THE GREAT AMERICAN MANUFACTURING BATTLE

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Currently, politicians, academics, and pundits in the United States are arguing over the need f and consequences of **innovation in the 21st century economy**. One important part of this deba involves the role of **manufacturing in employment and economic growth**, and the degree which public policy should focus on treating manufacturing as a "special sector" that deserve targeted government support. In this column, I'll provide a bit of an overview of this debate ar some historical data on the role of manufacturing in the economy.

On one side of the debate you have the *manufacturing romantics*, who see the sector as occupyir a special place in the economy, thus deserving unique support from government. For instanc **Laura D'Angela Tyson**, chair of the White House Council of Economic Advisors under **B Clinton**, has argued that "a strong manufacturing sector matters – and deserves the attention policy makers." She makes the case that manufacturing is special because of its role in exports, i potential for employment growth, and its overwhelming role in supporting industrial investments innovation.[1]

On the other side of the debate you have the *manufacturing skeptics*, who see the sector as one of many important sectors and n deserving of special government treatment. One representative of this position is C**hristina Romer**, who also served as chair of tl **Council of Economic Advisors** for **Barack Obama**. Romer writes: "Public policy needs to go beyond sentiment and history. It shou be based on hard evidence of market failures, and reliable data on the proposals' impact on jobs and income inequality," ar ultimately concludes: "So far, a persuasive case for a manufacturing policy remains to be made."[2]

The first thing to notice about this debate is that it is does not, like so many issues on American political discourse, follow fro partisan political positions. Both Romer and Tyson are Democrats who served in Democratic administrations. Indeed, writing *Bloomberg Businessweek*, Joshua Green has noted that, despite arguing over just about everything else, "President Barack Obar and the Republican candidates do seem to share the common conviction that it is not just desirable but a matter of urgent nation concern to revitalize U.S. manufacturing."[3]

To make sense of this debate requires understanding the role of **manufacturing** in the overall US economy. The US governme collects plentiful data on the economy by breaking it down into various sectors that include familiar categories such as **agricultu** and **mining**. The changing nature of the economy has led to changes in the categorization, such as the introduction of "informatio as a new sector in 1998.

Today, the **US manufacturing sector** has about 12 million workers, or 8 percent of the total workforce – about 150 million peopl Manufacturing comprises about 12 percent of the total US economy. Despite the fact that manufacturing makes up a relatively sma proportion of the economy, industries in the sector are responsible for about 70 percent of all industry research and development the US, and industry overall conducts about twice as much R&D as that supported by the federal government.

However, a snapshot of the **current state of manufacturing** makes more sense when placed in historical perspective. Over the pa decade or so, the number of jobs in manufacturing has declined precipitously. At the start of 2012 there were fewer jobs in U manufacturing than at any time since the early 1940s.[4] The US, of course is not alone in seeing the decrease of employment manufacturing. **Germany**, for instance, has seen the number of manufacturing jobs declining for more than 20 years – a decline about 30 percent since 1990 – and the sector currently employs fewer people than at any time since 1950.[5]

One important reason for the **decline in jobs in manufacturing** has been the gains in productivity in this sector, meaning that mo outputs result from fewer inputs, with labor as one of those inputs. One part of **productivity gains** has to do with **technologic innovation** that replaces lower-skilled workers; but another part is the opening up of supply chains and trade over the past sever decades as a consequence of **globalization**. Consequently, both technology and trade are the focus of political debates, typically the context of "bringing back" jobs that have been either displaced by technology or off-shored to other countries.

Manufacturing has also declined as a share of the overall US economy, from about 24 percent in 1970 to about half that amou today. This decline mirrors a similar decline in the **global economy**, and in many nations around the world. Economist Mark Perry the University of Michigan observes: "Australia's manufacturing/GDP ratio went from 22 percent in 1970 to 9.3 percent in 201 Brazil's ratio went from 24.5 to 13.5 percent, Canada's from 19 to 10.5 percent, Germany's from 31.5 to 18.7 percent, and Japan from 35 to 20 percent."[6]

Despite the fact that manufacturing jobs have declined and the sector represents a smaller percentage of economic activity, it wou be a mistake to conclude that the sector is in decline. Since 1950, **manufacturing output** has increased in the US by 300 perce after factoring out **inflation**, and manufacturing has bounced back strongly after a sharp decline during the global financial crisis.

Over the past decade, the **US manufacturing sector** has increased its investments in research and development. For instance, 2002 the **R&D intensity** (measured as the R&D expenditures divided by the sector's contribution to GDP) was 3.7 percent, and 2007 it had increased to 4.4 percent. Consequently, even as manufacturing declined overall as a portion of the US econom **industrial R&D** increased as a share of **GDP** in that same time period. Indeed, increased R&D spending may be a consequence the manufacturing sector moving away from low-skilled labor.

My reading of these data leaves me siding with the arguments put forward by **Christina Romer** rather than **Laura D'Angela Tyso** Manufacturing is indeed important, but it is no more special to the economy than is the multitude other sectors that comprise about 9 percent of jobs and economic activity. There are certainly better and worse government policies in support of **innovation and th economy**, and a focus on **health care**, **education**, **immigration**, and **taxes** generally makes more sense than creating speci policies in support of particular sectors of the economy. The **manufacturing romantics** will have to do a much better job arguing f the uniqueness of that sector, as I am not yet convinced.

As the **2012 US election** heats up, we can be sure that the great **manufacturing battle** will continue in the political arena. The fa that academics and pundits are debating a number of questions that can be addressed empirically gives hope that the debate mig see some sort of consensus reached. However, whether politicians would accept such a consensus is another issue altogether.

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