Outline

- Objective
- Data
- Descriptive Analysis
- Model
- Results
- Conclusions

Objective

- Model the demand for wireless Internet access
  - Identify “demand” drivers
  - Relate to demand for Broadband & PCS services
  - Derive price elasticities using a model of “willingness to pay”
• Survey Based Data Set (www.centris.com)

• Survey Based Data Set
• 12,000 Respondents, 2nd Quarter, 2003

• Survey Covers:
  - Communications (Internet, PCS, Cable, Lines)…
  - Consumer Electronics
  - Entertainment

• Survey covers:
  - Communications
  - Consumer Electronics
  - Entertainment
  - Household Demographics

Descriptive Analysis: Income
Descriptive Analysis: Age

Lognormal Demand Curves

Let $p_{0i}$ be the tolerance price of the $i^{th}$ household & $p$ the actual market price.

Then $q_{0i} = 1$ if $p_{0i} > p$
$q_{0i} = 0$ otherwise

Assuming that $p \sim \ln N(\mu_p, \sigma_p^2)$

Lognormal Demand

We have

$P(q_i=|p) = P(p_{0i}>p)$
$= 1 - \Gamma(p; \mu_p, \sigma_p^2)$

Let $Q$ equal the expected proportion of buyers, we have

$Q(p) = 1 - \Gamma(1/p; \mu_p, \sigma_p^2)$
$= \Gamma(1/p; \mu_p, \sigma_p^2)$

Model

Demand for Product X

Model

• Willingness to Pay
  □ “What is the most you would be willing to pay on a monthly basis for wireless access to the Internet?”

• Willingness to Pay
  □ “What is the most you would consider purchasing wireless access to the Internet?”
Results

<table>
<thead>
<tr>
<th>Price</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$70</td>
<td>-2.13</td>
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<tr>
<td>$60</td>
<td>-1.84</td>
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<td>$50</td>
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<td>$30</td>
<td>-0.83</td>
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<tr>
<td>$20</td>
<td>-0.45</td>
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</tbody>
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Conclusions & Future Research

- Price per MB
- Price of Access
  - Usage
  - Access
- Distinguish between low & high speed internet access
- Model WTP as a function of Demographics & Other Consumer Attributes

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Thank you

Any Questions?