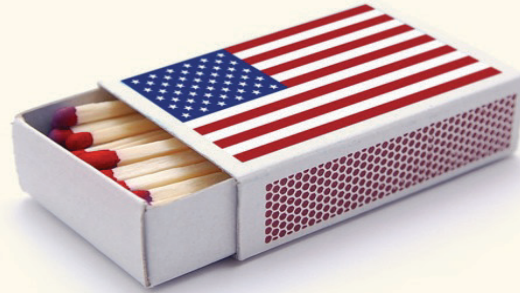


HARVARD BUSINESS REVIEW PRESS

PRODUCING PROSPERITY

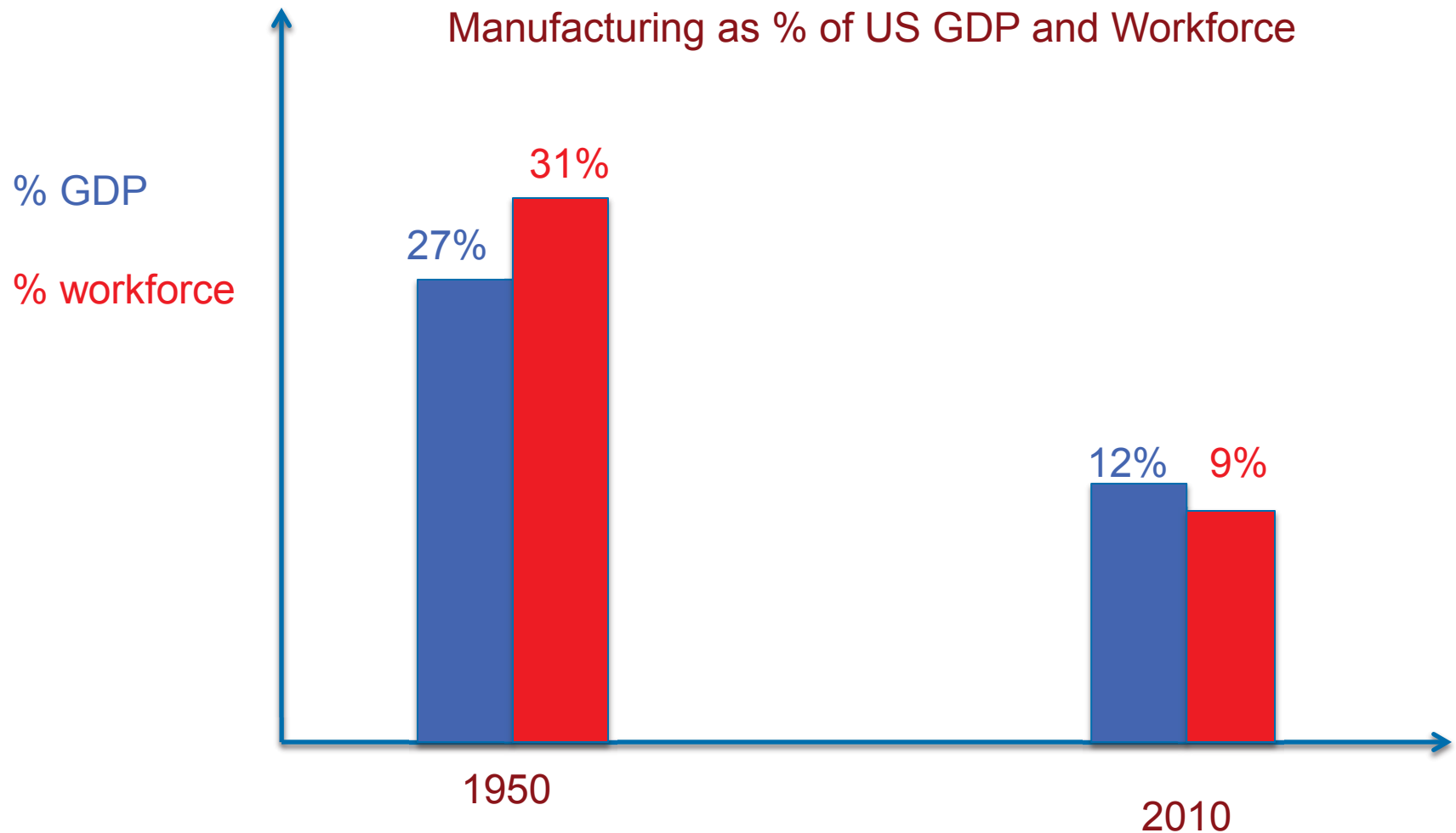


WHY AMERICA NEEDS
A MANUFACTURING RENAISSANCE



Gary P. Pisano
Willy C. Shih

Should We Worry About This?



The Debate

This is healthy transition to a post-industrial economy

No different than what happened to agriculture over past century

“The latest flirtation with supporting manufactures has come from the current crisis, especially in the financial sector, and is therefore likely to have greater prospects for survival. The fetish is particularly rampant in the US, where the Democrats in Congress have gone so far as to ally themselves with lobbyists for manufactures to pass legislation that would provide protection and subsidies to increase the share of manufactures in GDP.”

-Jagdish Bhagwati, Columbia University
“The Manufacturing Fallacy”
(<http://www.project-syndicate.org/commentary/the-manufacturing-fallacy>)

Manufacturing as a source of “good paying” blue collar jobs

Manufacturing is “different”

“An economy that is built to last...and that starts with manufacturing. For generations, manufacturing provided a ticket to the middle class....America thrives when we build stuff better than the rest of the world. I want us to make stuff here and sell it over there.”

President Obama, Speech at Rolls Royce Plant, Virginia (March 9, 2012)

Thesis

For past 40 decades US (and much of Europe) has engaged in a grand experiment of “post-industrialization”

We take a look at the “results” to date to see how this experiment going

Our argument:

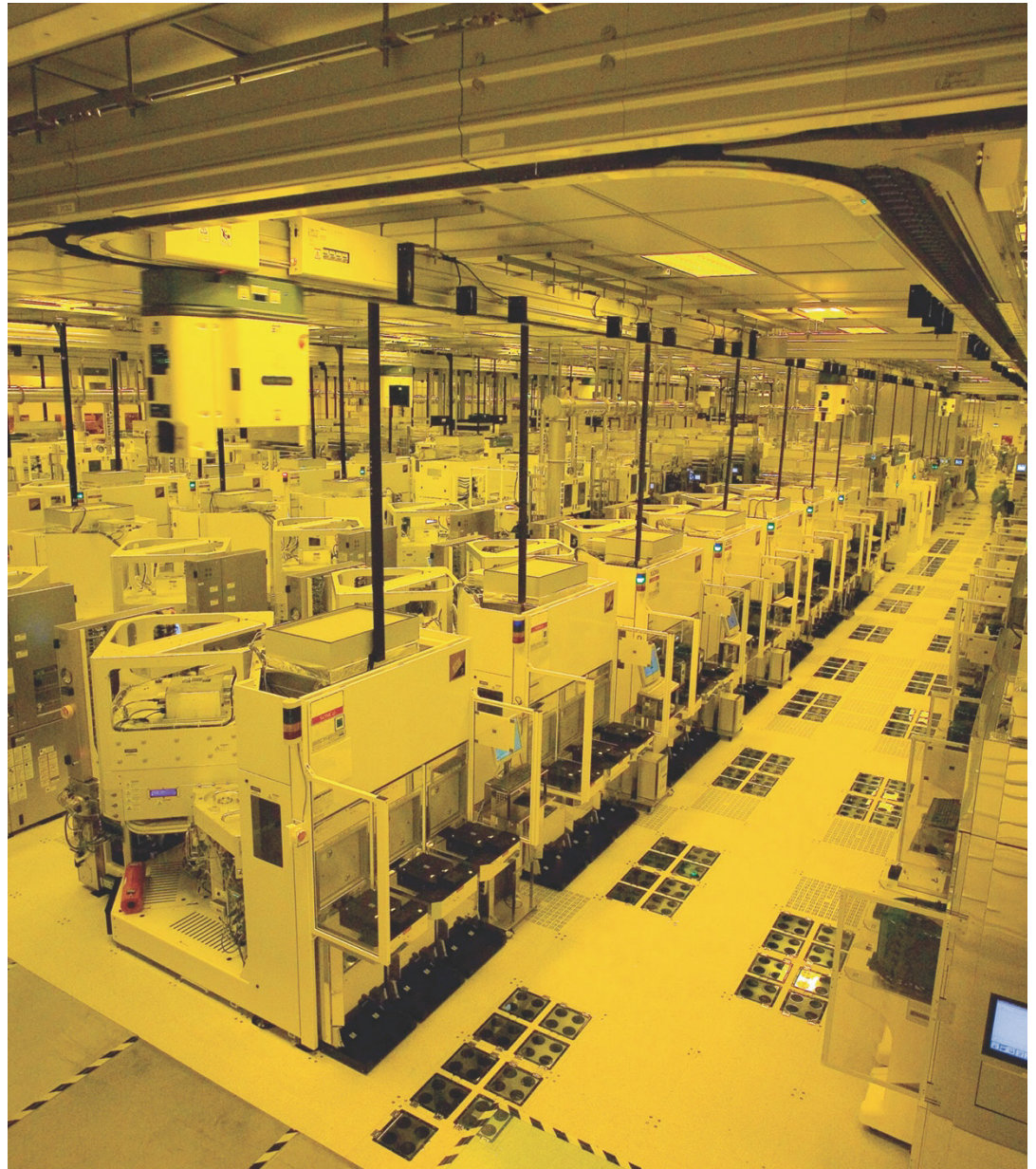
- Not a story about creating “real” value (services create value too!)
- Not a story about jobs (manufacturing not a big job creator)
- *Manufacturing matters when it is integral to the innovation process*

Our message: certain kinds of manufacturing are just as much part of the “knowledge economy” as design, research, high end services

Two Focal Questions

When does it matter if a particular sector (e.g. semiconductors) migrates off-shore?

When does it matter if a particular manufacturing capability (e.g. semiconductor *manufacturing*) migrates off-shore?



The Commons Problem

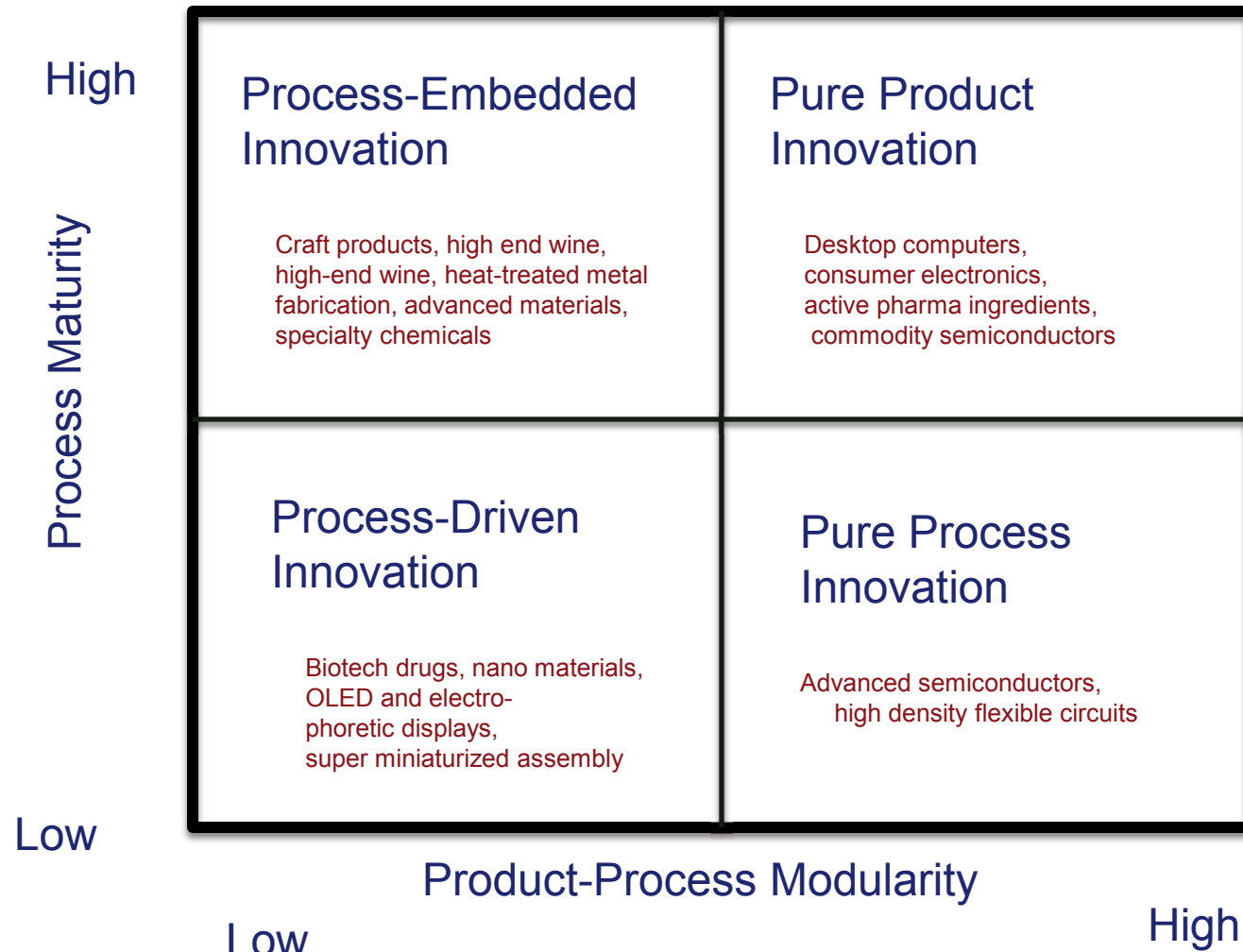
Trying to make digital cameras in Rochester, New York

At the outset of the digital photography era, Kodak contemplated designing and manufacturing digital cameras in upstate New York.



Why was that impossible?

When Must R&D and Manufacturing Be Geographically Proximate?



Management: Some Thoughts

This is NOT about being patriotic. It's a strategic question: When does it make sense to invest in/support a local commons?

understanding the value of location and proximity

Requires shift in mentality from “arbitragers” of global labor markets to capability creators (“hard skills”)

Much better understanding of the limits and appropriate uses of financial evaluation techniques (R&D)

Corporate governance and time horizons
(stop blaming Wall Street for short time behavior)

Policy Implications: History Is Our Guide

The debate has been poisoned by the ideologues at the extremes

- “free market” vs. “industrial policy advocates”

History: US has always maintained a healthy mix of both markets and government involvement in innovation

Manufacturing policies as part of broader portfolio of innovation policies

- What kinds of manufacturing process technologies and capabilities (including work force skills) are required to enable innovation?

Most effective role of government is picking the problem and catalyzing experimentation of alternative approaches to tackle that problem

- DARPA model
- NOT picking winners (syn-fuels, ethanol, hydrogen vehicles, subsidizing Evergreen Solar etc)

Investing in the building blocks

- Basic and applied research
- Human capital