

Discussion of "Characterizing Mobile and Fixed Telephony Substitution from Preferences" by Alexander Galetovic and Ricardo Sanhueza

Mikhail Drugov

Universidad Carlos III de Madrid

NEREC First Annual Research Conference on European Electronic Communications, Madrid, 11-12th September 2009

- ▶ Are landlines and mobiles substitutes or complements?
- ▶ The evidence mostly suggests that substitutes

- ▶ Are landlines and mobiles substitutes or complements?
- ▶ The evidence mostly suggests that substitutes
- ▶ Why complements?
 - ▶ Competitive pressure on landline operators
 - ▶ Network effects
 - ▶ Seems more relevant for developing countries

- ▶ Are landlines and mobiles substitutes or complements?
- ▶ The evidence mostly suggests that substitutes
- ▶ Why complements?
 - ▶ Competitive pressure on landline operators
 - ▶ Network effects
 - ▶ Seems more relevant for developing countries
- ▶ What exactly is meant by "substitutes" and "complements"?
 - ▶ Different papers seem to use very different methodologies and to estimate very different things

The model and the result

Utility from a mobile call: v

Utility from a landline call: $v - d$

d is non-negative, random with an atom at 0

Two tariff plans for both landlines and mobiles:

Prepay: no fee, per-minute rate

Contract: fee, no per-minute rate

Result: Three groups of consumers:

- ▶ Don't speak much: both mobile and landline prepays
- ▶ Speak at an intermediate level: mobile prepay and landline contract
- ▶ Speak a lot: mobile contract

Three kinds of substitution

- ▶ *Inframarginal substitution*: the decrease in landline use upon getting a mobile
 - ▶ *Standard substitution*: cross-price elasticity of the demand for the landline calls
 - ▶ *Plan-switching substitution*: change of the plan following a change in a price
- ⇒ Estimating just standard substitution is wrong

Three kinds of substitution

- ▶ *Inframarginal substitution*: the decrease in landline use upon getting a mobile
 - ▶ *Standard substitution*: cross-price elasticity of the demand for the landline calls
 - ▶ *Plan-switching substitution*: change of the plan following a change in a price
- ⇒ Estimating just standard substitution is wrong
- ▶ What is the direction of the bias?
 - ▶ What determines its size?

Main questions and comments

- ▶ Individual data
 - ▶ Take individuals who use both landline and mobile and look at the number/duration of calls
 - ▶ Is plan-switching already there?

Main questions and comments

- ▶ Individual data
 - ▶ Take individuals who use both landline and mobile and look at the number/duration of calls
 - ▶ Is plan-switching already there?
- ▶ Aggregate data
 - ▶ What does the number of lines exactly show?
 - ▶ Does the aggregate number/duration of calls include all three types of substitution?

Main questions and comments

- ▶ Individual data
 - ▶ Take individuals who use both landline and mobile and look at the number/duration of calls
 - ▶ Is plan-switching already there?
- ▶ Aggregate data
 - ▶ What does the number of lines exactly show?
 - ▶ Does the aggregate number/duration of calls include all three types of substitution?
- ▶ Hamilton (2003): number of lines (no prices in the right-hand side)
- ▶ Garbacz and Thompson (2005, 2007): "availability of a telecommunications service"

Main questions and comments

- ▶ Individual data
 - ▶ Take individuals who use both landline and mobile and look at the number/duration of calls
 - ▶ Is plan-switching already there?
- ▶ Aggregate data
 - ▶ What does the number of lines exactly show?
 - ▶ Does the aggregate number/duration of calls include all three types of substitution?
- ▶ Hamilton (2003): number of lines (no prices in the right-hand side)
- ▶ Garbacz and Thompson (2005, 2007): "availability of a telecommunications service"
- ▶ *Can you say in which studies your effects would matter?*

Main questions and comments

- ▶ Individual data
 - ▶ Take individuals who use both landline and mobile and look at the number/duration of calls
 - ▶ Is plan-switching already there?
- ▶ Aggregate data
 - ▶ What does the number of lines exactly show?
 - ▶ Does the aggregate number/duration of calls include all three types of substitution?
- ▶ Hamilton (2003): number of lines (no prices in the right-hand side)
- ▶ Garbacz and Thompson (2005, 2007): "availability of a telecommunications service"
- ▶ *Can you say in which studies your effects would matter?*
- ▶ *Could you get their data and show it?*

On model assumptions

- ▶ Changes in the patterns of use
- ▶ Other mobile services (sms, internet, alarm clock, etc)
- ▶ Sometimes landline is preferred (for ex, long calls)
- ▶ The mobile itself costs something \Rightarrow no pure mobile prepay
- ▶ Do landline prepays exist?
- ▶ How does it matter whether the receiver pays or not?
- ▶ What about the supply side?

Empirical part

- ▶ Chile 2000-2007:
 - ▶ Economic growth of 4.3% per year on average (41% over the period)
 - ▶ Number of firms grows by a double-digit number
 - ▶ Number of households also increases
 - ▶ Call prices fall (what about the relative price?)

⇒ Higher demand for phone calls

Empirical part

- ▶ Chile 2000-2007:
 - ▶ Economic growth of 4.3% per year on average (41% over the period)
 - ▶ Number of firms grows by a double-digit number
 - ▶ Number of households also increases
 - ▶ Call prices fall (what about the relative price?)

⇒ Higher demand for phone calls

- ▶ However, the number of calls from the landlines fall by 33% (to the landlines, no data for calls to the mobiles)
- ▶ Their total duration fall by 39%

Empirical part

- ▶ Chile 2000-2007:
 - ▶ Economic growth of 4.3% per year on average (41% over the period)
 - ▶ Number of firms grows by a double-digit number
 - ▶ Number of households also increases
 - ▶ Call prices fall (what about the relative price?)
- ⇒ Higher demand for phone calls
 - ▶ However, the number of calls from the landlines fall by 33% (to the landlines, no data for calls to the mobiles)
 - ▶ Their total duration fall by 39%
- ⇒ The authors conclude that a third factor, i.e., the mobiles, must explain this
 - ▶ Number of mobiles increases by 4 times
 - ▶ Number of calls increases by 5 times (to all the phones)
 - ▶ Their duration increases by 4.5 times