The Microeconomics of Competitiveness
20th Anniversary
December 13, 2022

Elisabeth B. Reynolds, PhD
Lecturer, MIT Department of Urban Studies and Planning
Former Special Assistant to the President, National Economic Council
Former Executive Director, MIT Task Force on the Work of the Future and IPC
Outline

1. My Journey

2. Changing Global Landscape and Implications for Competitiveness

3. The Biden Administration’s Industrial Strategy and the Role of Cluster Initiatives

4. Observations/Lessons Learned
My Journey

1. Education in political science, economics, regional economics

2. Initiative for a Competitive Inner City


4. National Economic Council, the White House
A Changing Global Landscape

• Supply Chain Disruptions
  – Global pandemic exposed vulnerabilities in key supply chains – from PPE to semiconductors – affecting both national and economic security; projection that multinational companies should expect significant disruptions at least every 4 years

• Climate Change
  – In both 2020 and 2021, there were over 20 separate extreme weather events in the US that cost over $1 billion in economic activity

• Geopolitical Landscape
  – Redrawing of geopolitical landscape post Russia invasion of Ukraine; increasing threats from China regionally and internationally

• Inequality
  – Increasing income inequality threatening the social fabric of societies; increasing political polarization and distrust of government institutions; people and places left behind; direct threats to democracy; rise of autocracies
The U.S. Has Gotten Much More Productive since 1975, but Most Workers Have Benefited Little

U.S. Productivity and Compensation Growth, 1948 – 2018

Elisabeth Reynolds, MIT DUSP Dec. 13, 2022
What Are the Causes of the Great Divergence?

1. **Technology**: Digitalization of work made highly-educated workers more productive, made less-educated workers easier to replace with machinery.
The U.S. Occupational Structure has ‘Polarized’

What Are the Causes?

1. **Technology**: Digitalization of work made highly-educated workers more productive, made less-educated workers easier to replace with machinery.

2. **Globalization**: Trade has been a huge positive for world welfare but has placed pressure on manufacturing jobs and manufacturing-intensive communities.
What Are the Causes?

1. **Technology**: Digitalization of work made highly-educated workers more productive, made less-educated workers easier to replace with machinery.

2. **Globalization**: Trade has been a huge positive for world welfare but has placed pressure on manufacturing jobs and manufacturing-intensive communities.

3. **Institutions**: Weakened labor unions, historically low minimum wage, and outdated employment regulations have harmed rank and file workers.
Implications for Competition Policy

1. **Supply Chain Lens:** Shift away from pure efficiency strategy for global supply chains toward investments in resilience
Examples of Tier 1 and Tier 2 Supply Relationships

<table>
<thead>
<tr>
<th>Company</th>
<th>Tier 2 Suppliers</th>
<th>Publicly Disclosed Tier 1 Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Motors</td>
<td>18,000+</td>
<td>856</td>
</tr>
<tr>
<td>Airbus</td>
<td>12,000+</td>
<td>1,676</td>
</tr>
<tr>
<td>Apple</td>
<td>7,400+</td>
<td>638</td>
</tr>
<tr>
<td>Nestlé</td>
<td>5,000+</td>
<td>717</td>
</tr>
</tbody>
</table>

Source: Adapted from Lund et al. (2020), relying on the Bloomberg Supply Chain Database.
Implications for Competition Policy

1. **Supply Chain Lens**: Shift away from pure efficiency strategy for global supply chains toward investments in resilience

2. **Globalization with Guardrails**: New trade arrangements; more aggressive use of trade policy
Globalization may be redirected but is not disappearing in key industries: ex. semiconductors

U.S. and South Korean companies dominate in key parts of the semiconductor ecosystem

Mismatch between value added and consumption creates geopolitical tensions.

Source: BCG and SIA, 2021
Implications for Competition Policy

1. **Supply Chain Lens**: Shift away from pure efficiency strategy for global supply chains toward investments in resilience

2. **Globalization with Guardrails**: New trade arrangements; more aggressive use of trade policy

3. **Industrial Strategy**: More explicit strategies to support key technologies/industries using tools to crowd in private sector investments
The Biden Administration’s Modern American Industrial Strategy

- Relying on private industry, on its own, will not mobilize the investment necessary to achieve our core economic and national security interests

- Investments help accelerate and shape breakneck innovation, and encourage private investment and market competition

- Infrastructure literally lays the groundwork for private investment (BIL)

- Public investments in digital capacity as well as research and innovation power the private engine of the American economy (CHIPS and Science Act)

- Transition to a zero-carbon economy may be the greatest economic transformation since the Industrial Revolution (Inflation Reduction Act)

How?

- 1) Deploying New Tools, Institutions and Fresh Approaches
  - DOE: Office of Demonstration; Manufacturing and Energy Supply Chain Office; NSF TIPS; DOC CHIPS

- 2) National Commitment to Building Fairly at Scale and Speed

- 3) Closer Cooperation with Allies and Partners
New U.S. Legislation is Unprecedented in Scope and Scale

• **Bipartisan Infrastructure Law**
  
  – $1.1 trillion over 10 years
  
  – Roads, bridges, ports, rail but also broadband, power and grid reliability and resiliency; critical minerals and supply chains for clean energy technology; carbon capture, hydrogen, direct air capture, and energy efficiency; and energy demonstration projects.
  
  – 80% goes to states through formula funding; Made in America provisions for some products

• **Bipartisan CHIPS and Science Act**
  
  – $52 billion for state-of-the art chips ($38B), legacy chips ($10b) and R&D ($11B)
  
  – $200B authorized, not appropriated for R&D, regional tech hubs, manufacturing

• **Inflation Reduction Act**
  
  – $370B for clean energy investments; 3/4 in tax incentives that are open to all net zero emission technologies; decarbonization of materials; green bank

*Taken as a whole, this agenda represents a massive reinvestment in the US industrial base*
Cluster Strategies are Integral to the Delivery of U.S. Industrial Strategy

- **EDA Build Back Better Regional Grants**
  - Awarded $1 billion across 21 regions across a range of clusters (biotech, advanced mobility, Evs, ag, advanced manufacturing, clean tech)

- **Science Act Regional Tech Hubs**
  - $10 billion authorized (not appropriated)
  - Concept of a “tipping point” in which sizable, strategic funding could create accelerating effect

- **NSF Regional Innovation Engine Program**
  - Initial $800m in competitive grants that support earlier stage innovation in particular technology/industry; emphasis on universities and entrepreneurship

- **Dept of Energy Regional Clean Hydrogen Hubs**
  - $7 billion in competitive grants to create 6-10 hubs across the country with sizable investments; emphasis on demand pull tools through tax credits

  *More emphasis on racial and geographic diversity, labor, sustainability and evaluation*
Observations/Lessons Learned

• *Skills and Technology Adoption*

• *Structural Challenges*

• *Politics and Policymaking*

• *Conditionality*

• *Leadership and Network Effects*
Thank you!

lbr@mit.edu

LinkedIn: Elisabeth Reynolds
Twitter: @LizbeckReynolds