# The State of U.S. Manufacturing

TAX POLICY AND U.S. MANUFACTURING
IN A GLOBAL ECONOMY
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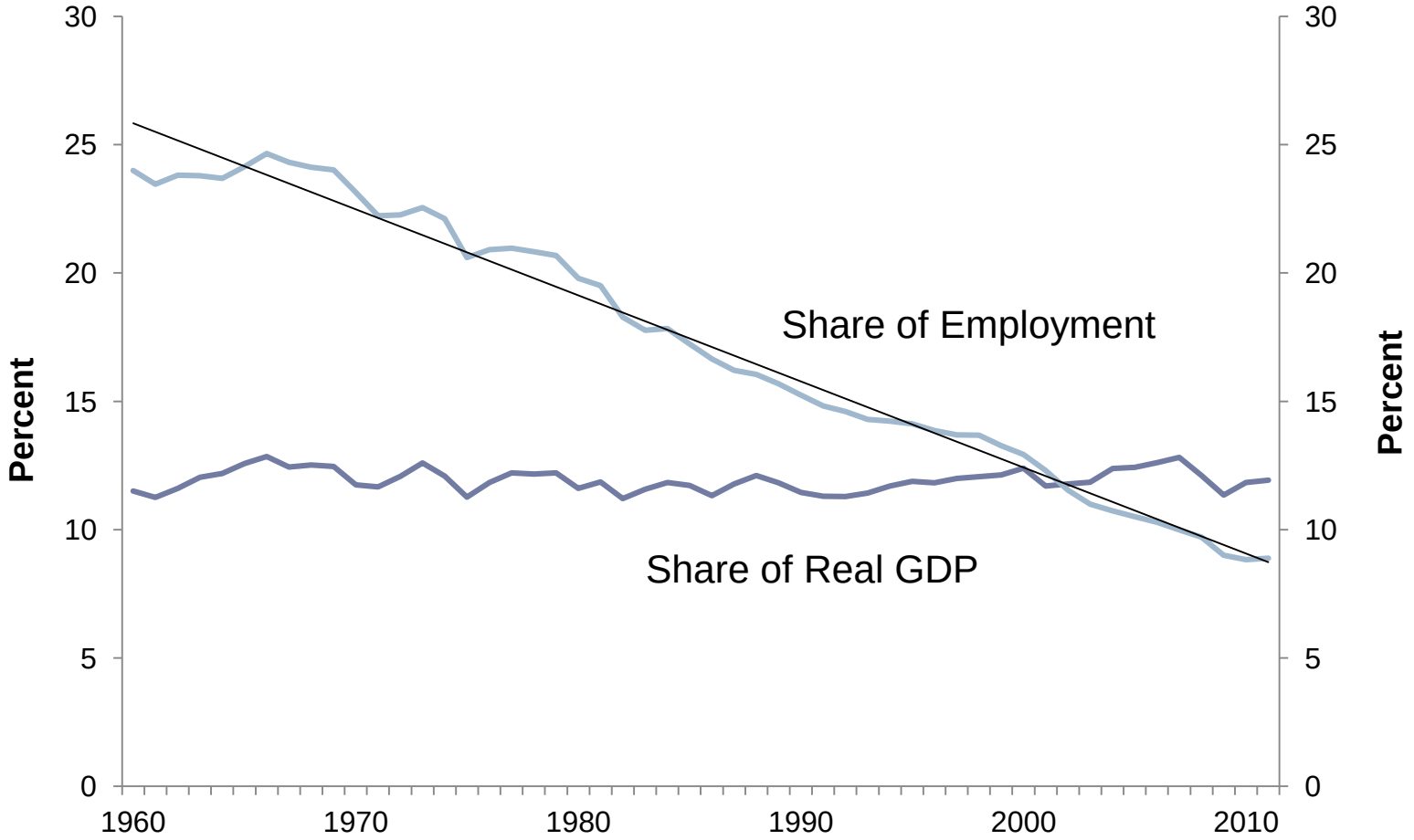
Martin Neil Baily
The Brookings Institution

# Manufacturing Value Added and Employment as a Share of GDP, 1960-2011

*2005 prices*






Source: Bureau of Economic Analysis, Industry Accounts

From Martin Neil Baily and Barry P. Bosworth, "U.S. Manufacturing: Understanding its Past and its Potential Future

# Annual Rates of Growth in Value added of the Manufacturing Sector, 1987-2011

*As percentages*



| | 1987-2011 | 1987-2000 | 2000-2011 |
|---|---|---|---|
| **Gross Domestic Product** | 2.5 | 3.4 | 1.6 |
| **Manufacturing** | 2.5 | 3.4 | 1.6 |
| **Manufacturing less computers** | 0.6 | 1.5 | -0.4 |
| **Durable Goods** | 4.0 | 5.4 | 2.5 |
| **Durable Goods less computers** | 0.6 | 1.5 | -0.5 |
| **Computers and electronic products** | 19.5 | 23.5 | 15.0 |
| **Nondurable Goods** | 0.7 | 1.4 | -0.3 |

Source: Bureau of Economic Analysis, Industry Accounts and authors' calculations

From Martin Neil Baily and Barry P. Bosworth, "U.S. Manufacturing: Understanding its Past and its Potential Future

# U.S. Trade Balance in Manufactured Goods by Area, 2000-2011

*In billions of dollars*



| Item | 2000 | 2005 | 2011 | 2011-2005 |
|---|---|---|---|---|
| **Total** | -316 | -542 | -440 | 102 |
| **Asia** | -240 | -372 | -437 | -65 |
| **China** | -84 | -206 | -319 | -114 |
| **Hong Kong** | 3 | 7 | 30 | 23 |
| **Other Asia** | -160 | -173 | -148 | 26 |
| **Canada** | -15 | -16 | 44 | 59 |
| **Latin America** | -3 | -28 | 41 | 69 |
| **Europe** | -58 | -131 | -117 | 15 |
| **Middle East & Africa** | 1 | 4 | 28 | 24 |

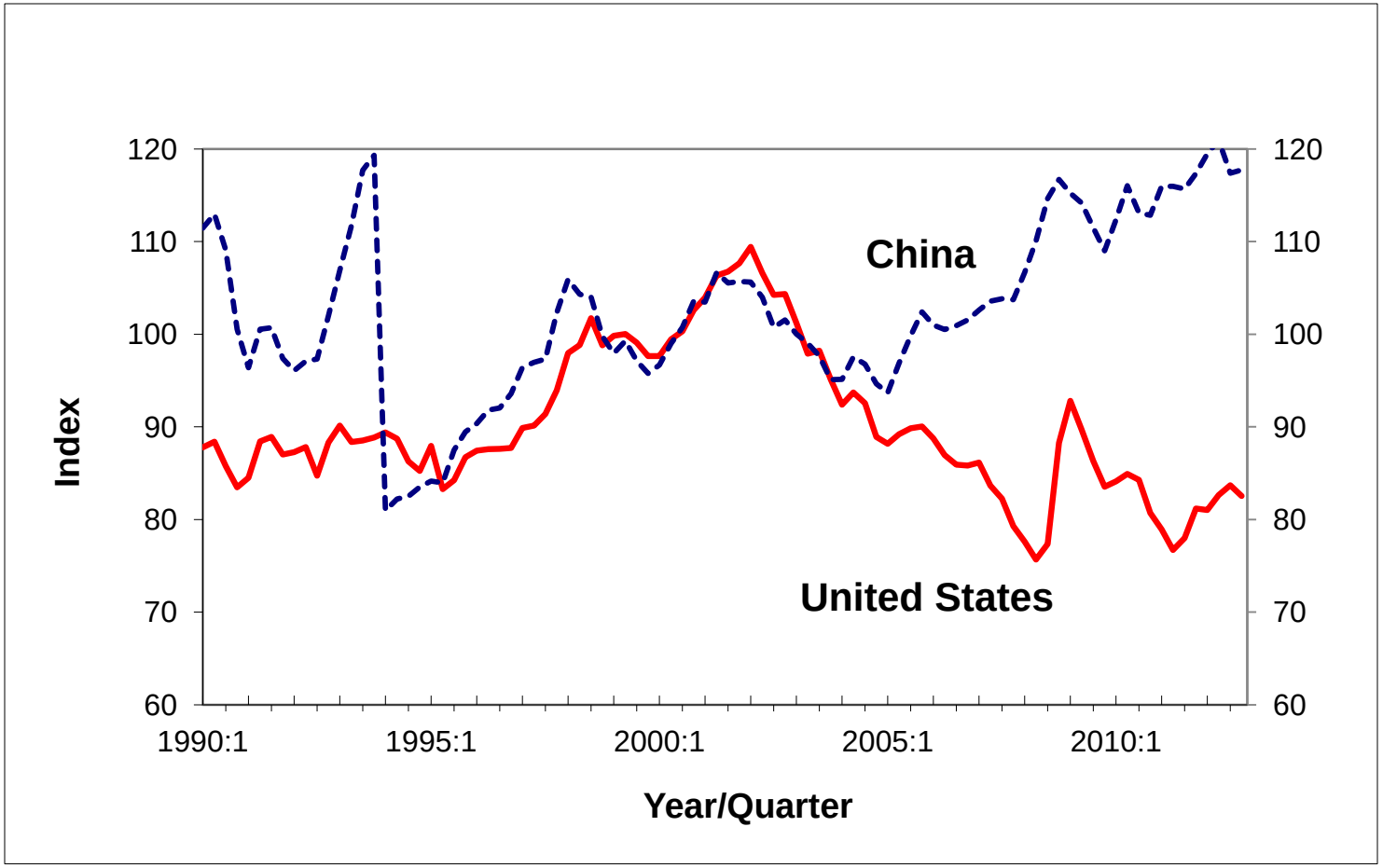
Source: U.S. Census Bureau, Foreign Trade, Country and Product Trade Data, and authors' calculations

From Martin Neil Baily and Barry P. Bosworth, "U.S. Manufacturing: Understanding its Past and its Potential Future

# Trade-Weighted Real Exchange Rate, 1990-2012

*2000 = 100*



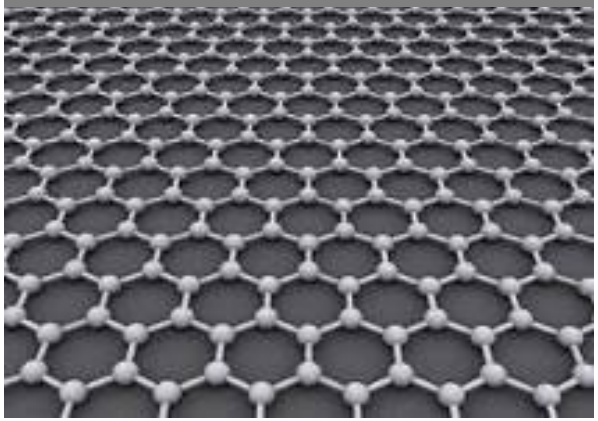



Source: JPMorgan

From Martin Neil Baily and Barry P. Bosworth, “U.S. Manufacturing: Understanding its Past and its Potential Future

# New technologies change manufacturing value chains and processes

**New materials**
- Nanotech
- Composites
- Biologics



**Product design**
- Internet of Things
- Advanced analytics
- Social media

**Production processes**
- Modeling and simulation
- Advanced robotics
- Additive manufacturing

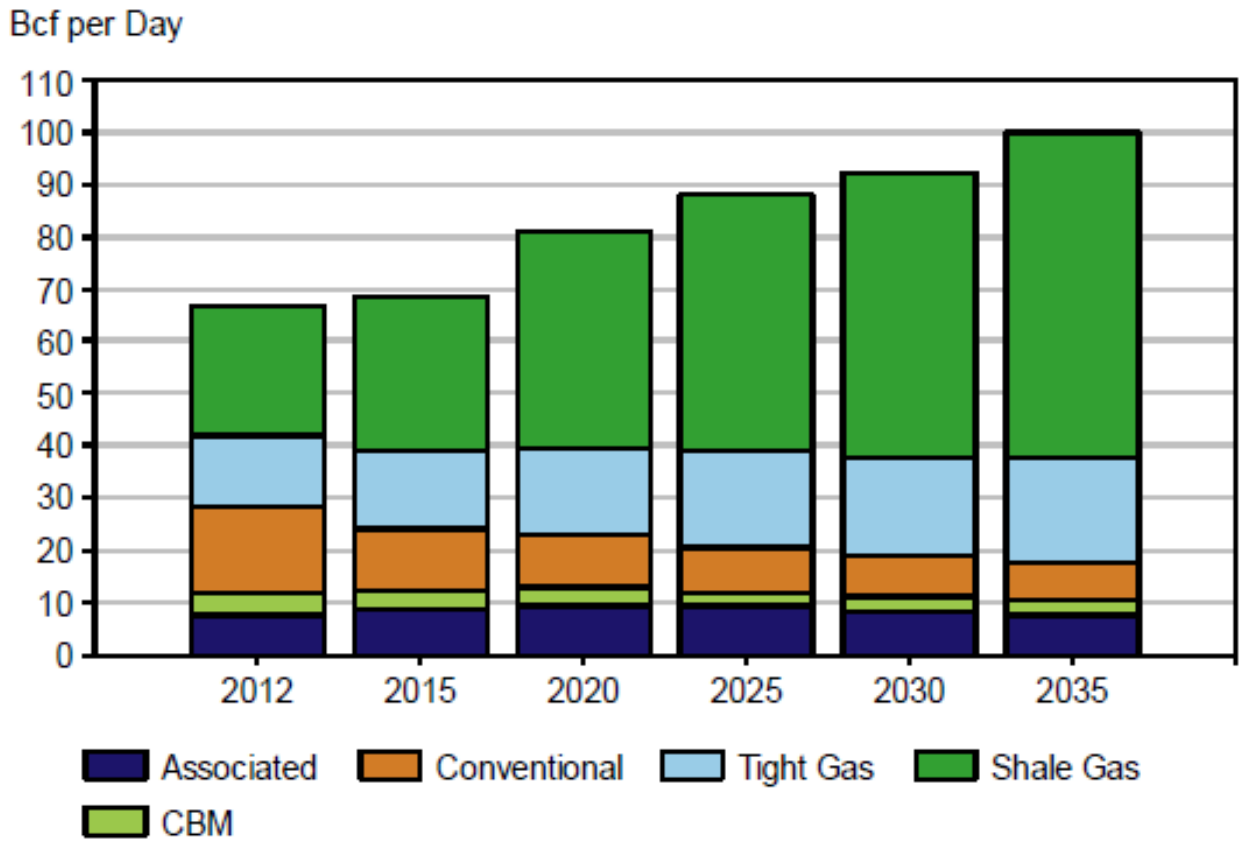
**Information systems**
- Big Data
- Computer-aided design

**Business models**
- Frugal innovation
- Circular economy
- New service models

Source: McKinsey Global Institute

# US Lower 48 Natural Gas Productive Capacity* Outlook by Type: 2012 to 2035



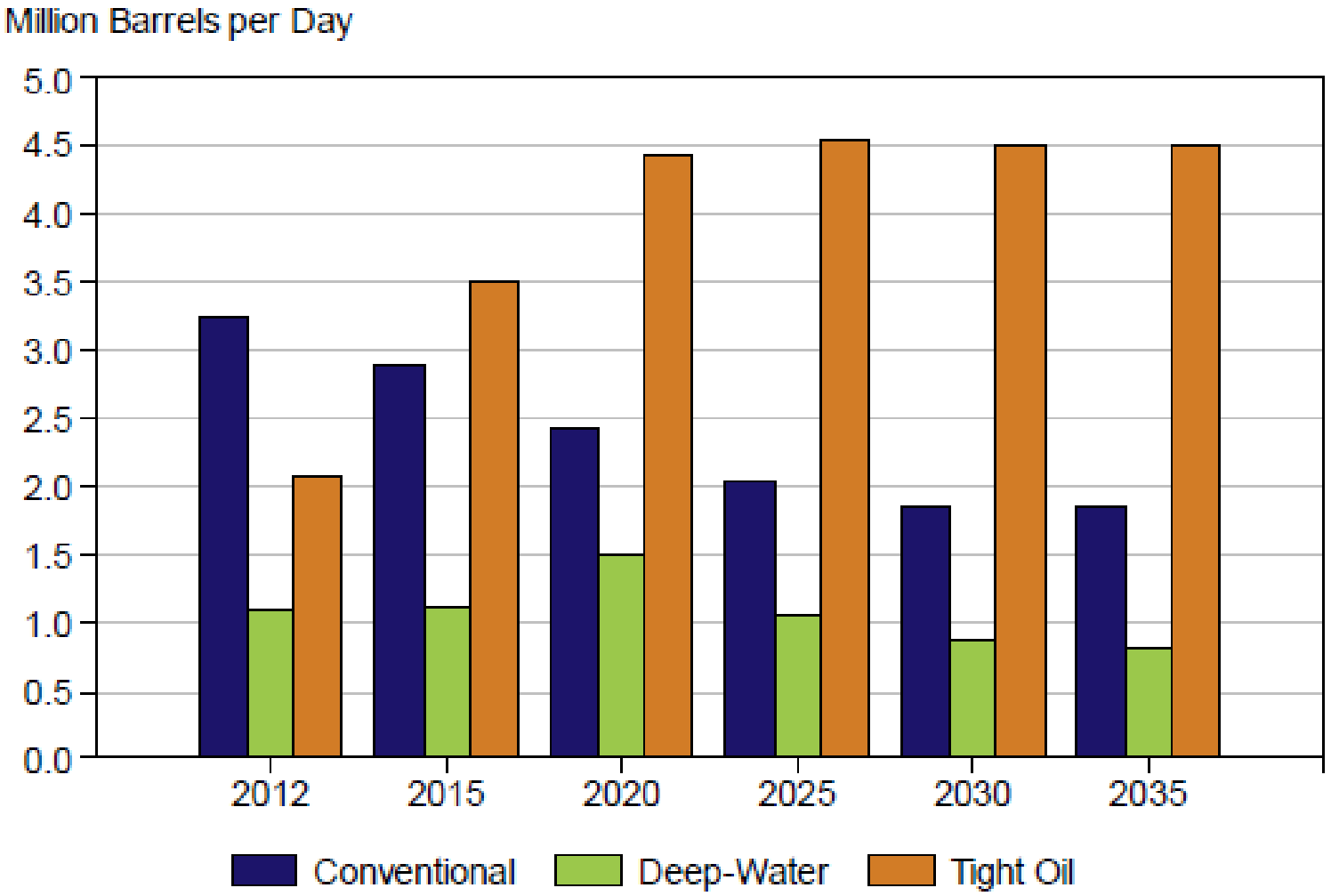



Note: *Productive capacity is the amount of gas that can be produced if unconstrained by infrastructure bottlenecks.

Source: IHS CERA

# US Tight Oil Production Outlook: 2012 to 2035






Source: IHS CERA

# Policy for the Manufacturing Sector



## *The Importance of Manufacturing*

- Historically, manufacturing provided good jobs for many workers without a high level of education. The trend decline in the share of manufacturing jobs in total employment tells us that this opportunity will not return. Even with a manufacturing renaissance, the number of production worker jobs is unlikely to increase.
- The manufacturing sector is important. It is still a major part of the economy; it is where much of the R&D takes place; and it provides technologies to the rest of the economy. The US needs to move to a lower trade deficit, or at least avoid a rising deficit, as it completes its

## *Getting the Macroeconomics Correct*

- In order to follow a more balanced growth path, the US will have to increase its national saving rate. That will almost certainly require gradual reductions in the federal deficit over the next ten years (not too much too quickly).
- Solving the deficit problem will require increased tax revenues, including higher taxes on the middle class.

# Policy for the Manufacturing Sector



## *Corporate Tax Policy*

- Corporate profits are at all time highs and corporate taxes as a proportion of profits are low despite a high statutory tax rate.
- Considerations of fairness suggest to many that corporations should pay more, or at least not pay less. However, capital is mobile and companies will locate activities and profits where tax rates are low. Corporate taxes should be kept low and revenue and fairness goals in tax policy addressed with income and perhaps consumption taxes.
- Much of net job creation has come from young companies, many of which start small. Startups fell drastically in the recession. Taxes on small businesses should be structured so as to preserve the incentive to start companies and to grow existing companies. Important TPC work in this area.