On the Economics of Statalist Exchanges

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Presentation to the Stata UGM, London, September 2009
This forum, more than anything else, has shaped my opinion of Stata as being user-friendly. Thanks to all for creating a very real sense of community.

(Statalist member, 8/13/2009)
(Fun) Facts about Statalist

As of 23rd of August 2009: 3,376 members
▷ 1,727 Statalist proper
▷ 1,649 Digest

Increase of 95 from 20th of June 2009
Entries: 232 Statalist, 111 Digest
Exits: 172 Statalist, 76 Digest
1,095 posts on average per month over period Jan 2005 – July 2009

Posts so far in 2009:
▷ January: 1,169
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1. Introduction

2. Economic Behavior

3. Statalist Output

References
Economic Behavior

The economics profession can explain a fair chunk of real-world phenomena:

Workers turn up for work in the morning
Students attend university instead of working
Savers queue at a bank
Volume discounts ("Buy one - get one free")
Three-class layout on transatlantic flights
Purchase of lottery tickets
Savers buy IPO shares
Free release of programs on ssc
Free release of advice on Statalist
Crowdsourcing

▷ Labor supply b/c market wage exceeds reservation wage
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Discounted income over lifetime higher than for immediate labor supply
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▷ Interest rate high enough to induce deferred consumption
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▷ Lowers trading costs per unit, (part of) saving passed on to consumer
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▷ Product differentiation allows better adaption to demand curve
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➤ Utility function not globally concave
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▷ Small risk aversion / prospect of huge gains
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- Bottom line: Still amenable to economics
Statalist Economics

- No obvious reward/price mechanism
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- Major cost component involved:
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- Major cost component involved:
  - Opportunity Cost of Time
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Problem: Duplication of effort/Coordination failure

"Supply side concentration"

6,768 answers overall, 659 posters of replies

13 suppliers give 50% of answers

⇒ Concentration has eased from Jan-May period
Economics of Statalist Exchanges

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# of replies on Statalist

Observation Period: Jan – July 2009
659 Posters of Replies Overall
X-axis cut off at 100
“Demand Side Concentration”?
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- 2,104 questions overall, 914 posters of questions
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- 169 posters ask 50% of questions
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# of Requests on Statalist

Observation Period: Jan – July 2009
914 Posters of Requests Overall

Cumulative Percent of Questions
Number of Posters

0 0.2 0.4 0.6 0.8 1
50 100 169 300 400 500 600 700 800 900
Existing Research

- Jokisch (2006)
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  - PhD thesis on user involvement in production processes
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  - Survey of community of ado-file contributors
Findings in Mayrhofer (2006)

- Concerned ado-file / ssc Community

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  - Altruism (≈ 30% in strong agreement)
  - Reciprocity (≈ 20% in strong agreement)
  - Reputation (≈ 10% in strong agreement)
  - Signalling (to community / StataCorp): (≈ 5% in strong agreement)
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  - Hard to build a plane via email
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  - Legal implications hard to establish in crowdsourcing
  - No medical treatment via crowdsourcing

- Should require a lot of customization
Conditions for Crowdsourcing

- Type of process amenable to crowdsourcing:
  - Electronic exchange must be sufficient to attain goal
  - No special sequence of steps needed
  - “anarchistic process of open source production” (Lerner and Tirole, 2001, 821)
- No physical input required
  - Hard to build a plane via email
- Margin for error must be – relatively – wide
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  - Search of archive renders most posts redundant
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- **Type of process amenable to crowdsourcing:**
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- Margin for error must be – relatively – wide
  - Legal implications hard to establish in crowdsourcing
  - No medical treatment via crowdsourcing

- Should require a lot of customization
  - Search of archive renders most posts redundant
  - Remaining body of posts is - hopefully - “new” in some important aspect
Outline

1. Introduction
2. Economic Behavior
3. Statalist Output
Statalist Output under the Microscope I

Observation Period: Jan – July 2009
Eastern Standard Time
Statalist Output under the Microscope II

Duration of Threads

CDF

18 50 100 200
Duration of Thread in Hours

xline highlights 75th percentile
x axis cut off at 200
Duration in Hours

xline highlights 75th percentile
x axis cut off at 200
Duration in Hours
Statalist Output under the Microscope III

Number of Posts in Thread
Observation Period: Jan – July 2009

# of Posts per Thread
Orphan status is assigned to
Statalist Output under the Microscope IV: Orphans

- Orphan status is assigned to
  - threads with no replies
Statalist Output under the Microscope IV: Orphans

- Orphan status is assigned to
  - threads with no replies
  - which are not: Announcements of
Orphan status is assigned to
- threads with no replies
- which are not: Announcements of
  - Stata Net Courses
Orphan status is assigned to

- threads with no replies
- which are not: Announcements of
  - Stata Net Courses
  - Developments at SSC
Orphan status is assigned to:
- threads with no replies
- which are not: Announcements of
  - Stata Net Courses
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i.e. posts that were intended to attract a reply but failed to do so
Statalist Output under the Microscope V: Orphans

Observation Period: Jan – July 2009

Orphans as Fraction of Posts

Jan: 1%
Feb: 1.5%
Mar: 1%
Apr: 1%
May: 1%
Jun: 1%
Jul: 1%
Thank you for your attention!

