



How Well Is The Relationship?

“A Few Private Comments”

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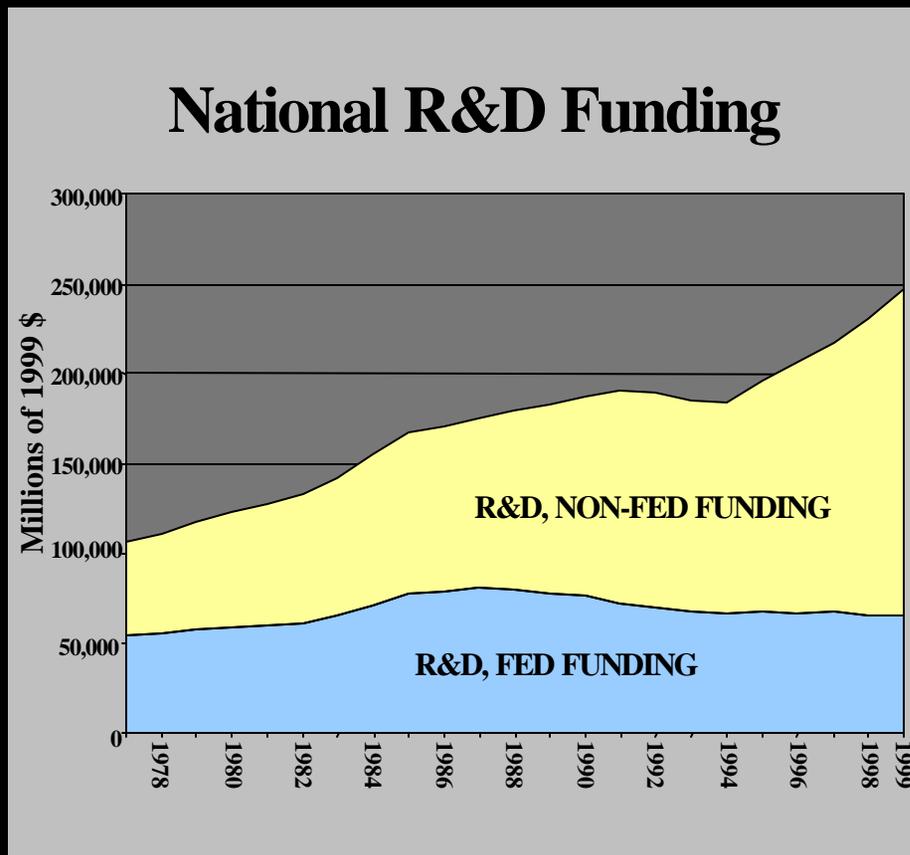
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★ Today's Situation

- ▶ Commercial Competitiveness is Key
 - ▶ Economic Prosperity
 - ▶ Military/Economic Power
- ▶ DoD Needs to Access Commercial Hi-Tech
 - ▶ Give U.S. Strategic Advantage
 - ▶ Use U.S. Economic Power (GDP)
 - ▶ Unique Hi-Tech Infrastructure



Need For Commercial Technology



- ▶ Surpassed Military R&D
- ▶ Example: (1998 Stats)
 - ▶ Top 5 DoD Firms
 - ▶ 579 Patents (0.5%)
 - ▶ Top 3 IDCC
 - ▶ 5187 Patents

* Government /Commercial Roles

- Historically Has Been Problematic
- Two Separate Cultures
 - Different Values, Reflecting Societal Views
- Both Face New Competitive Challenges
 - We Need to Work Together
 - Our Competition Does This Routinely

* Desperate Need For Dialogue

- Need Understanding: Government & Business
 - How Do We Bridge This Gap?
 - Commercial Business Models Don't Help
 - Strategy to Win = Business Model
- What are the Incentives to Motivate Behavior
- We Need to Cooperate for the Greater Good

★ Motivation To Work Together



➤ Maintain American Standard of Living

➤ Presently Highest in the World

➤ Where Do We Go From Here?



➤ Shrinking Planet Means Equalization

* Business Not Politically Correct

- All Men Are Not Created Equal
- Definite Winners and Losers in Business
- No Sense of Fairness for Effort Expended
- Revolves Around Profit & Economic Assets
 - Profit is Only Not Evil but Necessary
- Government Needs to Recognize
 - FAR Based on 19th Century Model

★ Modern Market Models

- ▶ Business Schools Teach Many Models
 - ▶ No Longer Simplistic Free Markets
- ▶ Different Business Strategies for Success
 - ▶ Proven in Many Complex Markets
 - ▶ Example: Commodity Market
 - ▶ Success Criteria: Cut Costs Below Rivals
 - ▶ Corollary: Eliminate Staff R&D
 - ▶ Not High Technology Market!

* Commercial View of Technology

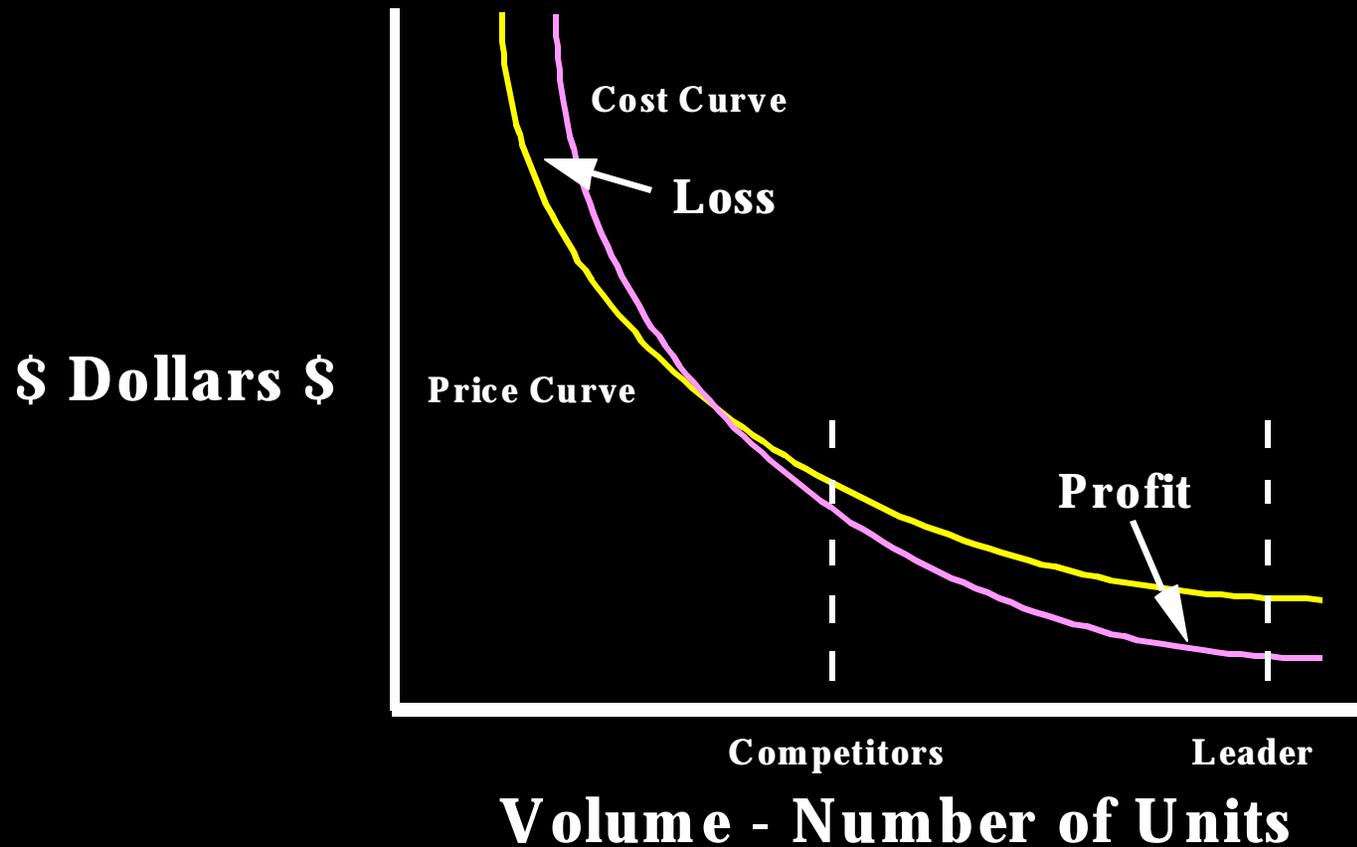
- Opportunity to Legally Limit Competition
 - Create High Growth, High Profit Business
 - Maintain Profit Margin for Reinvestment
- Legally Dominate Market
- Use the Proven Hi-Tech Business Model

* High Tech Business Model

- ▶ Well Understood Worldwide
 - ▶ Many Academic Studies Done
- ▶ Works in “Real World”
 - ▶ Universally Used by Industry
 - ▶ Outstanding Track Record
 - ▶ Definitely Not Free Market
- ▶ How Does One Do This?



Graphical Illustration of Market



* Principles From Model

- Need to be Market Leader
 - Technical Edge Over Competition
 - Recognized Benefits to Customers
- Create Barriers to Market Entry
 - Limit to Only Few Suppliers
 - Using Proprietary Technology
 - By High Cost of Entry

* Create Technology By Research

- Need Product Differential Advantage
- Sustained by Intellectual Property (IP)
 - Restrict Market Access
 - Maintain Margin to Fund Research
- Need Cost-Effective Source of Research
 - Government?
 - Academia?

* Rationale for Industrial Research

- ▶ Defendable Technology Through IP
 - ▶ Patents, Copyrights, Trade Secrets
- ▶ Need to Prevent Competition
 - ▶ Need to be Highest Volume Supplier
- ▶ High Gross Margin (40% and up)
 - ▶ Allow R&D Reinvestment
 - ▶ Keep Ahead of Competition

* Commercial Implementation

- ▶ Priority Corporate Projects (Hi-Profit)
 - ▶ Need Lock on Technology
 - ▶ Key to Profitability
 - ▶ No Technology Sharing
- ▶ Outside Participation Scrutinized
 - ▶ Proprietary Concerns for IP

★ What Does This Mean?

- ▶ Don't Partner on Critical Priority Projects
 - ▶ Can't Risk Future Profitability
- ▶ Partner on Marginal Projects
 - ▶ Lessen the Risk and Exposure
 - ▶ Less Economic Significance
 - ▶ Niche Government Products
- ▶ Government Contracts Are Problematic

* Government Contract Problems

- Need to Keep Technology Proprietary
 - Government Policies Favor Public Disclosure
 - Example: FAR Data Rights
 - Government Owns Everything
 - Even for Partially Funded Projects
 - Need for Second Source
- This Excludes Successful Commercial Firms!

* Problems (Continued)

- Profitability Needed For R&D
 - FAR Weighted Guidelines
 - 15% Profit Limit
 - DCAA Audits - Need CAS Accounting
 - No Commercial Firms Use This
 - Need High Volume Production
 - Government Needs are Low Volume

* Problems (Continued)

- ▶ Export Problem Selling to DoD
 - ▶ Once Part of Weapon System, Difficult to Sell Overseas
 - ▶ Can't get Export License
 - ▶ Limits Manufacturing Options
 - ▶ Overseas Manufacturing Problem

★ Key Points From Business Model

- Commercial Technology is Proprietary
- Dissemination Reduces Value of Technology
- Proprietary IP Provides Product Differential Advantage
- Profitability is Dependent on Product Differential Advantage
- Profitability Required to Fund Technology
- High Volume Necessary for Cost Reduction

★ Understand Market Forces

- ▶ Government Needs to Fund Technology Carefully
 - ▶ Government Funding Will Drive Away Commercial Investment
- ▶ Commercial Investment Needs High Return
 - ▶ Examine Cost/Benefit Ratio to Society
- ▶ Technology Dissemination Will Stop Commercial Development

* Market Forces (Continued)

- ▶ Technology Alone Doesn't Make a Business
 - ▶ Technical Risk is Only a Small Part
- ▶ Deal With Industry Leaders in Hi-Tech
 - ▶ Good Reasons Why They're Leaders
 - ▶ Presently Government Rules Prevent

* Problems for Government

- ▶ High Technology Creates Monopolies
- ▶ Someone Always Makes Lots of Money
- ▶ Businesses Are Not Fair or Equitable
 - ▶ Government Should Be
- ▶ Need to Balance Political/Social Goals
 - ▶ Success is Never Ensured for Technology or Politics!

★ Summary

- ▶ Tried to Bridge Two Cultures
 - ▶ Government & Commercial Industry
 - ▶ Separated Historically for Many Years
- ▶ Need to Fit Actual Market Realities
 - ▶ Update Philosophical Objectives
 - ▶ Separate Social/Political Agendas
- ▶ We Need to Work Together!