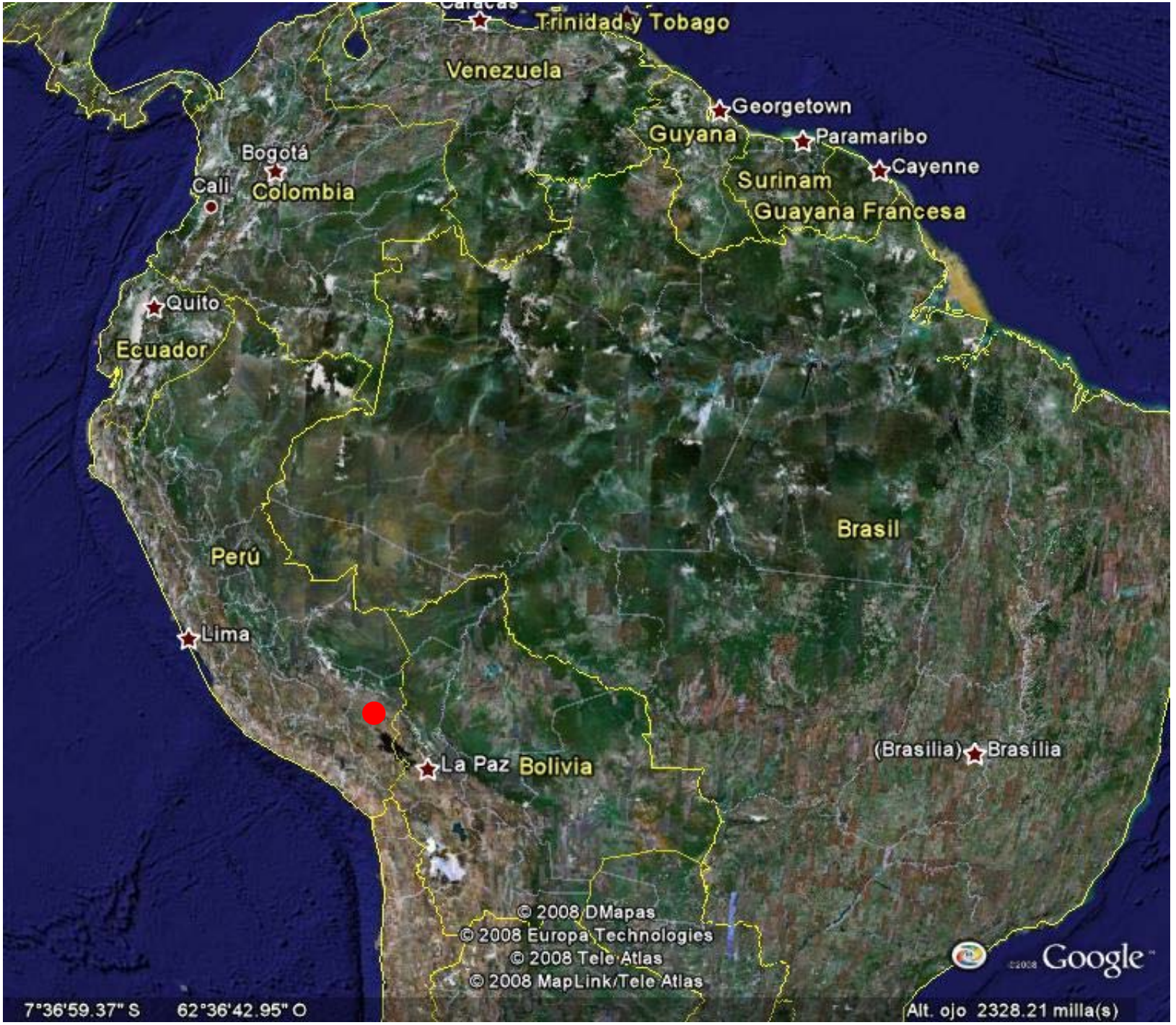
Objective

- Importance of formal education for using the mobile phone in making production decisions.
- Location: Puno, Peru.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Hypothesis

- Being education such an important tool for development in general, it would significantly increase the probability of using mobile phones for production decisions in Puno, an essentially agricultural department.

Education in Peru

- Education is free and compulsory in public schools.
- Low quality: Peruvian students do not achieve the expected performance for their grades.
- High inequality:
  - Focus in primary education.
  - Gender: Illiteracy affects women the most.
  - Poverty: the poorer the student, the worse is his performance.

Mobile telephony: Peru and Puno

- Peru:
  - Significant growth: 56% to 75% of teledensity from 2007 to 2008.
  - Subscription: 42%. Varies significantly across regions.
  - The poorer the sector, the lesser is the access to mobile telephony.
- Puno:
  - Subscription: 28%. Only 10% in rural Puno.

The sample under analysis

- 1105 households were interviewed in two fairs in Puno: Asillo and Taraco.
- Information on family members, consumption expenditure, agricultural activity, living standards and telecommunications.
- Education: Low level
- Mobile telephony:
  - 76% of users.
  - 66% are subscribers.
  - 39% had used SMS in the last month. 70% of them did not know how to use SMS.

Determinants of *effective* use of mobile phones

- Focus on household heads (505).
- Mobile phone use to request or receive information for production decisions (crops, animals and derivatives) from:
  - Municipality
  - Agriculture Ministry
  - National Service of Plant and Animal Health
  - Friends
  - Neighbors
  - Family
  - Clients

Determinants of *effective* use of mobile phones

Dimension	*Variable*	*Expected sign*
Human capital	Years of education of the respondent	+
	Years of education of the rest of household members	+
	Age of the respondent	-
Physical capital	Unsatisfied basic needs	-
	Dung employed as fuel for cooking	-
Employment	Worked the previous week	+
Land capital	Plots of land	+
Dedication to and investment in agricultural	Dedication to agriculture (both crops and livestock)	+
	Permanent dedication to agricultural activities	+
	Expenditure in training for farm activities	+
ICTs use	Internet and Public phone user	+
	Mobile subscription	+
	Existence of a public phone	+
Rurality	Location in rural area	-
	Distance to the district capital	-

Determinants of *effective* use of mobile phones - results

- Education: direct impact though not as significant as expected. Education quality may explain this result.
- Variables that measure physical capital have a negative but not significant impact.
- Employment and land capital have a positive impact, but not significant.
- Positive and significant influences of permanent dedication to agriculture and expenditure in training for farm activities. The same applies for other ICTs use.
- Surprisingly, variables measuring rurality show a positive and significant impact.

Conclusions

- More education does not significantly increase the likelihood that households will make an effective use of mobile phones (low quality).
- Use of both public telephony and Internet, as well as being a mobile subscriber increase the probability of using mobile phones effectively (familiarity with ICTs).
- The more rural the household, the more probable it will be to use mobile phones for production decisions (necessity of integration to the market).

Conclusions

- Mobile phone use for production decisions is low (10%); use in its broad sense is above 70%.
- Poor production composition of households that make an effective use of mobiles.
- Beyond voice applications cannot be completely exploited yet in such a context.