

Renewing US Manufacturing: Promoting a High-Road Strategy

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Sharp Electronics in Memphis

1980: begins producing TVs, microwaves.

- Remains open after rivals forced out due to skill of workers, suppliers*

2002: moves all TV production to Mexico

2003: begins producing solar panels

- Stimulated by new energy legislation*
- Skills of IBEW workers eased transition*

2008: 50% of workers make solar panels

Sharp illustrates situation of US manufacturing

- *Problems:*
 - *low-wage competition*
- *Opportunities:*
 - *skilled work force*
 - *increasing demand for sustainable products*
- *Solutions:*
 - *“high road” production recipe, in which workers, suppliers, and management work together to make innovative products*
 - *public policy helps manufacturers achieve key national goals.*

We can save manufacturing in a way that also creates a bigger economic pie, divides it more fairly, and protects the environment

Agenda

- Problems
 - Manufacturing is shrinking
 - Incomes for most Americans aren't growing
- Proposed Solutions
 - Demand Side
 - Manufacturing can contribute to meeting key national goals
 - Supply Side
 - Manufacturers can compete with “high-road” policies
 - Public policy can help

Manufacturing is shrinking

- The US lost 16% of manufacturing employment 2000-2003...
 - And 4% more since then
- Value-added fell 4% 2000-2006.
 - Even more if we correct for statistical problems
 - Cato Institute, Business Week 6/18/2007

Should we care if mfg shrinks?

- Mfg capability can help meet national goals
 - Energy, infrastructure, defense
- Manufacturing can provide a career ladder for ordinary Americans
 - 14 million jobs
 - Avg weekly wage: 20% > economy-wide average
- To the extent manufacturing serves public purposes, it should receive public support
 - Policies should correct market failures, not provide unconditional subsidies

Demand-side policies

- Manufacturing can help meet national goals
 - Sustainable energy, infrastructure, defense industrial base
 - Markets fail to provide enough of these goods

Goal: Energy sustainability

- Challenge of global warming: an historic opportunity to re-make the economy
- Manufacturing plays a key role
 - Renewable energy
 - Energy efficiency
 - In production and in use of goods
 - Could change terms of competition away from wages, toward creativity in energy efficiency

Sustainability offers a big opportunity

- But requires capability for innovations large and small
- These capabilities are lacking
 - 90% of manufacturers report moderate to severe shortage of skilled production employees
 - 65% report moderate-to-severe shortage of scientists and engineers
 - Tooling industry lost 1/3 of employees 2000-2005
 - » National Assn of Manufacturers; Center for Automotive Research

Supply-side policies

- Promote “high-road” manufacturing
 - High wage workers make cost-effective, sustainable products for consumers and profits for owners
 - How?
 - Skilled workers help plants introduce new products faster, handle more variety, and deliver “just in time”
 - Continuous improvement benefits from direct workers’ knowledge
 - Self-management reduces need for supervisors

“High-road” production

- Works because things rarely go as planned
 - So distributed information flow, understanding of context is valuable
- But, many firms don’t adopt, or don’t maintain, due to market failures
 - Complementarities
 - Supply & demand for workers trained in problem-solving
 - Temptation to break promises for short-term gain

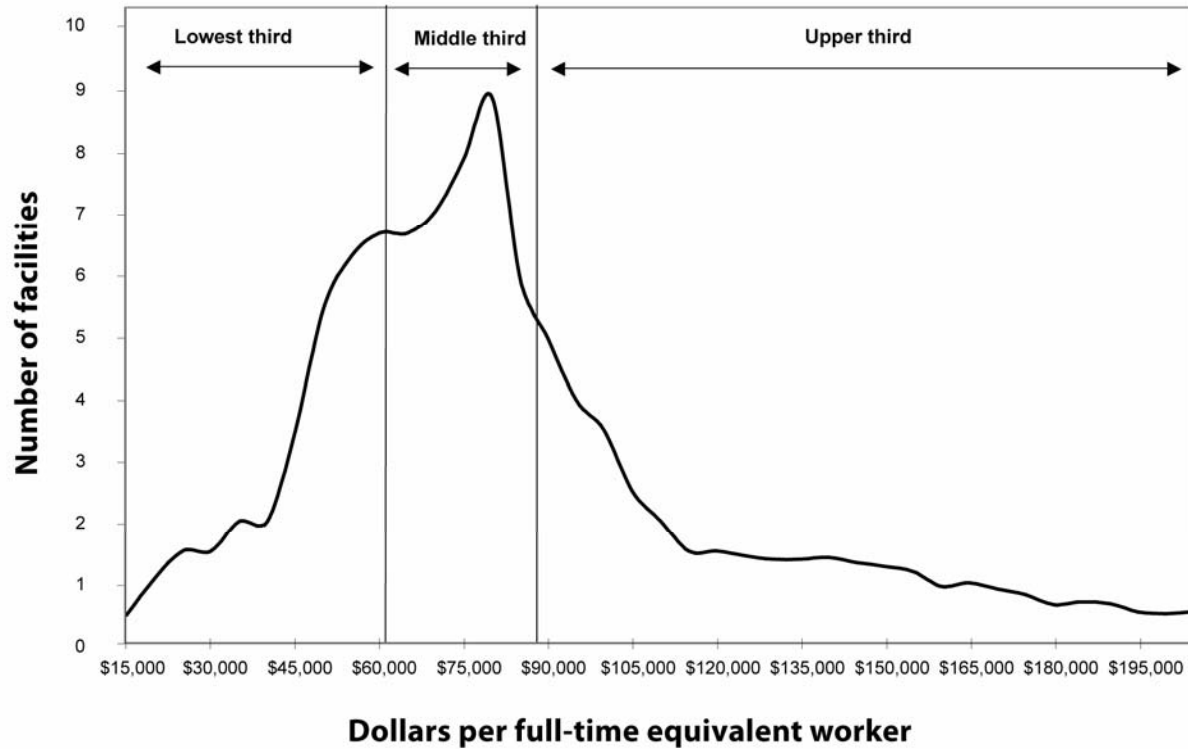
Public policies can help

- Triple the Manufacturing Extension Program (to \$300 million)
 - Teach “Full Utilization Learning Lean” (FULL)
 - Learning Lean
 - Understand root causes of problems, just-in-time
 - Full Utilization
 - Product development
 - Marketing to new industries
 - Supply Chain Programs

How will the program help?

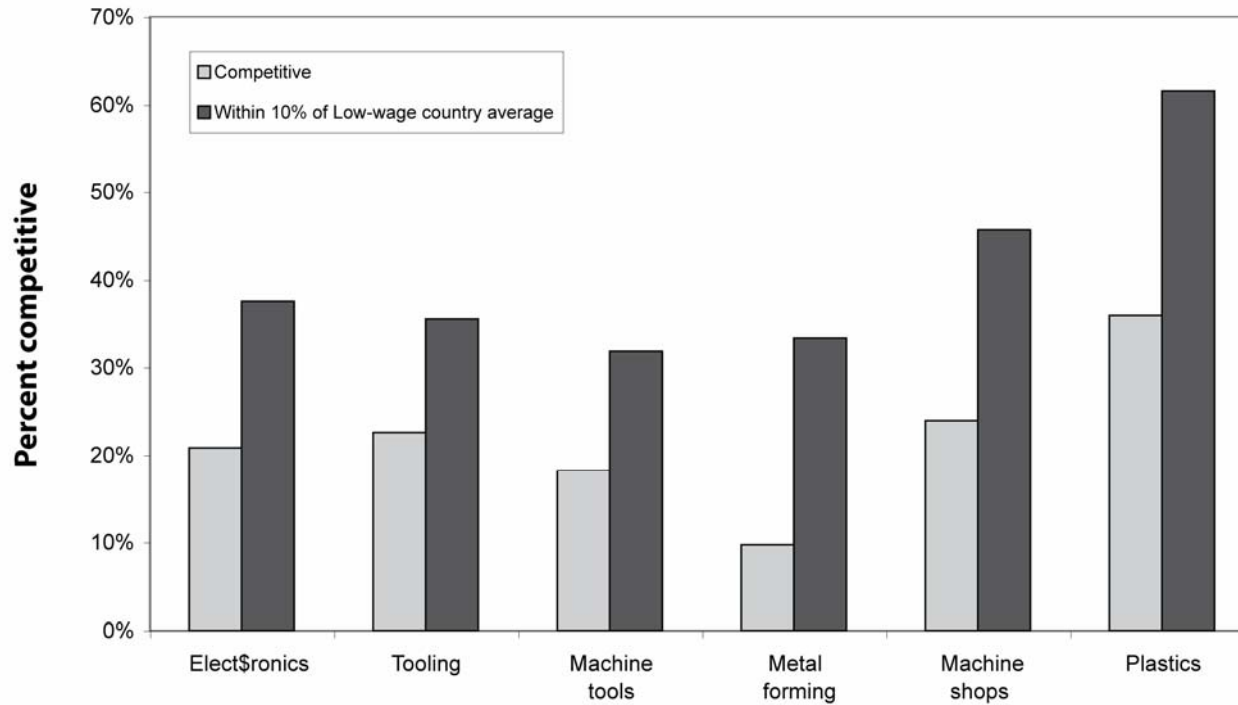
- MEP assistance →
 - More plants achieve productivity of the best plants
 - Firms compete on basis of fast delivery, new products
 - Firms understand their costs
 - Don't underestimate hidden costs of offshoring
- ***US manufacturers can compete with China***

Productivity: Value added per full-time equivalent worker, 2006*



* Based on 2006 data gathered from 72 facilities in NAICS code 332116 (metal stamping).
SOURCE: Performance Benchmarking Service, Michigan Manufacturing Technology Center.

Cost competitiveness varies by sector: Global cost index, fiscal year 2006



SOURCE: Performance Benchmarking Service, Michigan Manufacturing Technology Center.

Hidden costs of off-shoring

- Off-shoring reduces wages of direct labor...
 - These are usually only 5-15% of total costs
- But increases other, hard-to-measure costs:
 - Management distraction (lost focus on innovation at home)
 - Increased risk from long supply chain
- Increased “handoff costs” btw US & foreign sites
 - More difficult communication among design, engineering, and production hinders serendipitous discovery
 - Products must be more clearly specified
 - Quality problems take longer to solve
 - Increased time-to-market
 - Eventually, design as well as production may move

Each proposal comes with a revenue stream to pay for it

- MEP
 - Pays for itself in increased tax revenue
- Energy sustainability
 - Paid for by a portion of carbon auction revenues, end to oil and gas subsidies
- *Much* cheaper than smoke-stack chasing

Key features of the program

- Does not disadvantage other stakeholders
 - Doesn't throw money at firms without quid pro quo
- Changes both production and distribution of the economic pie
 - Changes how inputs are mixed together, not just individual inputs
 - More education alone is not sufficient
 - More R and D alone is not sufficient
 - Makes workers integral to production—not disposable

Complementary policies

- **Pave the high road**
 - reduce costs of socially-beneficial actions thru
 - Training
 - Universal health care
 - R&D subsidies

Complementary policies (2)

- **Block the low road**
 - prevent undercutting of socially-responsible firms
 - Protect labor and environmental rights in treaties
 - Limit poaching by states
 - Strengthen Consumer Product Safety Commission
 - Subsidize only firms that commit to high wage, high productivity, sustainable strategies

Equity versus Efficiency?

- A fairer economy can be a larger economy



Conclusions

- The Problems
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