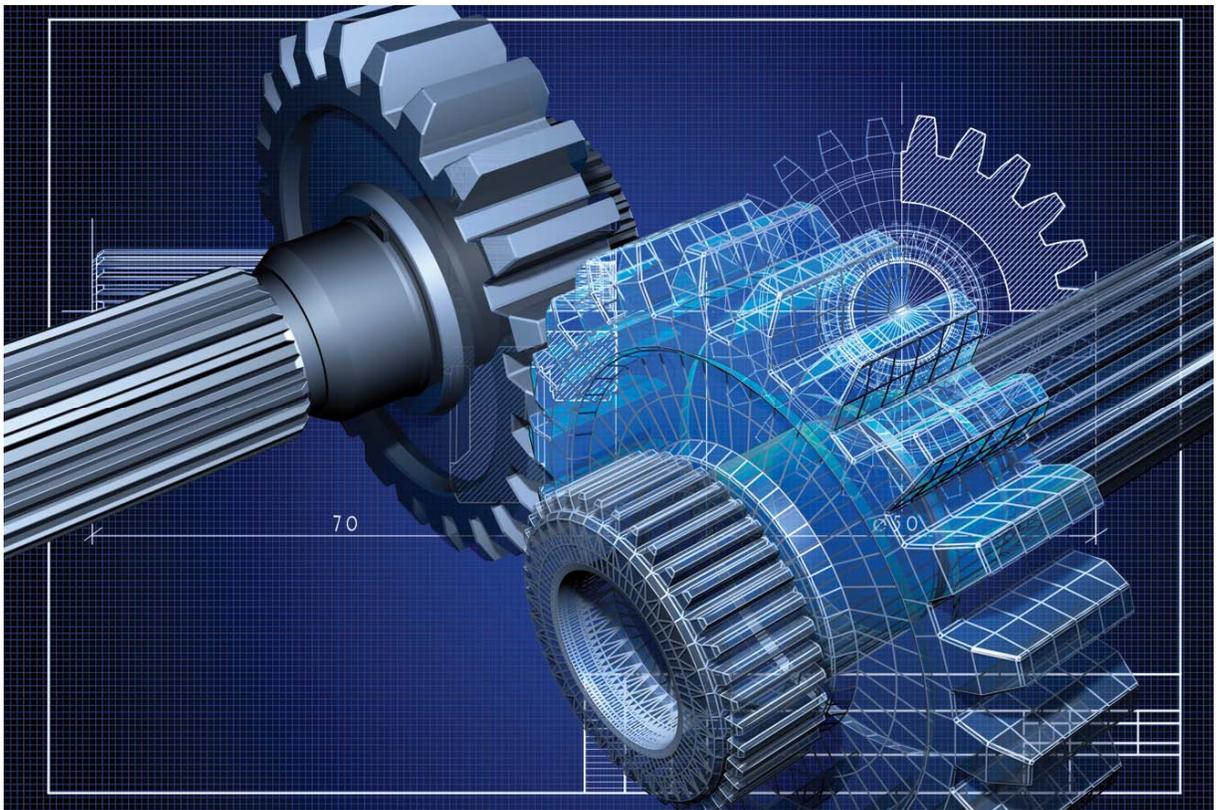


ADVISORY COMMITTEE ON SUPPLY CHAIN COMPETITIVENESS



Sept
2013

Regulatory Subcommittee

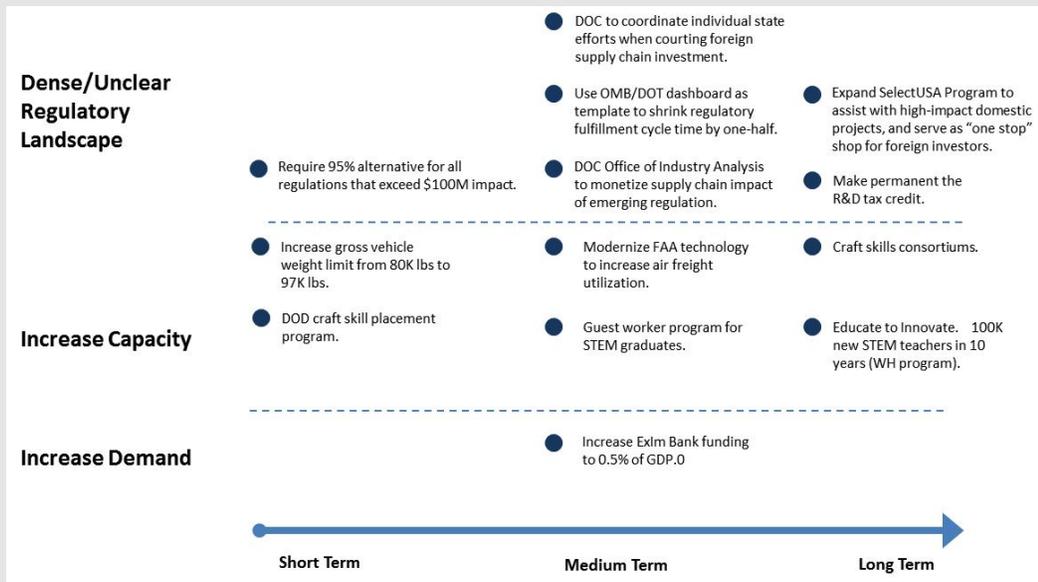
Getting the gears of regulation to mesh and drive supply chain competitiveness.

EXECUTIVE SUMMARY

US Supply Chain competitiveness can be improved by addressing six problems that are organized into three themes below

- 1) Overlapping and inconsistent regulation
- 2) Outdated air traffic control technology
- 3) Outdated ground transportation regulation
- 4) Lack of supply chain talent
- 5) Insufficient definition and advocacy for supply chain impact when new regulation is under development.
- 6) Insufficient demand stimulation

Recommendations (blue bullets) are arrayed by benefits timing.

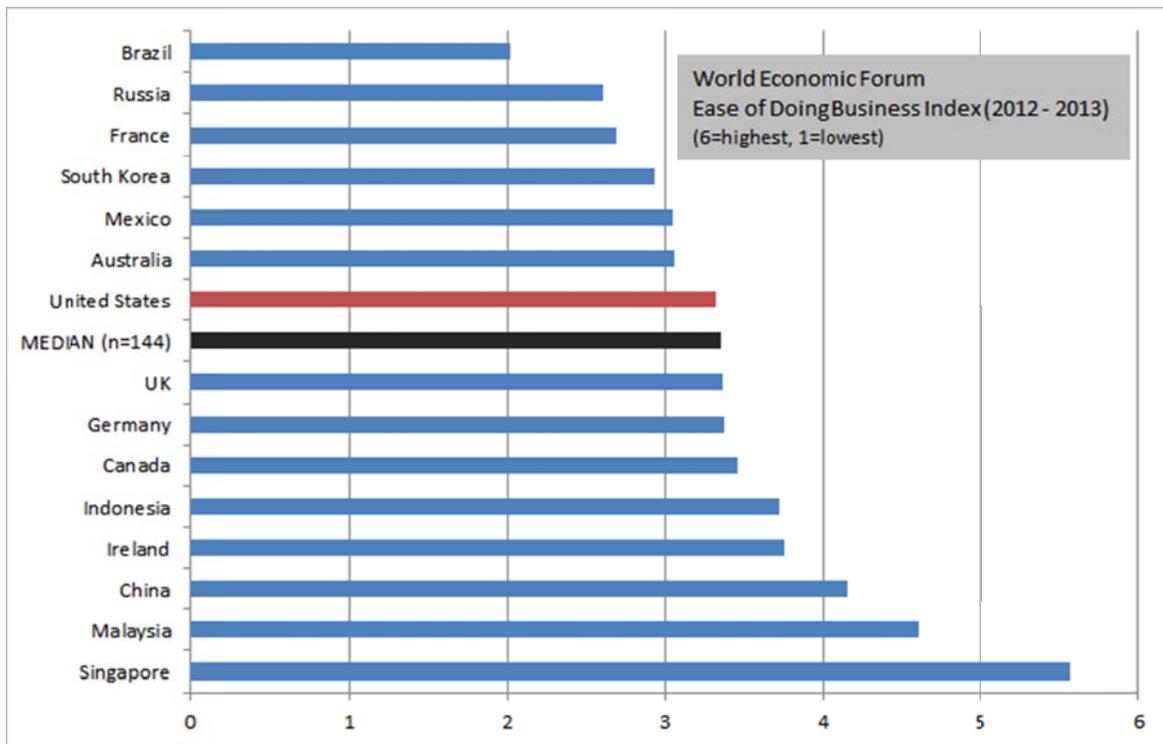


Recommendations are focused on those items that are pragmatic, from a public policy perspective. As with most impactful initiatives, the value is delivered with effective execution. Ideation is only the start.

PROBLEM STATEMENT #1

Overlapping and inconsistent regulations impedes US supply chain operations and growth.

Business leaders favor regulatory transparency and predictability. The World Economic Forum's Global Competitiveness Index places the US 76th in the world for regulatory burden, which is slightly below the median. Supply Chain leaders view the United States as undistinguished amongst other choices when making geographic decisions to invest and grow.



United States' median score barely edges out France and Mexico for regulatory burden, and is substantially surpassed by China, Malaysia, and Singapore.

Recommendations

1. Establish a federal role to help domestic companies navigate regulatory requirements, particularly in overlapping regulations from federal, state, and local levels. One approach is to **expand the SelectUSA program** (presently focused on foreign investment in US), by including high impact domestic projects in its scope. This scope should include web-based tutorials to educate companies on regulatory requirements (federal and state), and assign regulatory coaches to high-impact projects. These individuals would provide insight and guidance on navigating regulatory process, but do not expedite requests. If we are willing to assist international companies choose the United States for supply chain investment, we should do the same for domestic US companies who might otherwise choose international venues for expansion and growth.
2. Apply lessons learned from OMB/DOT Dashboard, which is a scorecard highlighting regulatory cycle times for significant infrastructure projects. Select six high-impact **private sector growth/expansion projects** completed in the last 12 months. Assign program managers with lean-six-sigma style skills to (a) create historical value stream map for regulatory requirements, and (b) identify recommendations that would **shrink regulatory fulfillment cycle times by one-half**, without sacrificing requirements.
3. **Make permanent the research and development tax credit.** The US, which pioneered the R&D tax credit in 1981, has not kept pace with other OECD countries that have since instituted larger credits. Furthermore, the US has kept R&D tax credit temporary for decades, necessitating periodic renewals. This practice deprives companies of the certainty needed for large scale/long range investments. This certainty is available in other countries.

SOURCES

Game Changers: Five Opportunities for US Growth and Renewal; McKinsey Global Institute, July 2013.

REPORT TO THE PRESIDENT, Rebuilding America's Infrastructure: Cutting Timelines and Improving Outcomes for Federal Permitting and Review of Infrastructure Projects, May 2013

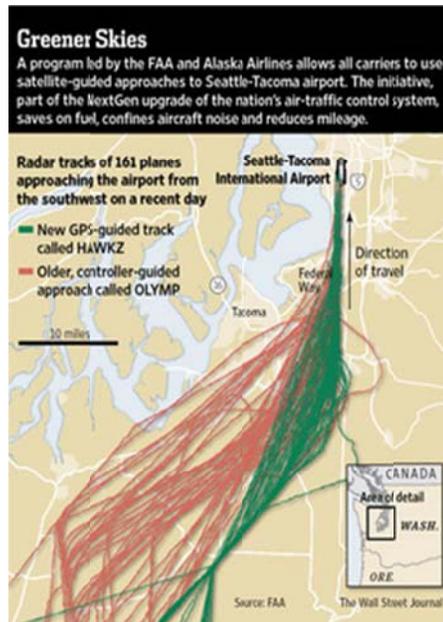
PROBLEM STATEMENT #2

Air traffic navigation technologies have not kept pace with supply chain growth and efficiency gains.

On any given day, more than 85,000 flights are in the skies in United States, of which one-third are commercial carriers. This translates into roughly 5,000 planes concurrently airborne, directed by more than 15,000 federal air traffic controllers. While the U.S. air traffic system has a strong safety record, the network is antiquated and is blamed for delays and other inefficiencies that cost billions of dollars annually. Today's radar-based system uses 1950's era technologies, and does not leverage modern satellite-enabled technology.

In 2004, the Federal Aviation Administration (FAA) launched NextGen, a 20-year plan to renovate the system including upgraded computers and radar, implementation of a new communications network to replace radios, and a satellite based surveillance system that dramatically increases situational awareness for both the pilot and controller communities. The objective is to manage air-traffic more precisely by developing and implementing new flight and ground-based procedures and by introducing new technologies that permit aircraft to operate more efficiently. **A successful NextGen implementation means less hold time on the ground and in the air.** This approach will shave crucial minutes off flight times, which reduces environmental impact and increases air-lane capacity to move people and air cargo.

Example of the benefits demonstrated with one airline in one airport.



Airlines will be required to spend approximately \$7 billion of NextGen's total cost, and have already invested in upgraded computer systems and cockpit avionics. However, the return on this investment is not yet in hand, because the initiative has been poorly managed. At a recent Congressional hearing, the FAA noted its initial plans did not address implementation costs or how technologies would be developed or integrated. In addition, where new performance-based navigation routes and procedures have been developed, FAA's lengthy procedure development process has delayed implementation of new routes.

While the initial program cost estimates in 2004 were \$40 billion over a twenty-year period, the program could see a delay of over 10 years at three times the budgeted expenditures.

Recommendations

FAA should implement the solution in smaller pieces than a massive 10+ year national program. FAA has proven unable to manage a national change program of this scale. Shrink the scope, firm the requirements, resolve critical design decisions, and **pilot the technology in limited airports that serve major supply chain hubs.** Apply lessons to subsequent implementation waves of airports.

Leadership within the FAA must focus on stakeholder engagement and confidence building since airlines will not invest significant capital without a concise understanding of its rate of return and benefit. The agency must make final decisions on key issues that are causing stakeholder investment reluctance.

Congress should identify and set specific time and program milestones while holding the FAA administrator accountable for their attainment. The Inspector General of the Department of Transportation should provide immediate and quantifiable reporting on the progress in meeting these thresholds.

Communities where environmental and citizen resistance has delayed NextGen progress must be apprised of the long-term program benefits.

Potential Impact & Benefit:

NextGen has potential to save billions of dollars in the future, but its maximum benefits will not be realized until significant technological and policy milestones are reached. Once fully operational, the program will reduce airport congestion, increase safety, produce significant fuel savings and derive environmental benefits not coffered through the current radar-based air navigation system. Implementation of NextGen capabilities on a limited scale in Alaska and at cargo-centric airports in the lower 48 indicate that fuel savings of up to 5% can be attained with new, more efficient, procedures alone. The major payoff, however, will await the implementation of advanced ADS-B avionics that will allow pilots to better control the flight environment thereby limiting delays and enabling the more efficient delivery of goods and services. According to the latest FAA estimate, NetGen could save 1.4 billion gallons of fuel through 2018, and reduce carbon emissions by 5.380 million tons annually. FAA estimates 25% to 35% delay reductions from improved technology, with associated industry annual savings from \$700M to \$1.25B. This translates into faster/cheaper/safer movement of people and freight. The total cost of passenger delays alone is estimated to exceed \$5B annually. Clearly, the opportunity is significant.

SOURCES

The Federal Aviation Administration
Inspector General, U.S. Department of Transportation, *FAA's Progress and Challenges in Advancing the Next Generation Air Transport System*, July 17, 2013
The Wall Street Journal, August 19, 2013
General Aviation News, July 17, 2013

PROBLEM STATEMENT #3

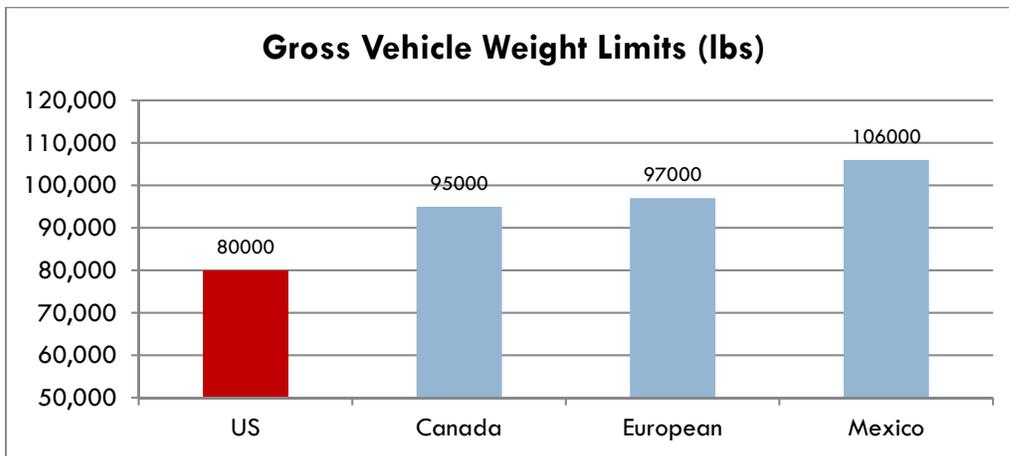
Federal gross weight limit of 80,000 lbs is rooted in 25-year old regulation that has not kept pace with logistics and transportation advancements.

For more than 25 years, the federal weight limit has been set at 80,000 lbs. – a regulation that challenges our safety, economy, environment, competitiveness, and infrastructure. Companies that ship heavy goods often hit the federal weight limit with significant unused space in their trailers, requiring the use of more trucks than necessary.

The recent HOS (Hours of Service) charges coupled with the federal weight limit, rise in diesel fuel prices has affected the competitiveness of US goods and hinders the economic recovery.

U.S. Department of Transportation estimates that freight hauled by U.S. trucks will double by 2035.

The US gross weight limits trails our major trading partners



Recommendations

Enact and implement the Safe & Efficient Transportation Act (SETA) HR 612 to **increase the federal gross vehicle weight limit on interstate highways to 97,000 lbs with an additional axle**. This proposal would improve safety, reduce emissions, lessen road congestion and make the US more competitive.

Safety and Environmental Considerations

Since the United Kingdom raised its gross vehicle weight limit to 97,000 pounds for six-axle vehicles in 2001, fatal truck-related accident rates have declined by 35%. More freight has been shipped, while the vehicles miles traveled to deliver a ton of freight has declined.

Based on the findings of a 2009 Wisconsin DOT study, if a law like SETA had been in place in 2006, it would have prevented 90 truck-related accidents in the state during that year.

The Transportation Research Board determined that heavier vehicles with additional axles do not lose stopping capability as long as axle weight limits are not exceeded.

The U.S. DOT estimates that raising the federal weight limit would save 2 billion gallons of diesel fuel annually and result in a 19 percent decrease in fuel consumption and carbon emissions per ton mile.

Economic Considerations

SETA will allow American producers to consolidate goods and reduce the number of weekly shipments needed to move a specific amount of freight. This transition to a more efficient transportation network would lower consumer costs.

Raising the weight limits for six-axle vehicles would also spur investment in upgraded equipment and jobs.

Infrastructure Considerations

The addition of a sixth axle ensures that no additional weight per tire results from the higher weight limits.

According to a U.S. DOT study, the higher weight limit would cut the number of trucks needed for shipments – saving \$2.4 billion in pavement restoration costs over 20 years.

Fewer trucks would satisfy America's shipping needs, putting less overall weight on any given stretch of pavement while directing higher user fees (for 6th axle) toward bridge repair and maintenance.

Lowers congestion on major roads and highways

As an example...if the 97,000 lbs gross weight limit requirement were implemented, just one leading consumer products company would

- ✓ Ship 41,000 fewer loads
- ✓ Drive 23 million fewer miles
- ✓ Save 3.8 million gallons of fuel
- ✓ Eliminate 39,000 tons of CO₂ emissions
- ✓ Transport 1.3 billion fewer pounds on interstate highways, reducing wear and tear

SOURCES

U.S. Department of Transportation

Coalition for Transportation Productivity

Transportation Research Board

PROBLEM STATEMENT #4

United States is not developing sufficient talent required by manufacturing and supply chain organizations to consistently compete globally. This constrains economic growth and enables international trading partners to gain advantage.

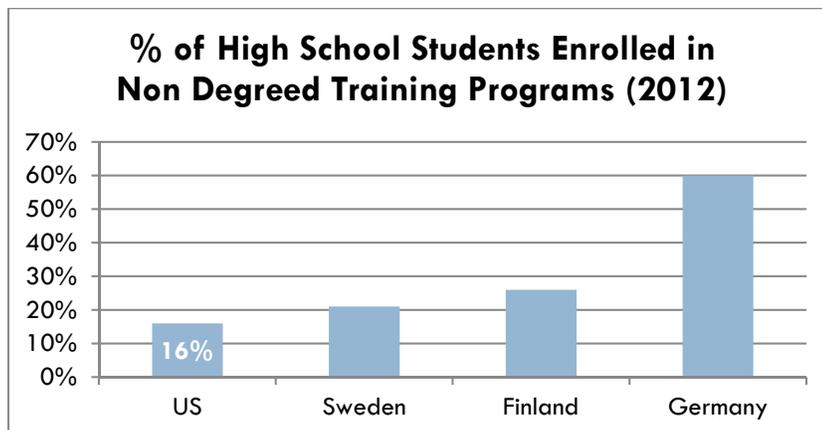
Recent surveys and data highlight the lack of supply chain talent as a significant bottleneck to US economic competitiveness and growth.

The percent of US employers...

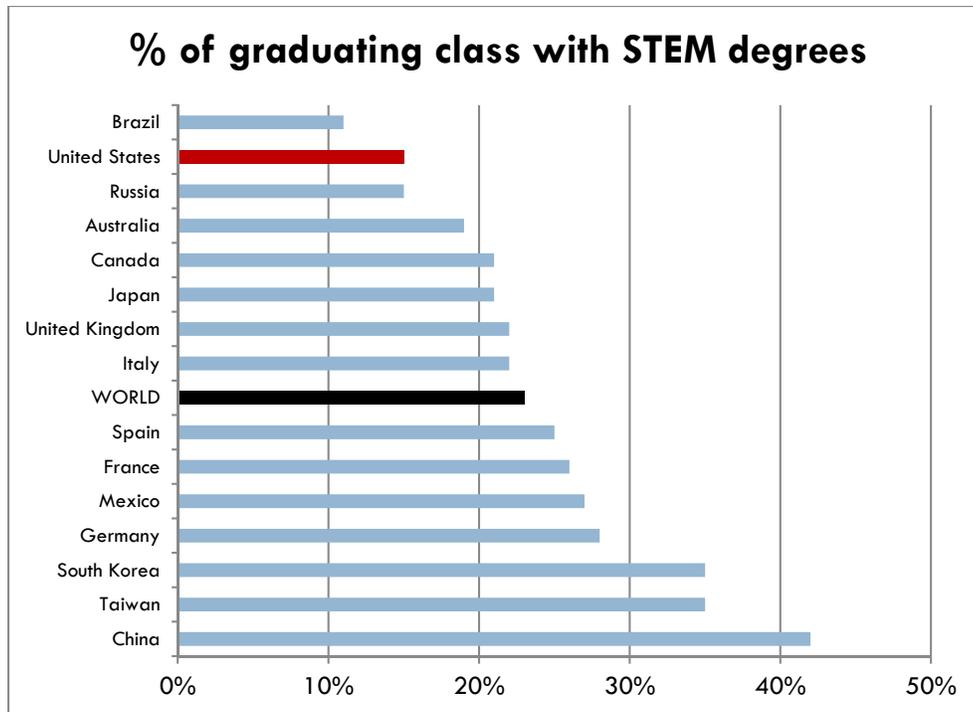
- ...experiencing difficulty finding qualified talent in high and low skill positions in management, science, engineering, transportation, craft skills and production: **67%**
- ...reporting skills shortage are a leading driver of entry-level vacancies: **45%**
- ...with positions open for six months or longer that could not be filled: **30%**
- ...reporting skill gap causing significant problems in terms of cost, quality, and time: **31%**

Furthermore, when compared to other geographic choices, **US ranked bottom quartile in 2012 global study of easy of finding skilled/semi-skilled labor.**

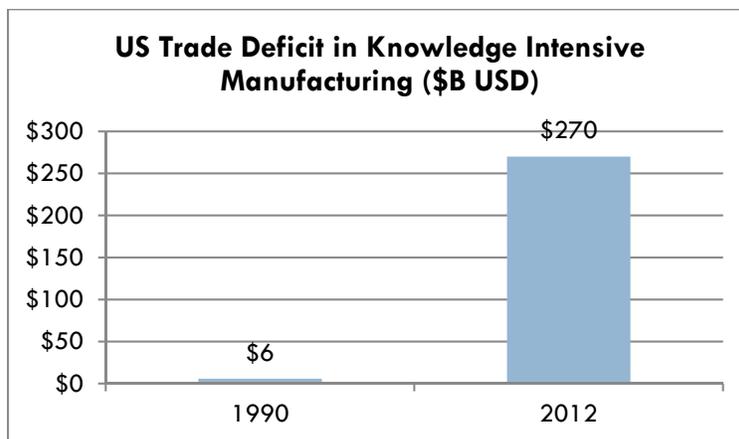
When it comes to manufacturing craft skills, the United States competes poorly in channeling young talent into programs that teach skills highly valued by manufacturing employers.



The skills supply picture for highly trained professionals with science, technology, engineering, and mathematics (STEM) degrees is no more promising. American students scored 23rd in math and 31st in science compared with 65 top industrial countries. We are graduating students with STEM degrees at a pace significantly behind our trading partners.



The United States is one of the only advanced economies in the world that runs a trade deficit in knowledge-intensive manufactured goods. This category includes automobiles, aerospace, semiconductors, electronics, medical equipment, chemicals, and pharmaceuticals. These industries are R&D intensive and account for 50% of US manufacturing and 40% of employment. Yet, the trade deficit in these categories has increased dramatically in last 20 years.



Recommendations

1. Pick six leading major US centers of manufacturing and supply chain. In each, create consortium of high schools, community colleges, craft schools, and employers to develop (a) classroom curriculum, (b) equipped shops for hands-on instruction, (c) apprenticeship assignments, and (d) job placement events. Focus on manufacturing concepts, metal working and electro-mechanical assembly skills. Partner with industry associations for enhanced impact.

Example – AMTEC is a consortium of automotive manufacturers that have partnered with community colleges to train skilled automotive workers. Courses are jointly designed by educators and employers.

Example - A leading logistics company partners with local high school, technical school, and community college to offer a blended experience of high school study, work experience, and technical training. Participants must maintain a minimum GPA. Employer pays for work performed and for tuition costs. Students gain experience and skills, and employers help grow future talent.

2. Design and implement DOC marketing program to educate high school students and career counselors on the merits of craft skills career track, such as....

\$45,000 = median wage of 25-34 year olds holding a bachelor's degree

\$45,000 = median wage of metalworking certificate holders

Craft skills career track is valued, honorable, and economically sustainable.

3. Partner with US DOD programs focused on matching soon-to-be discharged military personnel with skills in machining and electronics with potential employers. Establish network with Human Resource offices at leading manufacturing organizations for this purpose.
4. Create fast-track guest worker program for college graduates earning degrees in science and engineering from US universities who are not US citizens. Program participants required to pass background checks verifying tax/legal compliance and proof of full-time job offer. HR 2161 (proposed in 2011) provided a framework with program design options. Meter the program size each year based on annual employment survey of US manufacturers.
5. Partner with Department of Education to create a scorecard that tracks progress of White House program titled Educate to Innovate, which targets placing 100,000 new STEM teachers into public schools over the next decade.

SOURCES

Education to Employment: Designing a system that works, McKinsey 2012.

US Dept of Labor Employment and Training Administration; State of Apprenticeships in 2010, London School of Economics

Carvevale, Rose, and Hanson. Certificates, Georgetown University Center on Education and the Workforce, June 2012.

National Center for Education Statistics.

US Census Survey of Income and Program Participation.

Roadmap for Manufacturing Education. Manufacturing Institute. December 2012.

Skills Gap Report. Manufacturing Institute and Deloitte Consulting. 2011

IHS Global Insight May 2013 and McKinsey Global Institute Analysis.

US lag in science, math a disaster in the making. CNN. February 9th 2012.

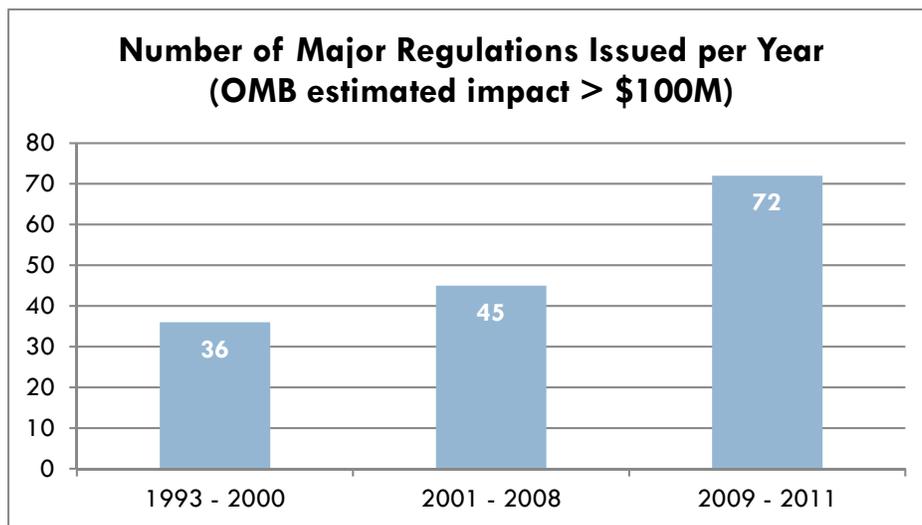
<http://www.whitehouse.gov/issues/education/k-12/educate-innovate>

National Science Foundation, Science and Engineering Indicators 2012.

PROBLEM STATEMENT #5

There is insufficient advocacy for US Supply Chain interests when developing new legislation and regulation.

Without expressing comment on the merit of regulations, it is clear the federal government is increasing the regulatory burden on US companies.



During this time, the annualized cost of compliance increased an average of 7.6%, while GDP grew by 2.2% per year.

Business leaders often assess the increasing regulatory expectations as costly, and express concern over committing capital with unclear returns. That is, costs are unknown to keep pace with the more active regulatory trend. This uncertainty drives capital away from the United States, and towards more certain investment environments.

Recommendations

- 1) Direct Department of Commerce's Office of Industry Analysis onto assessing supply chain economic impacts during interagency review process of emerging regulation. Ensure this economic impact statement is available to policy makers and those participating in public comment. This assessment should comprehend holistic view of lifecycle costs of compliance.
- 2) Require that any regulation with estimated impact over \$100M, also include a 95% alternative. That is, an alternative set of standards that delivers 95% of the stated regulatory objective, but with reduced costs. This approach embraces the proven notion of the law of diminishing returns, so we find the "sweet spot" between implement costs and regulatory benefit. This option should be documented, and made available to policy makers, and those participating in public comment.

SOURCES

Macroeconomic Impacts of Federal Regulation of the Manufacturing Sector, Manufacturers Alliance for Productivity and Innovation, August 2012.

PROBLEM STATEMENT #6

The United States lags other industrialized countries in encouraging both supply and demand for domestically manufactured goods.

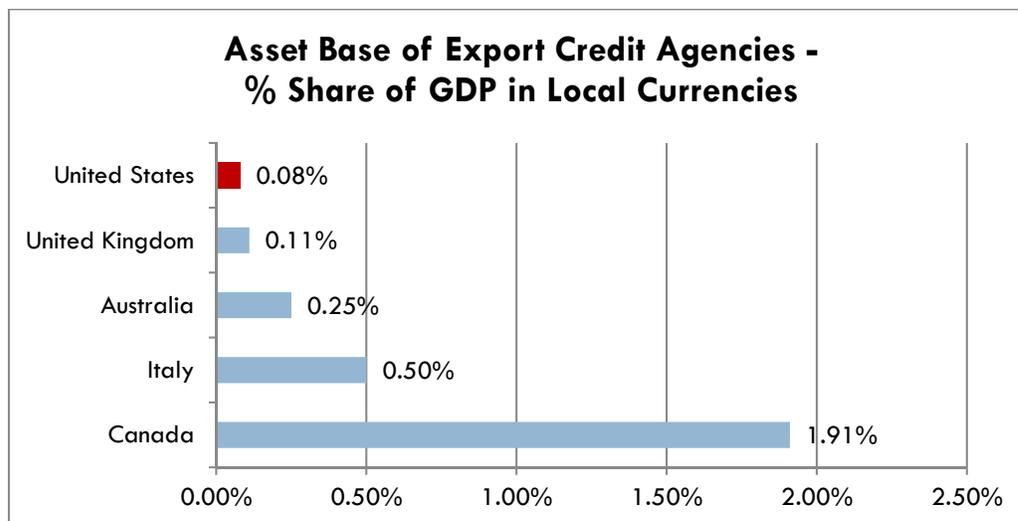
Supply View:

The United States, and other countries popular for courting supply chain investment, has enjoyed success providing “one stop shops” for regulatory guidance and support. The United States offers Select USA, Ireland has its Industrial Development Authority (IDA), Singapore promotes its Economic Development Board (EDB), and Malaysian sponsors its Industrial Development Authority (MIDA).

However, the US effort is smaller as similar efforts in other industrial economies, which spend nearly three times as much on investment promotion. This presents a clear opportunity.

Demand View:

Many industrialized countries encourage demand for domestically produced goods through the use of export credit agencies. However, the United States support for the demand-generating channel lags several trading partners.



Recommendations

1. Increase Export-Import Bank funding with a goal to provide an investment asset base equal to one half of one percent of GDP (0.50%).
2. Department of Commerce to coordinate efforts currently independently executed at the state level to attract foreign investment in US manufacturing.
3. Expand Select USA program so it can provide holistic regulatory guidance and support to those evaluating supply chain investment in the United States. That is, provide one-stop-shop service.

SOURCES

Sources: Game Changers: Five Opportunities for US Growth and Renewal; McKinsey Global Institute, July 2013.

Testimony of Under Secretary of Commerce for International Trade Francisco Sanchez before the House Energy and Commerce Subcommittee, April 18 2013.

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