

**UNITED STATES  
PATENT AND TRADEMARK OFFICE**



# The Economic Case for Patents: Assessing the Evidence

Alan Marco  
Chief Economist  
*(my opinions only)*

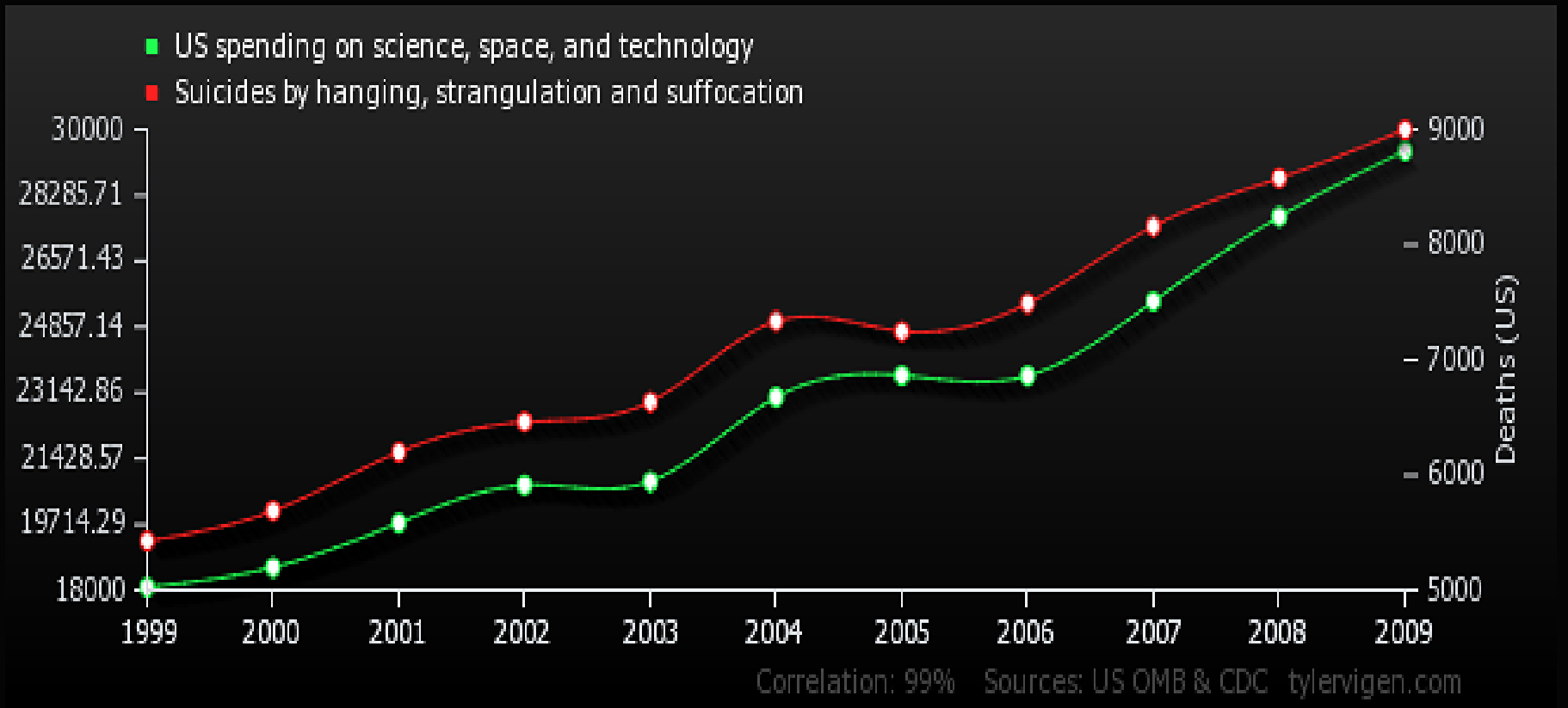
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~~Evidence~~-based ~~policy~~ making

~~Policy~~-based ~~evidence~~ making

# Correlation versus causation



# Economists like models



Source: nymag.com

uspto

# Economists like mathematical models



Source: fotolia

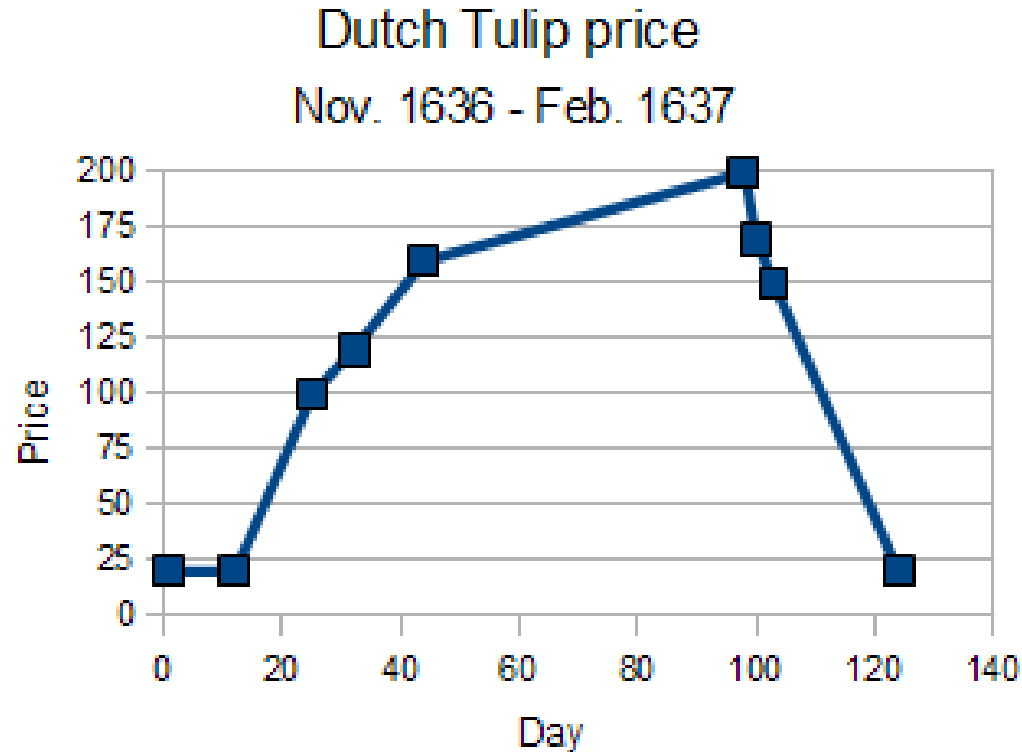
**I wanna data model**

# Economists like markets





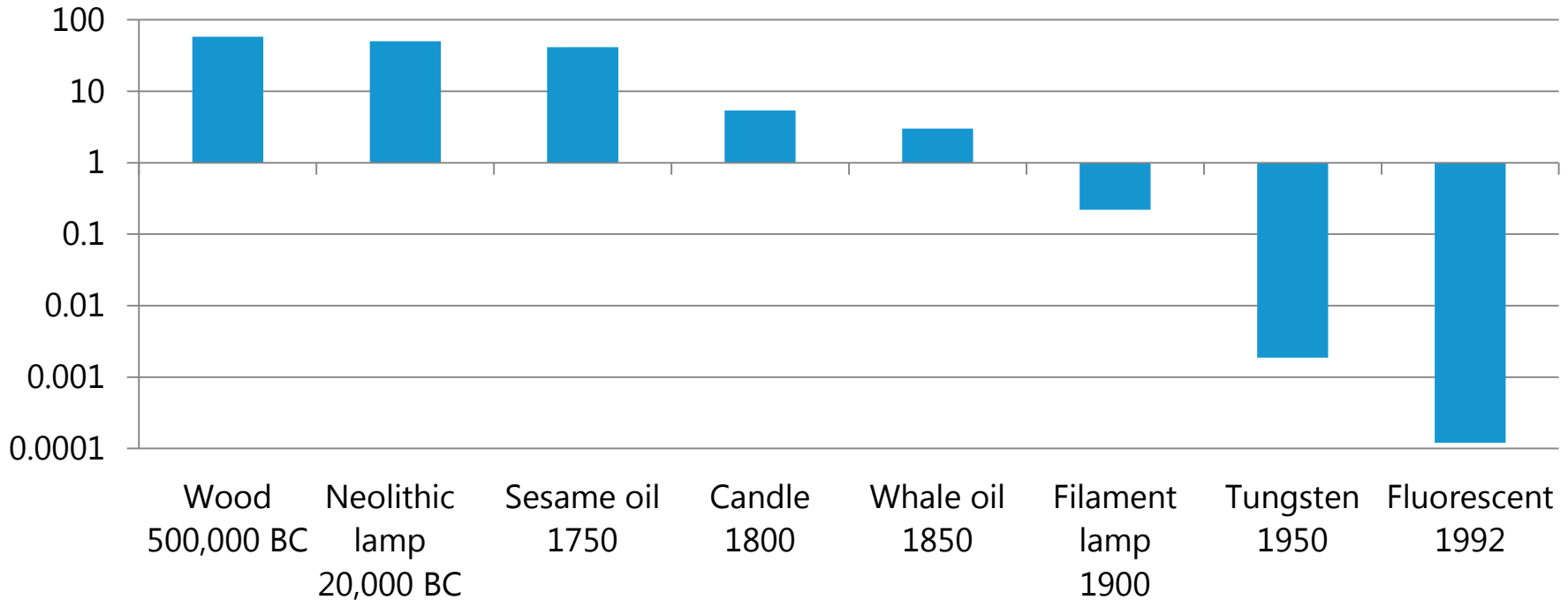
# Sometimes markets fail



# Economist's view of good patent policy

- Patents are a solution to a market failure: too little investment if copying is easy
- They should drive *innovation*: new goods and services, higher quality, lower prices
- The best evidence for the effectiveness of the patent system should be related to innovation

# Light price in terms of labor (hours worked per 1000 lumen hours)

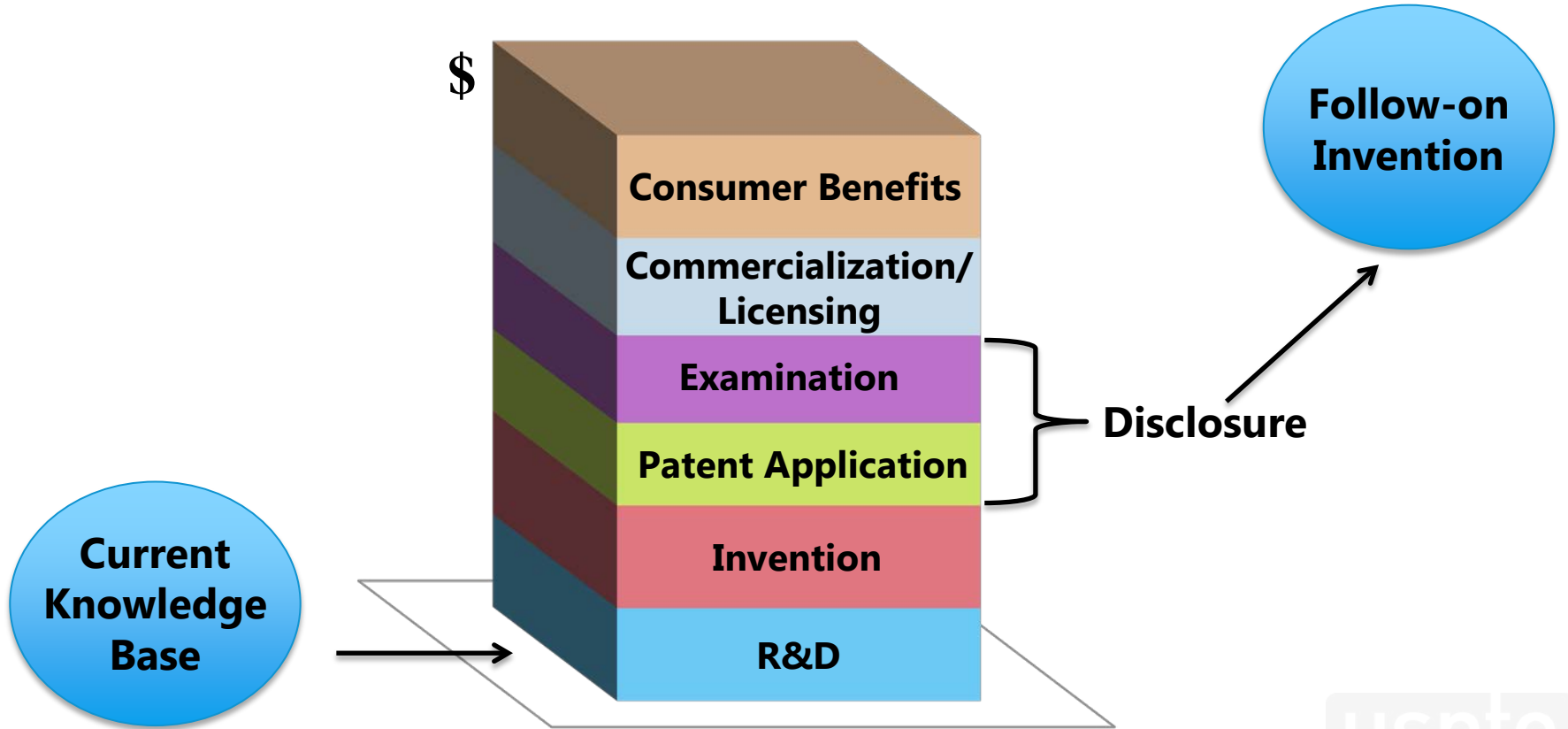


William D. Nordhaus, 1996. "Do Real-Output and Real-Wage Measures Capture Reality? The History of Lighting

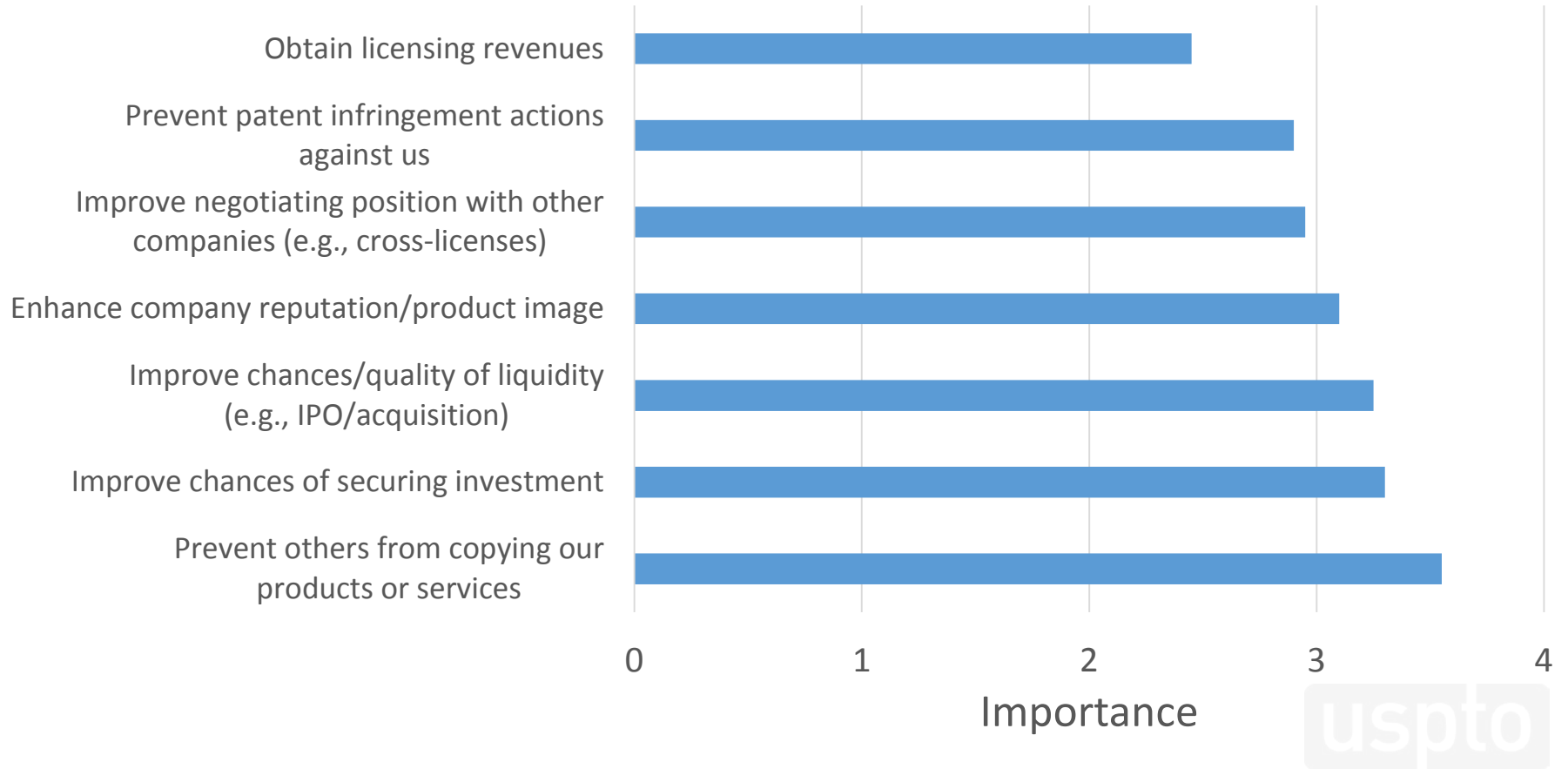
[Also: Derek Aberle: cost per MB \$8 to 7 cents, smart traffic lights, coffee cups that don't leak, name tags that adhere]



# Components of Patent Value



# How important or unimportant have the following been to your company in seeking patent protection in the United States?



# THANK YOU

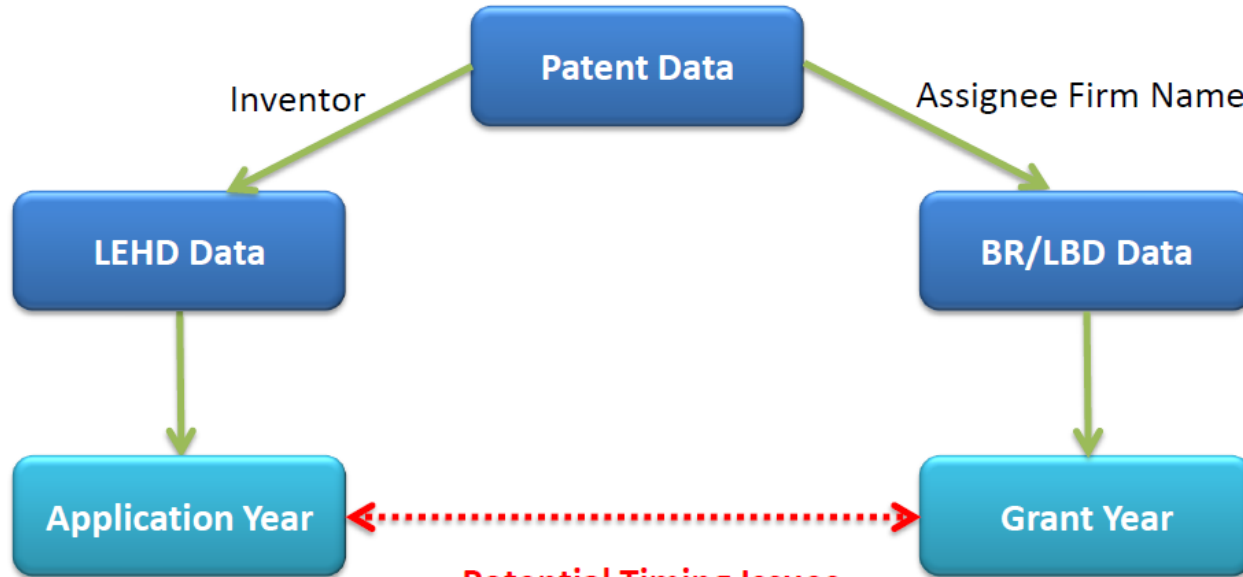
[alan.marco@uspto.gov](mailto:alan.marco@uspto.gov)

[www.uspto.gov/economics](http://www.uspto.gov/economics)

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# “Business Dynamics of Innovating Firms” (joint Census/USPTO project)



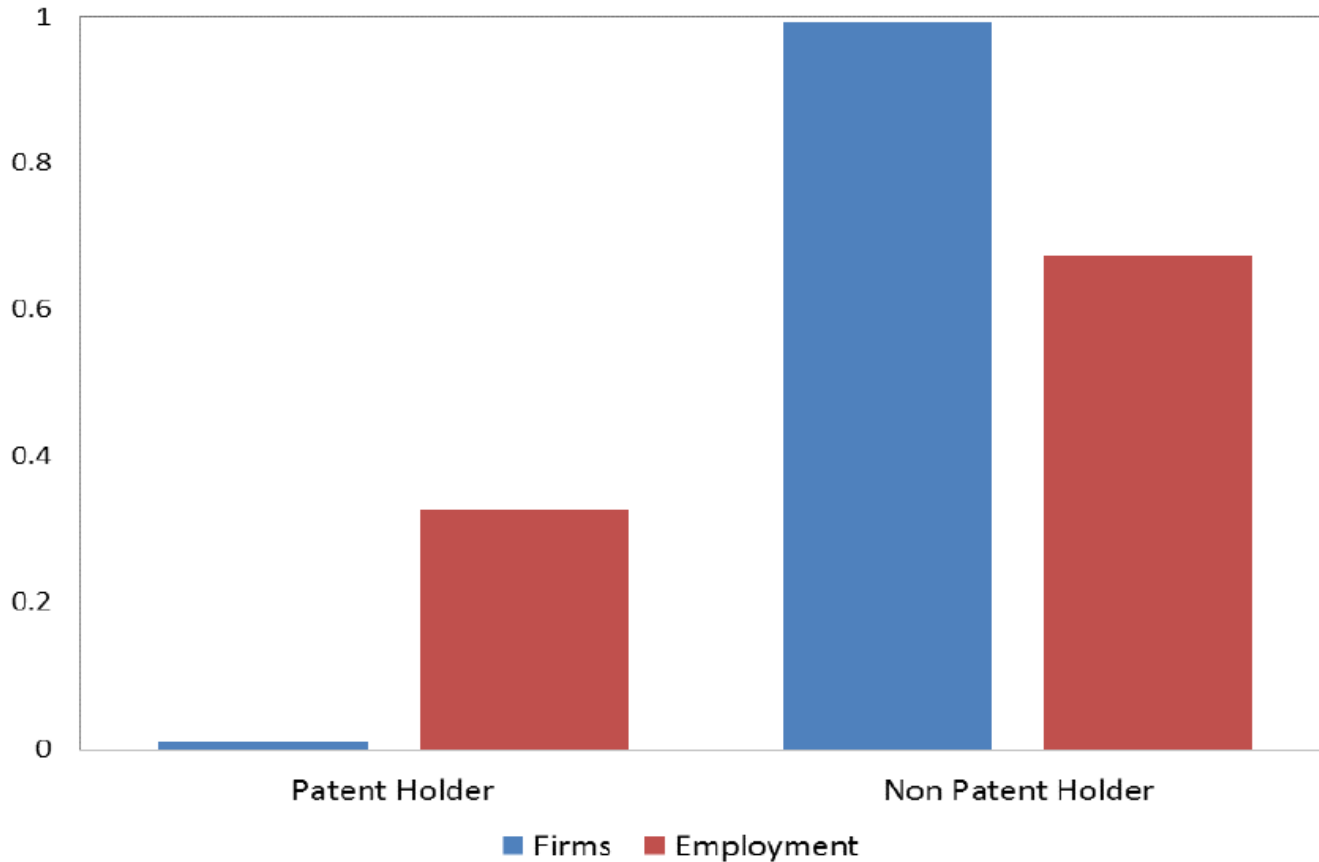
## Potential Timing Issues

- Firm Exit or Reorganization
- Firm Spinoffs, Mergers and Acquisitions
- Inventor job movement
- Divested/Acquired patents



# Few firms hold patents, but these are among the largest firms

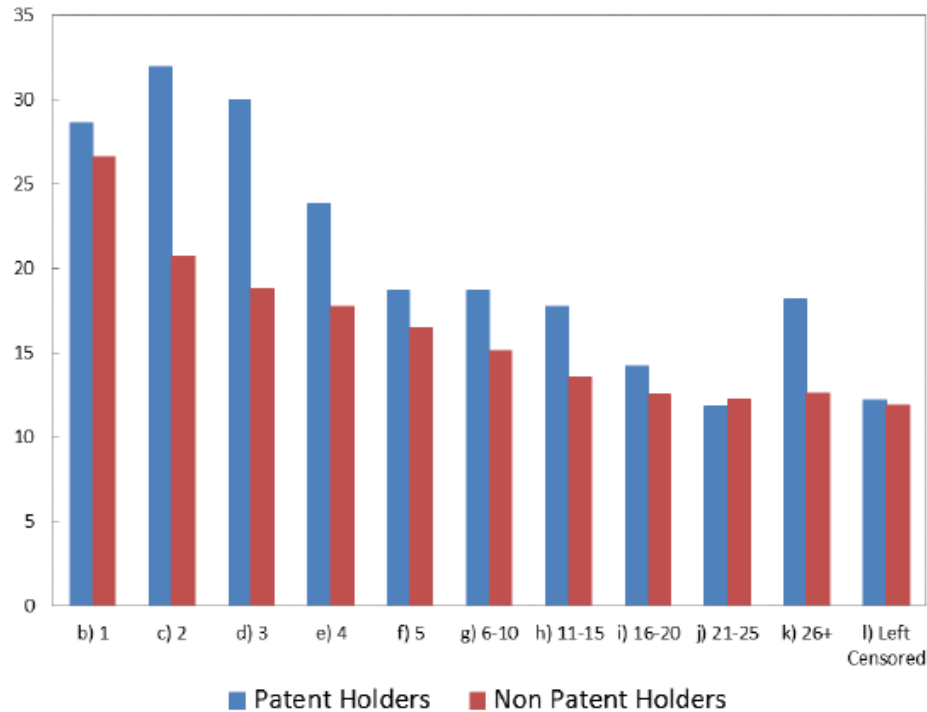
Share of Firms and Employment: Average 2005-2008





# Patent holding firms disproportionately create jobs (2005-08)

## Job Creation Rate



## Job Destruction Rate



# Follow-on innovation

“How do patents affect follow-on innovation? Evidence from the human genome” (Williams and Sampat, 2015)

- How do patents on human genes affect follow-on scientific research and product development?
- Data on successful and unsuccessful gene-specific patent applications submitted to the US Patent and Trademark Office.
- Do we observe differential follow-on scientific research and commercial investments?
- On average gene patents have had no effect on follow-on innovation.

