REGIONAL ECONOMIC DATA

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NCSES & CNSTAT: Innovation Indicators Workshop
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How Are Places Transformed?

http://oldwestdurham.org/

http://aocfestival.org/
Firm Forensics: > 20 Sources

**Firm**
- Year Established
- Sector & Technology
- Address
- Annual Firm Events
  - Funding Received
  - Liquidity Events
    - M & A
    - IPO
    - Closure
- Annual Job Count
- Institutional Supports

**Founder**
- Education
- Work History
  - Anchors
- Other Firms Founded
- Private
- Government
- Incubation Services
- University Affiliation
- CED
- NC Biotech Program Participation
Triangulate Data Sources

• When Does a Firm Begin?
• Firm Growth
  • Annual Employment Numbers
  • Annual Sales, Revenue
• Innovative Activity
  • Patents
  • FDA trials
  • New Product Announcements
• Events
  • Funding Raised (public & private)
  • Patents
  • M&A, IPO
  • Participation in incubators, support organization programs
Bioscience Corporate Spawns

YEAR-BY-YEAR BREAKDOWN OF COMPANIES OUT OF GSK

The chart below shows how many companies were launched per year from 1990 to 2013, by scientists and executives who left GlaxoSmithKline in the Research Triangle area.

In 1995, Glaxo Inc. and Burroughs Wellcome merged to become GlaxoWellcome.

In 2000, GlaxoWellcome merged with SmithKline Beecham to form GlaxoSmithKline.

In 2009, GSK underwent a restructuring, which included layoffs.

Entrepreneurial Ecosystems

• “a set of interconnected entrepreneurial actors, institutions, entrepreneurial organizations and entrepreneurial processes which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment” (Mason & Brown, OECD Report, 2014)

• It’s time to operationalize institutions!
## NC Biotech Center Initiatives

<table>
<thead>
<tr>
<th>Goal</th>
<th>Target Orgs</th>
<th>Programs</th>
<th>Year Started</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary collaboration</td>
<td>Universities &amp; firms</td>
<td>Various: bioelectronics, bioprocess engineering, marine biotech, plant molecular biology……</td>
<td>1985</td>
</tr>
<tr>
<td>Talent recruitment</td>
<td>Universities &amp; start-up firms</td>
<td>Visiting Industrial Scientists Preeminent Scholars</td>
<td>1985 1987</td>
</tr>
<tr>
<td>Public technology awareness</td>
<td>High schools/news outlets</td>
<td>Media and PR (expert writers) Education and public affairs</td>
<td>1985 1987</td>
</tr>
<tr>
<td>Workforce dev./Vocational training</td>
<td>HS &amp; comm. colleges</td>
<td>Education and public affairs Educational Enhancement grants</td>
<td>1987 1991</td>
</tr>
<tr>
<td>Technology transfer</td>
<td>Universities</td>
<td>Various initiatives</td>
<td>1988</td>
</tr>
</tbody>
</table>
# Institutional Support Breakdown

<table>
<thead>
<tr>
<th></th>
<th>CED Venture</th>
<th>CED Fasttrac</th>
<th>NC Biotech Loans</th>
<th>NC Biotech Grants</th>
<th>SBIR</th>
<th>SBIR state match</th>
<th>STTR</th>
<th>STTR state match</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OTD License</strong></td>
<td>33%</td>
<td>13%</td>
<td>28%</td>
<td>8%</td>
<td>51%</td>
<td>21%</td>
<td>15%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Academic Other</strong></td>
<td>18%</td>
<td>8%</td>
<td>16%</td>
<td>4%</td>
<td>25%</td>
<td>6%</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Corporate Spawn</strong></td>
<td>16%</td>
<td>8%</td>
<td>10%</td>
<td>2%</td>
<td>10%</td>
<td>0%</td>
<td>3%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Entrepreneurial Pathways

Image: Sid Thakur, RENCI
Conclusions

• Current regional data are not adequate
  • Not enough granularity
  • Publishing delays limit usefulness
  • Limited Data on Outcomes

• New age of cyber-enabled regional research
  • Amazing what you can find on the web!
  • Matching records
  • New visualization techniques

• State & local administrative records
  • Significant R&D & programmatic expenditure
  • Limited availability of records
Image: Sid Thakur, RENCI