Where is Manufacturing Really Going?

written by Lauri Moon | September 21, 2016

A rational explanation of the two divergent views of U.S. manufacturing's future.

(IW – Becky Morgan: 9-7-16) It is true that some U.S. headquartered companies are shutting down operations here and moving them to Mexico or elsewhere. It is also true that some U.S. companies are reshoring their operations to the U.S. We are undergoing a significant adjustment in the location of manufacturing operations around the world. It's a logical one, especially following the often short-sighted decision to chase cheap Asian labor several years ago. But it's also a strategic one.

So what can we expect?

A continuation of this relocation process over at least the next decade. Why?

Because just as "right-sizing" occurs as markets shift, so will "right-locating." Sometimes this is to correct prior bad decisions; occasionally because of changing strategies; often because of the pursuit of new markets. The decision of where to locate manufacturing operations is not a simple one, especially as global environments change. And this is true for global companies headquartered around the world, not just those here.

Why has Toyota invested in significant manufacturing capability in North America? Because it believes in locating in its major markets. It is a strategy they continually evaluate and, so far, continually implement. With multiple foreign companies producing in the U.S. and U.S. companies producing worldwide, "buy American" is confusing at best.

Why are major U.S. manufacturers moving facilities? Primarily for two reasons: (1) to be close to their markets, and (2) to reduce costs. Globalization leads the first. The second is a bit tougher to generalize. The short-term focus on earnings that executives of publicly held U.S. companies have results from compensation plans and the active stock market here. Accounting rules often support those short-term decisions, at the expense of long-term thinking. And unfortunately, too many executives make choices aimed at minimizing taxes rather than creating a thriving future for their company. But those factors don't mean that all decisions to

locate abroad are bad ones. A company must be competitive and frequently that impacts optimum production location.

Lamentably, MillerCoors recently decided to shutter one of the best plants I've ever seen in favor of one a bit newer about 200 miles away. The Eden, N.C., operations team had created an outstanding culture and was regularly named one of the best U.S. plants in the company, but that wasn't enough. The newer facility in Virginia may quickly become just as good, but tell that to the former employees in North Carolina. This was a market access decision initiated by declining demand. A business decision, as they say. While that feels cold, the reality is the company had to right-size, which in this case also meant "right-locate.

Mergers, divestitures, infrastructure, capital requirements, work contracts, laws and regulations, water access and availability of a qualified workforce all impact location decisions. So does the location of markets and raw materials. Top executives who make these determinations, virtually always after an extensive study of options, are rarely bad people. They have multiple constituencies to consider, and employees are only one of those. An important one, but only one.

Effective product design coupled with speed-to-market with market-verified products can make labor costs inconsequential. But that doesn't mean locating capacity in the U.S. is more attractive. It just eliminates one of the simple factors that begat the offshoring craze several years ago.

Manufacturing is not dead, nor is it dying. As with anything else, it evolves. The how and the where are rapidly changing now for reasons we can expect to continue for at least a decade, if not longer.

New technologies and increasing expectations of immediate delivery are accelerating relocation decisions for both market and cost reasons.

So where is manufacturing really going? *Towards speed, technology, and a qualified workforce*. Wherever that may be tomorrow. If we want manufacturing to remain strong in the United States, focus on improving those factors that matter most.

(Becky Morgan is President, Fulcrum ConsultingWorks Inc.)

Industry 4.0: The Future of Competitiveness in U.S. Manufacturing

written by Lauri Moon | September 21, 2016

(Reshoring Initiative Blog — Sandy Montalbano D'Amico: 8-20-16) Industry 4.0 is defined as a fourth wave of technological advancement, driven by nine technology advances that will increase manufacturing productivity and increase competitiveness in manufacturing industries.

According to the Boston Consulting Group (BCG), "In this transformation, sensors, machines, workpieces and IT systems will be connected along the value chain beyond a single enterprise. These connected systems (also referred to as cyber physical systems) can interact with one another using standard Internet-based protocols and analyze data to predict failure, configure themselves, and adapt to changes. *Industry 4.0 will make it possible to gather and analyze data across machines, enabling faster, more flexible, and more efficient processes to produce higher-quality goods at reduced costs.*"

A Level Playing Field

Industry 4.0 has the potential to level the global playing field for U.S. firms and give them the opportunity to reshore more U.S. manufacturing. As American companies adopt a more comprehensive total cost analysis, they are finding that rising offshore labor rates combined with other "hidden costs" of offshoring often counterbalance any remaining savings from cheap price or labor abroad. They are also finding that separating research and development from manufacturing has a negative impact on innovation.

American companies that more accurately evaluate sourcing alternatives and adopt

4.0 technologies will be in an optimum position to increase competitiveness, take advantage of the benefits of localization, and manufacture profitably in the U.S. for the North American market.

The Future of Productivity and Growth

The Fourth Industrial Revolution was the focus of this year's World Economic Forum meeting in Davos. The scope and impact of this industrial revolution is expected to be transformational, and disrupt almost every industry in every country, changing entire systems of production, management, and governance. According to the global agenda, "there is clear evidence that the technologies that underpin the Fourth Industrial Revolution are having a major impact on businesses." A recent BCG report shows how connectivity and interaction among parts, machines, and humans will make production systems as much as 30 percent faster and 25 percent more efficient. Industry 4.0 has the potential to have a dramatic impact on U.S. manufacturing competitiveness and reshoring of U.S. jobs.

The Challenge for the United States

According to the Reshoring Initiative data report, the bleeding of manufacturing jobs to offshore has stopped. Reshoring, including FDI, balanced offshoring in 2015 as it did in 2014. In comparison, in 2000-2007 the United States had a net loss of about 200,000 manufacturing jobs per year to offshoring.

According to Reshoring Initiative calculations, about 265,000 manufacturing jobs have been brought to the U.S. from offshore in the last seven years. That job gain is the result of both new reshoring—the return of manufacturing work by U.S. headquartered companies—and foreign direct investment (FDI) in the manufacturing sector by foreign headquartered companies. Those 265,000 jobs represent about 30% of the total increase in U.S. manufacturing jobs since the recent low of 11.45 million in February 2010.

Now, the challenge is to bring back another 3-4 million manufacturing jobs that are still offshore as measured by our $500 billion/year trade deficit. Between the health of the industry overall and the balancing of the job flow, the beginnings of a manufacturing renaissance are evident, but many actions are required to maintain

the momentum.

How Modern Technology Solutions and Better Sourcing Decisions Impact Reshoring

We need continuous improvement in operations and in sourcing decisions to make domestic production the clear first choice in more cases.

Corporate Investment

The benefit of Industry 4.0 for U.S. companies is the increased productivity and efficiency that enable more flexible and efficient processes to produce higher-quality goods at reduced costs. The first step then must be continued corporate investment in the nine technologies that are transforming industrial production – the building blocks of Industry 4.0:

- Big data and analytics
- Robots
- Simulation
- Horizontal and Vertical System Integration
- The Industrial Internet of Things
- Cyber Security
- The Cloud
- Additive Manufacturing
- Augmented Reality

Government Action

Second, government action to make the U.S. more competitive: skills training, lower nominal corporate tax rate, and a combination of an overall lower USD and an end of offshore currency manipulation.

Better Sourcing Decisions

Third, consistent, disciplined use of Total Cost of Ownership (TCO) analysis so companies recognize that domestic manufacture is in most cases their best choice.

Reporting Success Stories

Finally, thorough reporting on reshoring success stories so that corporations realize that reshoring is worth reevaluating and investing in … and so prospective skilled workers realize that their best career opportunities might again be in manufacturing.

The Winning Strategy

The impact of offshoring on the U.S. economy and the environment has been significant. According to the Economic Policy Institute, the growing U.S. trade deficit with China alone cost 3.2 million jobs between 2001 and 2013. Job losses occurred in every state, primarily in manufacturing. Offshored jobs have diminished American employment opportunities, helped contribute to wage erosion, had a dramatic and negative effect on the domestic economy, and negatively impacted the environment through higher carbon emissions and other pollution from some developing countries and from long distance transport.

The winning strategy is balancing the trade deficit with a strong investment in new technology and skills training and increased corporate use of total cost for sourcing and plant siting decisions.

By reducing our trade deficit, reshoring has the potential to increase US manufacturing by 25%, curtail unemployment and the budget deficit, improve income equality, strengthen our defense industry and motivate skilled workforce recruitment. Achieving this potential requires your help at your company and in your community!

In summary, Industry 4.0 solutions give manufacturers the tools to increase speed to market, and boost productivity and the competitiveness needed to support reshoring efforts.

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The Reshoring Initiative provides a broad range of free resources to bring back more manufacturing, including:

- Total Cost of Ownership Estimator® — A free online tool to help OEMs evaluate sourcing alternatives and suppliers.

- Reshoring Library — Contains 3500+ linked articles on reshoring. See what your competitors are reshoring. Learn from them. See what companies in your customers' industries are reshoring. Sell to them.
- Case Studies — Submit your own reshoring case for free publicity and to make reshoring more visible. Receive a free "Manufacturing is Cool" T-shirt.
- Economic Development Program — Strengthen your region by replacing imports with local production, ideally yours. Have your local economic developers contact us.

(Sandy Montalbano D'Amico is Consultant to the Reshoring Initiative®)

This New GE Factory is a Blueprint for the Future of Manufacturing

written by Lauri Moon | September 21, 2016

The brilliant factory is GE's new take on how we make things. It involves machines are embedded with sensors and connected to the Industrial Internet. The factory uses GE's Predix software platform to stream data …more.…

Read the full article at www.gereports.com.

Companies Bringing Manufacturing

Jobs Back to US

written by Lauri Moon | September 21, 2016

(IW – Adrienne Selko: 8-25-16) From January 2010 until July 2016 the Reshoring Initiative estimates that 265,000 jobs have come back to the United States from abroad.

The Reshoring Initiative's 2015 Reshoring Report found that the reasons companies gave for coming back to the U.S. included:

- Government incentives
- Ecosystems/localization
- Proximity to customers
- Skilled workforce

At the same time, companies cited lower quality, supply interruption (this category had the largest increase from last year), high freight costs and delivery as leading problems offshore. Cumulatively, rising wages and total cost have been major drivers in reshoring decisions.

Regionally, the trend remained strongest in the Southeast and Texas, but in 2015 the West displaced the Midwest to hold second place for most jobs shifted from offshore.

See below the list of some of the companies that have brought jobs back. The list was compiled by the Reshoring Initiative for 24/7 Wall St. and is based on company announcements.

Ford – 3200 jobs that went to Georgia

Boeing – 2200 jobs that went to Missouri

General Electric – 2656 jobs that went to Kentucky, New York and Ohio

General Motors – 2345 jobs that went to Tennessee and Michigan

Caterpillar – 2100 jobs that went to Georgia and Texas

Flextronics – 1700 jobs that went to Texas

Farouk Systems – 1200 jobs that went to Texas

Mars – 1000 jobs that went to Kansas

Why Manufacturing Education Needs to Advance, Just Like You Have

written by Lauri Moon | September 21, 2016

Stuck in the Industrial Age, skills training doesn't place enough emphasis on smart, connected product manufacturing, advanced material development and digital design integration.

(IW – Randy Swearer: 8-23-16) If you've read the Manufacturing Institute report, you've heard the statistics: 84% of manufacturing executives believe there is a talent shortage in the U.S. and worry that they won't find the workforce they need to keep up with the increasingly more advanced and sophisticated demands of the industry.

And talent is the number one driver of global manufacturing competitiveness.

So why can't manufacturers find and attract skilled talent?

One reason is that our manufacturing education system is stuck in the old Industrial Age of metalworking and welding. It doesn't place enough emphasis on smart, connected product

manufacturing, advanced material development and digital design integration.

Due to this gap, students—your next potential employees—may not be aware of exciting developments like 3-D prototyping and printing taking place within the industry or the multitude of careers available to them.

With the world economy placing a higher value on advanced manufacturing, we need to place a higher value on advancing manufacturing education.

Here are some ways we can build a more advanced and dynamic workforce:

Create Hands-on Opportunities Within Education Systems

As with most disciplines at the university level, manufacturing curricula in fields like engineering, software development and IT are still taught from a textbook. The setting and structure take away the hands-on, real-world learning that students could be experiencing. They miss out on the exciting part, and don't really understand what manufacturing is like on a day-to-day basis.

Businesses and educational institutions need to work together to develop new curricula that provide hands-on, learning-through-making opportunities.

We are beginning to see the success of these collaborative learning environments at several universities, such as *Rochester Institute of Technology's Studio 9.30*, a multidisciplinary studio focused on the development of health-technology products that benefit community partners. *Penn State Behrend's new Advancing Manufacturing and Innovation Center* provides a space for academic and industry partners to collaborate on research and manufacturing projects.

Not only will these students have real-world experience, but they will also understand the vast changes and advancements that are taking place within our industry.

Focus on Real-world Application of Skills

As long as traditional grades continue to be the marker for success at higher institutes of learning, students won't gain the critical hands-on education to prepare them for their future careers.

According to the 2014 U.S. Department of Labor report, 65% of careers that students will be

taking on in the future don't exist today. Therefore, the chasm between what students learn in their current classroom environment and the expectation for skills in the real world is wide and difficult to breach.

This gap will only close if universities take a bold approach and redefine what success means and how students get there. For example, an influx of teachers is utilizing online platforms to help students publish work done outside of the classroom, so it can be accounted for as part of the curriculum. Through learning platforms, employers are able to look for and assess design and engineering candidates beyond a letter grade by viewing an individual's e-portfolio.

Georgia Institute of Technology student Israel Del Toro's e-portfolio consists of hypothetical as well as real-world design projects he completed in and outside the classroom, such as a new hand-held power tool, an electric razor and an innovative light fixture.

If you haven't done so already, encourage your hiring managers to place value on applicants who have pursued external opportunities outside the classroom, and have something to show for it.

Develop and Elevate Micro-credentialing Programs for Students and Employees

With school curricula slow to change, students are increasingly going across disciplines and outside of the classroom to learn new things and pursue their interests.

With the proliferation of organizations like *General Assembly*, *Codecademy* and even public makerspaces like *TechShop*, students not only want to learn new skills; they also want to be recognized for their accomplishments outside of school. *With micro-credentialing and digital badges, they can highlight their new competencies to potential employers*.

More than a hundred educational institutions, private companies and employment groups have banded together in a recent initiative called *Connecting Credentials* to make it easier for candidates and employers to build the skill sets they need. In addition, *Certiport* works with software companies to develop and administer certifications in specialized industry competencies, such as 3D design skills through AutoCAD and Autodesk Fusion 360 certifications.

Both the talent gap and education divide are not going to be solved overnight. However, a good starting point is a collective conversation around advancing the education system to better fit

this ever-changing industry. Ultimately, working together will lead us to a better-equipped advanced manufacturing workforce.

(Randy Swearer is the vice president of global education experiences for the design and engineering software company Autodesk.)

‘Smart Operations’ New Key to Manufacturing Excellence

written by Lauri Moon | September 21, 2016

Smart operations use pervasive data collection, advanced analytics, technology investments and deeper collaboration with partners to prepare their value streams for the next industrial revolution.

(MH&L – Staff: 8-15-16) Over the next three years, a growing number of successful manufacturers will enhance their manufacturing processes with smart operations, a broader supply chain strategy that extends beyond the factory walls, according a UPS report, The Rise of Smart Operations: Reaching New Levels of Operational Excellence.

Smart operations use pervasive data collection, advanced analytics, technology investments and deeper collaboration with partners.

Lean and Six Sigma methods remain the standard for manufacturers, but continuous improvement has a downside, according to the report. Overly optimized processes can become inflexible, leaving the business unable to adjust rapidly to disruptions in the supply chain and changing customer demand.

However smart operations are better positioned than others to compete and in today’s fluctuating markets because increased visibility of inventory location and transportation allow companies to better analyze and quickly manage changes to

their supply chain both upstream and downstream of the factory, the report says.

“Smart operations are crucial to the long-term success of manufacturing companies,” said Derrick Johnson, vice president of marketing at UPS. “The strategy enables manufacturers with limited resources to serve their increasingly demanding customers more flexibly.”

The report, which was done with IDC research firm, assessed how far along companies are in implementing smart operations. The report showed that 53% of companies were at a relatively low level of overall maturity. Still, 47% of the survey respondents said their company’s progress toward smart operations exceeded that of their peers.

There are five areas essential to smart operations:

- Connected products: Increasingly, industrial manufacturers sell products that are connected in the cloud. This connectivity allows companies to offer better maintenance service, which sometimes even generates new revenue streams.
- Connected assets: Manufacturers with connected assets are better able to monitor their operations to anticipate and even correct problems before they occur.
- Supply chain decision making: The data and analytic tools used in smart operations help manufacturers resolve issues in the supply chain faster.
- Buy-side value chain: Smart operations allow manufacturers to automate purchasing with their vendors and manage the inbound transportation of those supplies.
- Sell-side value chain: Smart operations allow manufacturers to change transportation modes and speeds as well as destinations based on shifting customer demand.

IMC Clients Make “Inc. 5000 2016” List

written by Lauri Moon | September 21, 2016
Congratulations to DiamondBack Truck Covers and Advanced Powder Products for making the Inc. 5000 2016 List.

This is Inc.’s annual ranking of the fastest-growing private companies in America.
Click here for Advanced Powder Products listing.
Click here for DiamondBack Truck Covers listing.

U.S. Expected to Lead as the Top Manufacturing Nation by 2020

written by Lauri Moon | September 21, 2016
WASHINGTON, Dec. 4, 2015 /PRNewswire/ –The United States is expected to become the most competitive manufacturing nation over the next five years, with the current leader China sliding into second position, according to the upcoming 2016 Global Manufacturing Competitiveness Index report from Deloitte Touche Tohmatsu Limited’s (Deloitte Global) Global Consumer & Industrial Products Industry group and the US Council on Competitiveness (Council). Read from PR Newswire [more]

The Reshoring Challenge: Why and How CEOs are Moving Jobs Back to America

written by Lauri Moon | September 21, 2016

Don Rongione had an ally in his effort to shift hat production of the Bollman company from China to Pennsylvania — actor Samuel L. Jackson, who was a fan of the company's Kangol 504 woolen knit cap.

(Chief Executive – William J. Holstein: 8-2-16) For his reshoring initiative with the Bollman company, Don Rongione paid to move unique knitting equipment from China to Pennsylvania in part by using a YouTube video of Jackson to appeal to investors on Kickstarter, the crowdsourcing website.

Bollman, which says it is America's oldest hat company, with more than $10 million in annual sales, bought the Kangol brand in 2001 from a British company. That company had previously sent all of its custom-made machines dating back to the 1930s and 1940s to southern China, where it made the beret-like Kangol hats. So Bollman, in effect, inherited a factory in China, containing the special machines that performed at much lower costs than any new machine might.

Bollman struggled to manage the factory profitably and ultimately sold it to a Chinese hat maker, but that arrangement fell apart and the idea to simply move the equipment to central Pennsylvania was born. Rongione set aside some of the employee-owned company's funds, raised some from the state of Pennsylvania and then launched the Kickstarter campaign. Jackson, wearing a t-shirt that reads "Motherfunder," a slight variation of a word he's known for uttering on screen, appealed to viewers to support the move. They did, ponying up more than $100,000.

The company recently moved 10 of the knitting machines, is preparing to move dozens more, and is hiring workers at a starting hourly wage of $10.30 an hour. But it is finding that its workers, both new and old, have a big learning curve ahead of them in absorbing how to master the knitting process, which is new to the company.

“Hiring people with the specific knowledge has been virtually impossible,” Rongione says. “No one has the knowledge on this type of equipment.” So the company has brought in experts from Britain who are familiar with the equipment and worked with a local community college in Reading, Pennsylvania, to train students to become apprentices. The final outcome remains uncertain. “We still have a mountain to climb,” Rongione says.

Homeward bound

More American CEOs are, in fact, deciding to bring home jobs from China and elsewhere. After going only in one direction for many years, the Reshoring Initiative, based in Kildeer, Illinois, reports that the total number of manufacturing jobs that were created in the U.S. in 2015 slightly exceeded the number of jobs shipped to other countries. It estimates that the combination of reshoring and foreign direct investment brought about 67,000 jobs back to the U.S. in 2015 versus 60,000 that went out, for a small net margin of 7,000 jobs.

About 60% of the jobs returning come from China. The auto industry is the most significant in terms of jobs repatriated, suggesting that large companies are the prime movers. But the Reshoring Initiative says companies of less than $1 billion in annual sales account for about half the jobs being created in the U.S.

Read on…

The Effectiveness of R&D Tax Credits

written by Lauri Moon | September 21, 2016

(SSTI – Jonathan Dworin: 7-28-16) When the U.S. government made their R&D tax credit *permanent* in December 2015, it made a long-term commitment to using incentives to entice private firms to invest in research and development, joining many countries around the world. Although most studies find that R&D tax incentives promote R&D, there is little consensus on the extent of this effect. A recent firm-level analysis from the United Kingdom finds some of the

strongest evidence to date on the effectiveness of R&D tax credits in incentivizing innovation. At the same time, however, other studies suggest other elements of a national economy such as education and infrastructure may be more important.

In *Do Tax Incentives for Research Increase Firm Innovation? An RD Design for R&D*, Antoine Dechezleprêtre, Elias Einiö, Ralf Martin, Kieu-Trang Nguyen, and John Van Reenen – four researchers from the London School of Economics – analyze a 2008 policy that changed the threshold for what size businesses counted as a small and medium-enterprise (SME) for the UK R&D Tax Credit system. Although the United Kingdom has had an R&D tax credit in place since the year 2000, firms with assets above €43 million (47.6 million USD) but below €86 million (95.2 million USD) were not counted as SME's prior to 2008; after the policy change, however, they were. Overall, the authors find that UK business R&D would be 10 percent lower in the absence of the tax breaks.

The authors utilize a "regression discontinuity design" to best view the impacts of the new tax threshold. Using confidential access to firm tax records and accounts from more than two million businesses, the authors are able to assess how firms changed their approach to R&D before and after the change went into place. *They find that expenditures on R&D roughly doubled and patenting increased by approximately 60 percent.* Additionally, the authors find that firms receiving a larger incentive to perform R&D through the policy change grew in both sales revenue and in number of jobs.

No other policies were implemented around the threshold analyzed, the authors argue, so the large jumps in both R&D expenditures and in patenting were likely due to the new policy. While increases in R&D expenditures are noteworthy, the authors consider the impact on innovation and patenting particularly important. One concern with R&D tax credits, as mentioned by the authors, is that some firms may re-label other activities that were not previously considered R&D as a means to take advantage of the credits. While this would, perhaps, explain some of the variation in R&D expenditures, there is no incentive to do this for patenting. Furthermore, the authors find evidence that the quality of patents were not negatively impacted; firms increased the rate at which they applied for both EU-wide patents and UK-only patents, while the citation rate per patent did not decline.

The authors find that a 10 percent fall in the price of R&D generates an approximately 26 percent increase in the volume of R&D, an amount that is larger than that found in previous

studies. The authors suggest that one potential reason for this is that most studies focus on large firms or on aggregate amounts that are heavily influenced by large firms, while the UK policy analyzed by the authors focuses explicitly on SMEs. Given that smaller firms are more likely to face cash constraints to fund their innovative endeavors, they were more responsive to the policy that effectively made these activities more affordable.

In the newly released book, *Rethinking Investment Incentives: Trends and Policy Options*, the fourth chapter entitled *Use of Investment Incentives: The Cases of R&D Related Incentives and International Investment Agreements* and written by Christian Bellak and Markus Leibrecht, highlights the economic case for investment incentives, especially around topics such as research and development.

In the chapter, the authors suggest that the most important justification for public R&D investment incentives is rooted in an apparent positive discrepancy between private and social returns from R&D, which could lead to an underinvestment in R&D by profit-maximizing firms.

In categorizing R&D incentives, the authors distinguish between *direct incentives* and *fiscal incentives* and find considerable variation across nations. While all OECD countries offer direct incentives for R&D through subsidies, loans, and government procurement, not all countries grant fiscal incentives, which measure revenues foregone through programs such as R&D tax credits, R&D allowances, and other indirect government support.

The authors present varying degrees of empirical evidence on the effectiveness of R&D investment incentives, but ultimately conclude by noting that these incentives are of second-order importance for promoting R&D intensiveness, especially in developing countries. Instead, the authors posit, countries should focus more on continuously improving the institutions needed to conduct intensive R&D, such as education systems that develop human capital, telecommunication infrastructure to support connectivity, responsible governance, and a transparent approach to patents.

Coupled together, these two pieces shed light on the impacts of research and development tax credits. One potential issue in measuring the effectiveness of R&D tax credits is that most empirical analyses take the perspective of the state or nation offering the credit and evaluate the aggregate, rather than assessing the impact on the firm.

At the aggregate level, Bellak and Leibrecht note that effectiveness of these policies is mixed;

although many nations offer incentives for R&D, many factors could be considered more important to boosting innovation. For firms in an already developed economy, the Dechezleprêtre et al study, however, shows that *R&D tax credit policies could be particularly meaningful to SMEs*.

The findings of Bellak and Leibrecht's chapter largely echo a 2013 *Digest* article that examined the effectiveness of tax credits at the state level. That article found R&D tax credits "can be an effective tool in a state's economic development strategy, but only when designed with a particular state's economy in mind. *R&D incentives are most effective in states that already have a significant level of research activity, and a substantial high-tech business community.*" In other words, R&D tax credits may help to incentivize innovative activities, but they are hardly the only force at play.