IT Ecosystem
Inventing Institutions

Introduction
An IT Ecosystem?

What’s an Ecosystem?
- Evolution & History
- Accidents & Optimization

The Usual Suspects
- Patents, Contracts, Grants, Prizes...

New Experiments
Government/Industry
- Contracts + IP
- "CRADAs"

Academic/Industry
- Grants + Patents
- "Bayh-Dole"

Can Hybrids Do Better?
- DWL, Innovation, Eliciting Innovation & Agency Problems
- Political Risks

Examples
- CRADAs, SBIR Grants, State Grants, University Grants, Incubators

Naive Objection:
- Patents + Public Money = DWL + Agency Problems
Why Hybrids?
Reason to Believe That...
Patents Might Fail
and
Contracts Might Fail

Why Patents Might Not Work...
1. High cost
   - Small vs. Big Projects
   - Financial markets
2. High risk
   - Technical and market risk
   - Financial markets

Why Patents Might Not Work...
3. Appropriability
   - IBM, AT&T... and Microsoft?
4. Insufficient Patent Reward
   - (\Pi \cdot v - c) > 0

A Tough Standard!
Political Hazards
Iron Triangles & Hidden Taxes
Be Skeptical!

Why Use Not Contracts?
No DWL!

In Other Words...
1. Government Cannot Monitor Performance
   - or -
2. Government Cannot Pick Winners
   - Private Sector Knowledge of (v-c)
   - Conventional Incubators
When Patents and Contracts Don't Work...
...Can Hybrids Help?

The Goal:

\[(v - c) > 0\]

Note:
- \((v,c)\) space

Subsidies:

\[(\Pi v + s - c) > 0\]

Note:
- Assumes government can't observe \((v - c)\)

Matching Payments

Notes
- Sematech
- VentureStar
- The New SST

Subsidy

\[(v - c) > 0\]
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