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The Changing Face of Manufacturing

Marc Levinson

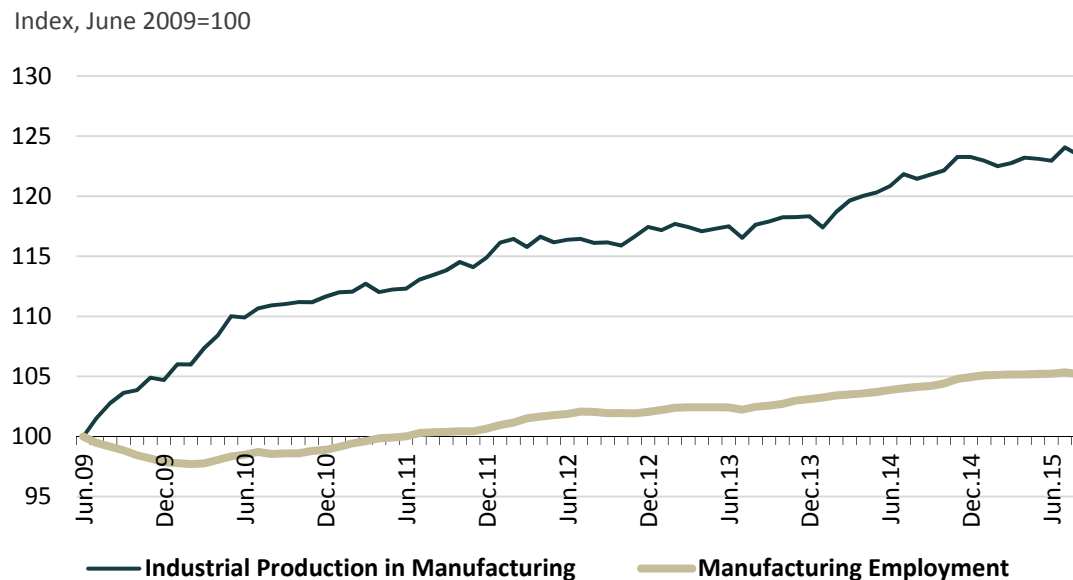
Presentation to
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on U.S.-Mexico Manufacturing

October 9, 2015

Manufacturing Is Growing, but not Factory Jobs

- Manufacturing output has increased 23% since June 2009
- Manufacturing employment is up only 6%

Manufacturing Output and Employment

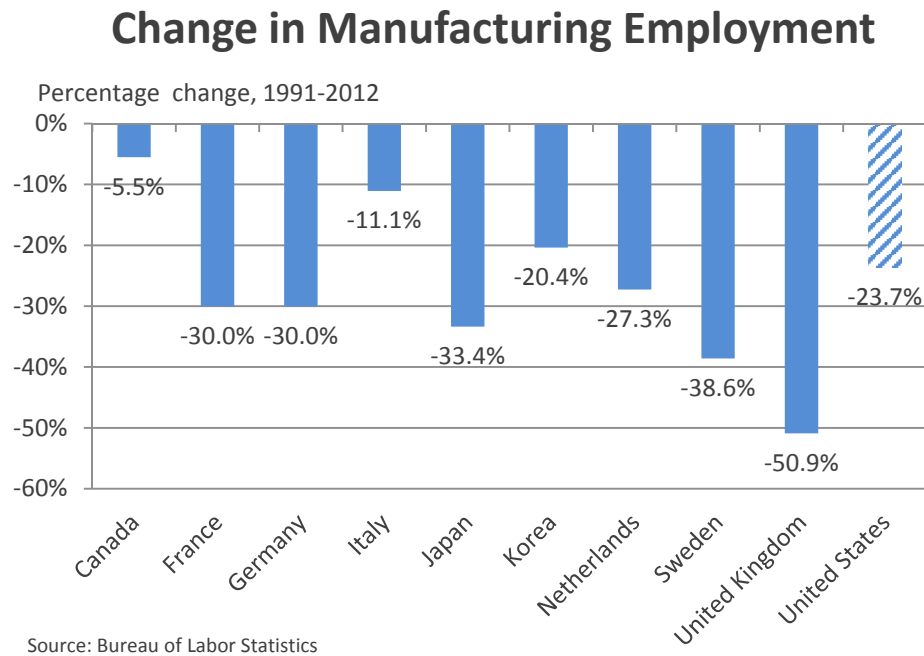


Source: Bureau of Labor Statistics, Federal Reserve Board



A Global Trend, Not Just a Domestic One

- Manufacturing work is declining in almost all high-income countries and many middle-income countries
- Measured change depends crucially on years selected

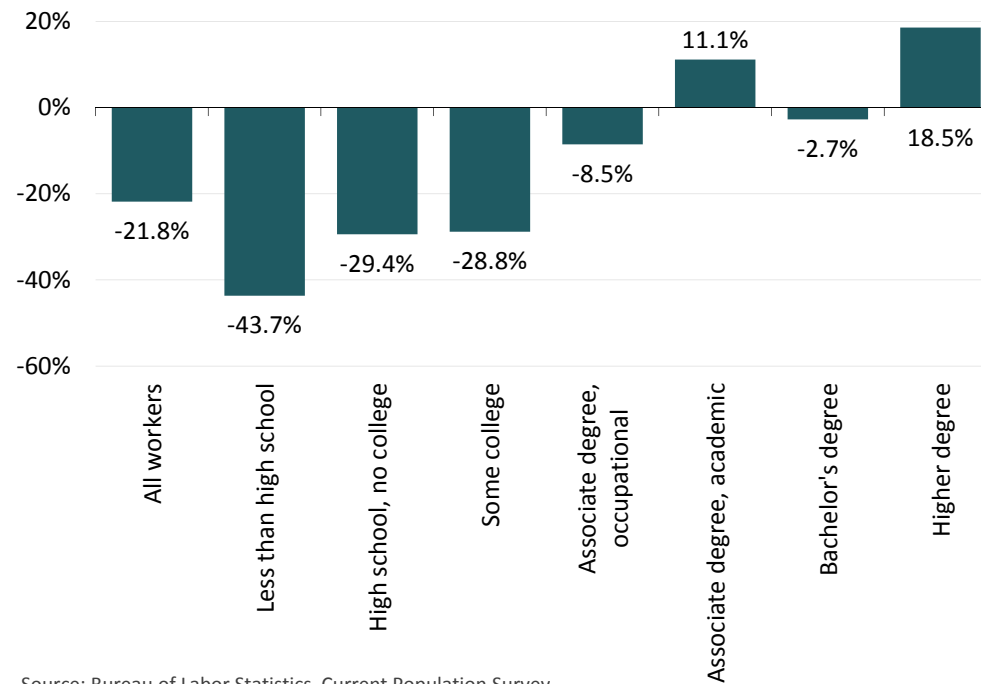


No Jobs for High-School Dropouts

- U.S. manufacturing labor force is increasingly educated
- Job losses are steepest for less educated workers

U.S. Manufacturing Workforce by Education

Percentage change, 2000-2014



Source: Bureau of Labor Statistics, Current Population Survey



Why the Job Dearth?

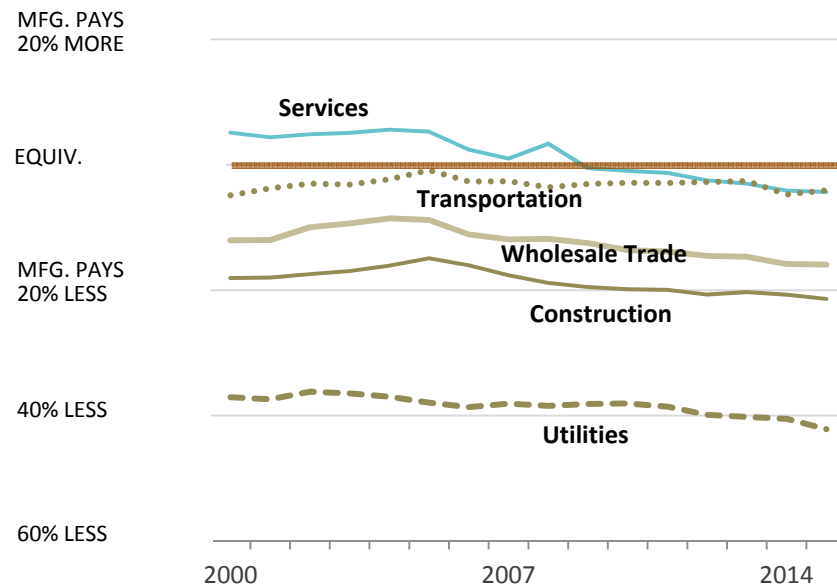
- Labor-intensive industry has left and will not return: apparel employment down 85% since 1990
- Remaining sectors are increasingly capital intensive: real fixed assets per manufacturing employee up 80% since 1998
- Vertical disintegration: some manufacturing-related work is no longer in manufacturing sector, but is counted in services, logistics, or information sectors



No Longer Where the Money Is

- Nonsupervisory work pays less in manufacturing, on average, than in services, construction, utilities, wholesale
- Average wage in manufacturing is higher than in leisure and retailing, but gap is narrowing

Wages in Manufacturing Relative to Other Sectors



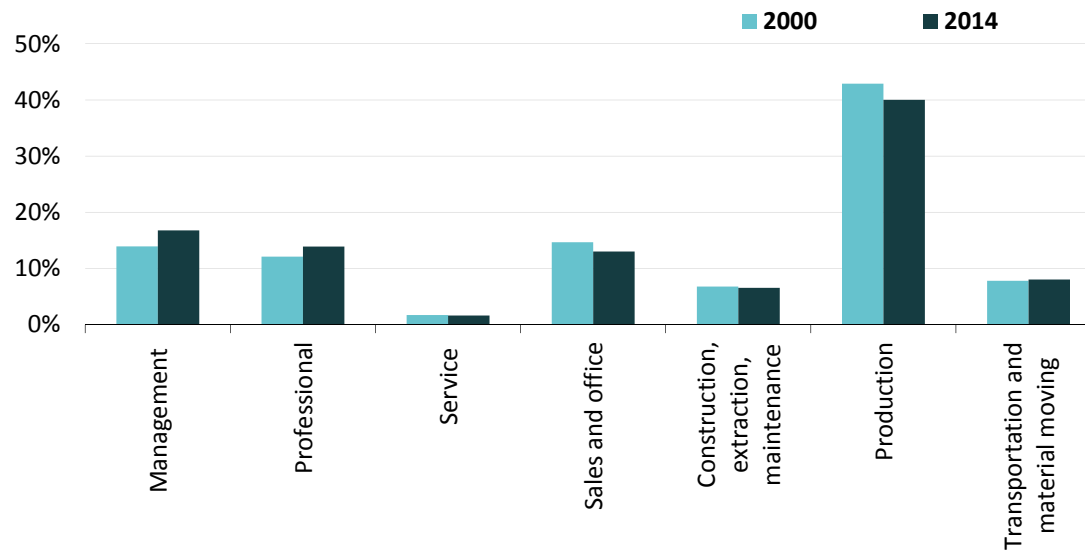
Source: CRS, from Bureau of Labor Statistics data. Wages for nonsupervisory workers only.



Manufacturing ≠ Production

- Manufacturing increasingly involves managing supply chains rather than physical transformation
- Most manufacturing workers do not produce goods

Manufacturing Workforce by Occupation



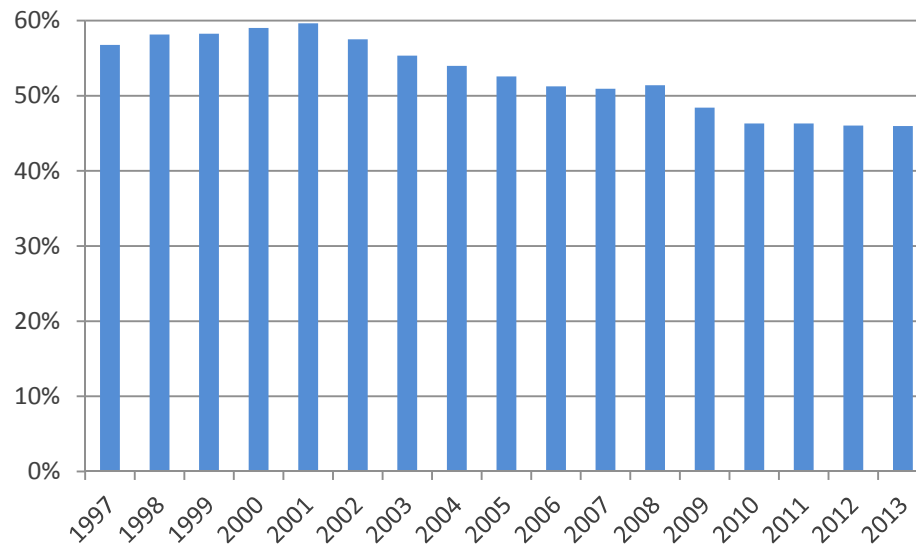
Source: CRS, from Bureau of Labor Statistics data.



Labor Matters Less

- Compensation share of manufacturing value added has fallen 12 percentage points since 2000
- This reflects diminished importance of labor inputs

Compensation Share of Manufacturing Value Added



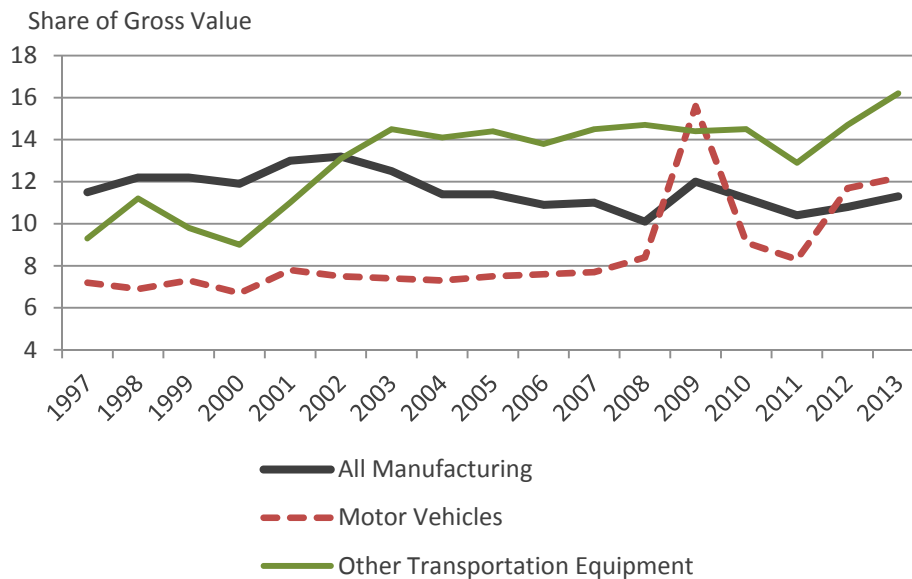
Source: Bureau of Economic Analysis



Analysis Needs to Look at Service Suppliers

- Purchased services account for rising share of gross value in autos, aircraft, apparel, textiles
- Where services are created affects distribution of the economic gains from manufacturing

Purchased-Services Inputs in U.S. Manufacturing



Source: Bureau of Economic Analysis KLEMS data.



Mismeasuring Manufacturing

- Intellectual property accounts for growing share of value related to manufacturing
- IP contribution to manufacturing sector is not adequately captured in data measuring domestic value added
- Trade data understate U.S. value added in imports, as intellectual property exports are undercounted and cannot be linked to goods imports

