AMERICAN COMPETITIVENESS WORLDWIDE: IMPACTS ON SMALL BUSINESSES AND ENTREPRENEURS

HEARING

BEFORE THE

SUBCOMMITTEE ON ECOMOMIC GROWTH, TAX AND CAPITAL ACCESS

OF THE

COMMITTEE ON SMALL BUSINESS
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HOUSE COMMITTEE ON SMALL BUSINESS

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AMERICAN COMPETITIVENESS WORLDWIDE: IMPACTS ON SMALL BUSINESSES AND ENTREPRENEURS

TUESDAY, JULY 9, 2013

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
SUBCOMMITTEE ON ECONOMIC GROWTH, TAX AND CAPITAL ACCESS,
Washington, DC.

The Subcommittee met, pursuant to call, at 1:00 p.m., in Room 2360, Rayburn House Office Building. Hon. Tom Rice [chairman of the subcommittee] presiding.

Present: Representatives Rice, Chabot, King, Coffman, Mulvaney, Hanna, Chu, Payne, and Schneider.

Chairman RICE. Good afternoon. At this time I would like to call to order the Subcommittee on Economic Growth, Tax, and Capital Access of the Small Business Committee.

Today's hearing covers a topic which I believe is of the utmost importance—in fact, I think there is nothing more important—and that is restoring America's competitiveness. For decades, America was the world's place to do business. We had the best education, quality of life, workforce, access to capital, infrastructure, and economic markets, but in the last 50 years that has changed. We have watched as millions of American jobs have moved overseas. It is not necessarily that we have regressed, but our competitors worldwide have improved. We must change the attitude that we are the only game in town and improve our competitive standing in the world if we want to reverse this trend. We cannot maintain the world's highest tax rate and regulatory burden and expect job creators to return.

A nation's competitiveness is primarily based on its firms' abilities to compete across global markets, while at the same time raising the standard of living for all citizens. I was sent to Washington to work on solutions that will boost our economy and create jobs for all Americans, and restoring our competitiveness is necessary for achieving both.

To ensure competitiveness, America's broad economic policy must focus on helping businesses increase long-term productivity. This means promoting policies that give our firms the ability to be the best in the world, such as reducing onerous regulations. Fortunately, this afternoon, we have Dr. Michael Porter, who has extensively studied this issue of competitiveness and has eight broad policy changes he believes will allow our nation to experience substantial economic growth.

It is important to note the impact of these policies will have on small firms. For example, as a tax attorney, I know the challenges faced by small businesses in trying to figure out the nation's complex tax code. The Committee on Small Business has previously held hearings on the burdens of this and reforming the tax code will go a long way in helping America's small businesses. However, a complex tax code is but one part of the burden. As we will hear today, a holistic approach is necessary to truly ensure that companies are able to be competitive. As we all know, a diet is nothing without exercise, and while one will help, to be successful you must do both. Competitiveness is the same way. One is good, but to restore America's competitive edge, we must combine various factors until we have created an atmosphere that propels our businesses to the top.

Additionally, while Congress must work together at the federal level to create policies, it is important to remember that the businesses themselves can lead the way in their local communities. For example, throughout many parts of the United States, area employers are working with community colleges to develop curricula that would allow the companies to hire local students with requisite skills, such as advanced manufacturing. This sort of initiative is necessary, and I applaud these efforts. We need companies who are aware of the challenges in their industry to, whenever possible, take steps to address those concerns.

Today's witnesses truly understand both the challenges and conditions necessary to restore America's competitiveness, and I thank you all for being here. I look forward to your testimony. The road to reviving our country's competitive edge in an increasingly global economy will take hard work but is work I am committed to. I now yield to my Ranking Member Chu for her opening remarks.

Ms. Chu. Hold on one second. We have been called for votes, obviously, but if you want to go ahead and make your open, or do you want to wait until we come back?

Ms. CHU. Why do we not wait until we come back. Then we might have more peace of mind here.

Chairman RICE. As you can see, we have 11 minutes before we are supposed to—before the first vote ends, so we are going to have to recess this hearing. We will be back here in about, I would say, 20 minutes. Thank you.

[Recess]

Chairman RICE. We will call the meeting back to order.

I was walking back over with Congressman Mulvaney and he was so disappointed he missed my opening statement, he wanted me to do it again. But I said no, I am going to decline.

So at this time I yield to Ranking Member Chu to give her opening statement.

Ms. CHU. Well, thank you so much, Mr. Chair.

Good morning. Well, actually, it is good afternoon, now. Today's hearing will provide insights into U.S. competitiveness and what we, as policymakers, need to do to keep America one step ahead of this rapidly changing world. Professor Michael Porter and his team at the Harvard Business School have spent years studying this topic, and today, Professor Porter will share the insights that they put forward in their study, “Restoring U.S. Competitiveness.”

Among the suggestions we will hear are about the need to reform our tax code and fix our immigration system. I look forward to exploring each of the witnesses' recommendations on how we can make America more competitive.

American competitiveness is so fundamental to what makes this country great. The United States continues to be the world's largest economy with a gross domestic product of nearly $15 trillion, followed far behind by China at only $7 trillion. We continue to be the world's largest manufacturer. Our military's power and technological capabilities are rivaled by no other country on earth. In my own state of California we have Silicon Valley and Hollywood, the world's leaders in technology and entertainment industries.

Small businesses are central to achieving this high level of innovation. Research has found that small firms are much more likely to develop emerging technologies than are large firms. Although small firms accounted for only 8 percent of patents granted, they counted for 24 percent of the patents in the top 100 emerging clusters. Ensuring that small firms have the tools and resources they need to continue this work is critical to not just their own success but also for America's leadership in the global economy.

In recent years, however, both small and large businesses are struggling to recover from the recession, and experts worry that as a result, America is losing ground on competitiveness. Americans wages have been stagnant for years. Our roads, bridges, and ports are crumbling. Our immigration system is broken. And scholars and experts worry that the U.S. is falling behind on manufacturing, education, infrastructure, and innovation.

Today, we will hear experts share with the Committee a variety of policy recommendations on how to make America the leader in global competitiveness. One of those key issues is improving the tax code. I certainly agree that we need tax reform to make the code simpler. I would ask, however, that we keep in mind a recent study by the Government Accountability Office which found that most American profitable companies only pay a fraction of the taxes they owe under the official corporate rate of 35 percent. When they take into account deductions and legal loopholes, American corporations paid a 12.6 percent tax rate on corporate profits. So as we engage in a conversation about tax reform, we must ensure that corporations do pay their fair share and that our country's middle class and small businesses do not end up carrying the tax burden.

Corporate tax reform could also have a significant impact on small business by eliminating the deductions that small businesses care about the most. So as we start having a conversation about corporate tax reform, we need to ensure that small businesses are not negatively affected.

One of the policy recommendations that we will hear about today offered by Professor Porter concerns the importance of reforming our immigration system by allowing high-skilled individuals who study in American universities to stay and work in this country. Indeed, immigration reform is vital to maintaining American competitiveness. Immigrants have made extraordinary contributions to

America, including iconic successes like Intel, Google, Yahoo, and eBay, which were started by immigrants in the Silicon Valley. In fact, it is the world's hub of innovation where immigrants helped found half of all technology and engineering companies, many which began as small startups.

I would point out, however, that we will not be able to attract the best and brightest if those with employment-based visas cannot live and work in the U.S. with their families at their sides. That is why fixing the family-based visa system is also critical to fixing America's competitiveness. In fact, immigrants are twice as likely to start up businesses as native-borns and there are many who have come to the U.S. through the family visa system. Comprehensive immigration reform is a key issue in Congress right now and it is my hope that we will be able to reach a bipartisan agreement that will put us back on track to restoring America's competitiveness.

With this in mind, I am looking forward to today's hearing which will provide insights into what our country needs to do to remain the most competitive nation in the world. Thank you, Chairman Rice, for convening this hearing, and I yield back.

Chairman RICE. Thank you, Ranking Member Chu.

If additional members have an opening statement prepared, I ask that they submit it for the record.

I would also like to take a moment to explain the timing lights for you. You will each have five minutes to deliver your testimony. The light will start out as green. When you have one minute remaining, the light will turn yellow. Finally, it will turn red at the end of your five minutes. We will be a little liberal on that.

I ask that you try to keep to that time limit, but we will be a little lenient if you are close to finishing.

At this time we would like to go ahead and proceed with the witnesses. We will start out with Professor Michael Porter.

Michael Eugene Porter received a BSE with high honors in aerospace and mechanical engineering from Princeton University, where he was elected Phi Beta Kappa and Tau Beta Pi. He received an MBA with high distinction from Harvard Business School, where he was a George F. Baker Scholar, and a Ph.D. in Business Economics from Harvard University. Professor Porter is the Bishop William Lawrence University Professor at Harvard Business School located in Cambridge, Massachusetts, and he also leads the Institute for Strategy and Competitiveness. Professor Porter is widely regarded as an expert in competitiveness and economic development and generally recognized as the father of the modern strategy field. Most recently, in February, Professor Porter, along with his colleagues at Harvard's Institute for Strategy and Competitiveness, released a study which examines America's business environment and recommends actions that can be taken at the federal level to restore competitiveness.

Thank you for being here today, Professor Porter. You have five minutes. You may begin.

STATEMENTS OF MICHAEL PORTER, PROFESSOR, HARVARD BUSINESS SCHOOL; JIM MCCONEGHY, CHIEF EXECUTIVE OFFICER, CHOBANI; SMYTH MCKISSICK, CEO, ALICE MANUFACTURING COMPANY; CYNTHIA MCINTYRE, SENIOR VICE PRESIDENT, COUNCIL ON COMPETITIVENESS.

STATEMENT OF MICHAEL PORTER

Mr. PORTER. Thank you so much, Mr. Rice, and other members of the Committee, and visitors for attending today.

We are here to talk about a topic that is anything but a sound bite. This is a complex topic, and I think when we approach this question of competitiveness we have to approach it with the understanding that there are a lot of moving pieces here. And when we think about it, we have to think rigorously and we have to think strategically. We cannot think that competitiveness can be solved by one magic bullet; one simple solution will solve this problem. This is a problem that has been building for many, many years and it will take us really a strategic focus to address it.

I would like to just make five basic points in my opening statement which we can explore in more detail as the hearing proceeds.

First point is what do we mean by competitiveness? And when we talk about competitiveness, competitiveness occurs when businesses based in a location, like the United States, can meet the test of international competition while improving the standard of living of the average citizen. Competitiveness is not just about businesses being competitive; it is also about the average worker doing well. We have to do those things together if we are going to be truly competitive. If businesses succeed by cutting wages and laying off people, that is not success. That is not being competitive. That is a sign that we are not competitive. That is a sign that we cannot sustain and grow the prosperity of the average citizen.

So much of the debate about competitiveness is really clouded and confused by a lack of understanding of this basic truth. Republicans tend to focus on businesses doing well. Democrats tend to focus on the average worker doing well. But, of course, competitiveness is when we can do those things together. We are really all in this together. And the only way we can achieve those dual objectives is by improving productivity. We have to create the most productive business environment. If we can equip our workers to be productive, then they can support high wages. Then we can have a rising standard of living. But if we cannot be productive in America, if we cannot be at the vanguard of efficiency and productivity in how we do business in this country, we are simply not going to be able to keep up anymore because other nations around the world are making very rapid improvements in their business environments and the skill bases of their populations. So competitiveness is fundamentally about the question of making America productive.

Now, the second point I would like to make is that there is really undeniable evidence that the U.S., as an economy, is facing a fundamental structural competitiveness problem. This is not a cyclical problem. This is not a recession. This is something different.

Why do we believe that? Because all the indicators that signal declining competitiveness have started declining well before the

2008 recession. You see here a slide about job growth. The American job machine started sputtering in the 1990s. It did not start sputtering in 2008. The wage growth of the American households has been stagnant for decades. And this problem is the mother of all issues. If we cannot address these conditions which have allowed us to not sustain job growth and not sustain wage growth, if we cannot deal with these conditions and these problems, we are going to have rising inequality. We are going to lose our influence in the world. And we are not going to be able to really renew the American dream. This is the mother of all issues. It affects all the other issues. If we cannot solve the fundamental problem of competiveness and economic vitality and job growth and income growth, we are not going to have the resources to really do almost anything that we want to do as a country.

Now, to address this problem, we have to address the underlying causes. And here is kind of a synthesis of what we found from our Harvard Business School research, is really kind of the balance sheet of the United States from the point of view of competitiveness. Luckily, we retained some profound strengths. You see those on the upper right hand corner. We are innovative. We are entrepreneurial. We have well-developed clusters. We have a lot of strengths, strengths that are powerful and profound in the modern global economy.

But we have allowed some of the more basic elements of our business environment to erode. Our skill base is eroding. Our infrastructure is eroding. Our public education is not up to snuff. Our tax code is uncompetitive. Our regulations are too costly and too time-consuming. Our litigation and legal system is too costly and too time-consuming.

As a result, although we retain key strengths, they are being weighed down by these growing weaknesses, while other countries are making rapid progress in fixing the very things that we have allowed to erode.

So in order to address this problem, we have to tackle these fundamental challenges, and that leads to my fourth point. We need a strategy in Washington to address those things that are really on the critical path. And these are the eight areas that we have determined really are the most pressing issues. These do not address all the problems we have in American competitiveness, but they really get at the things that we find and we believe are really core to making progress over the next three to five to seven years. Immigration of highly-skilled individuals is part of the broader immigration problem, but it is the part that really matters to our competitiveness. Simplifying the corporate tax code by cutting the rate and ending the loopholes is something that is common sense and I think most people agree on. More controversial is our international taxation system, which is locking lots of money outside of the U.S. and is unique in the world, and it is not supporting really the growth of our businesses. There are many weaknesses in the trading system that is working against the U.S. economy. We have to lead the reform of that system.

Improving infrastructure, simplifying regulation, getting on with the great opportunity we have in shale gas and our energy reserves. And then finally, creating a sustainable budget. None of these things probably sound even remotely surprising to any of you. This is pure, unadulterated common sense. But these are the areas which we found if we could make some headway on these areas, not seek perfection, not seek everything everybody wants, but just move ahead on these areas, it will have a transformational impact on business confidence, on business investment, and we will start building momentum in this economy again.

So let me conclude there and, of course, we can have a fulsome discussion of this complex topic over the coming balance of the hearing. Thank you, Mr. Chairman.

Chairman RICE. Thank you, Professor Porter.

I now yield to Representative Hanna to introduce Mr. McConeghy.

Mr. HANNA. I would like to report that I am not just pleased to represent you here, but pleased to be a customer. And my wife.

Today, I am honored to be here to introduce Jim McConeghy, the chief financial officer of Chobani, which is headquartered within my district in Norwich, New York. Chobani was founded by Hamdi Ulukaya, a Turkish immigrant to our nation who began modestly in 2005. It received an SBA loan to start making Greek yogurt so many individuals around the world enjoy today.

Chobani has experienced rapid growth and success despite a very rough economy, and as I said, is a worldwide brand. Today, Chobani grosses $1 billion and employs over 2,500 individuals. Chobani's story is uniquely American, and its success has invigorated dairy farms and communities in upstate New York where we are proud to call you our neighbor.

Mr. McConeghy, I look forward to having you share Chobani's experiences with us today. Thank you. You may begin.

STATEMENT OF JIM MCCONEGHY

Mr. MCCONEGHY. Thank you, Mr. Hanna, for the introduction.

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to testify at today's hearing. As Congressman Hanna said, I am Jim McConeghy, the chief financial officer of Chobani.

The Chobani story is one that could only happen in America. Where else could a Turkish immigrant transform a shuttered factory into a thriving food manufacturing business in just a few short years?

Our story began in 2005, when with the help of a Small Business Administration loan, our founder, Hamdi Ulukaya, acquired a former Kraft plant in Central New York. Two years later, the first cups of Chobani rolled off the line, and today, Chobani is the number one selling brand of Greek yogurt in the country.

In less than six years, we have grown our business from nothing to over a billion dollars in revenue. We have expanded our reach around the globe. We have invested more than 700 million dollars between our original manufacturing facility in New York and our new plant in Twin Falls, Idaho. We are no longer a startup with five employees but a global organization with a workforce some 2,600 strong. It is the American dream come to life, proving that if you truly believe in something and work hard, anything is possible.

Of course, with opportunities, there are challenges for the future of Chobani. Chobani's success is strongly burdened by the current federal regulatory and legal environment. The four most prominent challenges I will touch on today are the lack of an FDA standard of identify for Greek yogurt, geographic indicators in international trade, trade in dairy products with Canada, and tax return.

First, Chobani strongly supports the establishment of a standard of identify for Greek yogurt. The Food and Drug Administration establishes standards of identity for various food products that reduce consumer confusion. Unfortunately, the current FDA standards of identity for yogurt are extremely outdated and do not take into account current manufacturing processes. The definition does not reflect the composition and the processes used to manufacture Greek yogurt, which is very different from traditional yogurt. The lack of a proper standard of identity for true Greek yogurt literally allows any product that meets one of the current FDA standard definitions of yogurt to be branded as Greek yogurt, regardless of the composition or the processes used to manufacture it. USDA's Child Nutrition program routinely follows FDA's standards of identity for products used in their programs. The lack of a standard of identity for true Greek yogurt makes it difficult for consumers and the USDA to differentiate between yogurt and Greek yogurt for purposes of nutrition programs, including the proper allowances for meat and meat alternatives in the Child Nutrition program crediting.

FDA and Congress must recognize and address this blatant inequity in order for the rapidly emerging market for Greek yogurt to meet its potential without misleading consumers towards a product that is not true. An update to the 30-year-old standard is clearly in order.

Second, we have seen an increase in challenges of the labeling of common food products abroad. We recently embarked on a costly and difficult process in England and Wales after it was incorrectly, in our opinion, ruled at the term "Greek" on our true Greek yogurt misled consumers into presuming that it was from Greece. The EU position puts common food names at great risk. If this problem is not dealt with soon, the EU's aggressive actions to monopolize common food names, such as bologna, feta, and provolone, will damage sales of many popular food products around the globe. Arguing that a small group of EU producers should have an exclusive right to use such name is like claiming that only Italians should be able to use the term "pizza." Protectionism is protectionism no matter how you couch it.

On a third point, Chobani recently engaged in an extensive process to bring our products to Canada. This process included researching the ability to import yogurt into Canada from the United States and to explore making yogurt in Canada for Canadian consumers. In the case of importing yogurt, we found this to be centrally impossible as there is a 237-1/2 percent duty at the border for all imports into Canada. This is despite the "open borders" promulgated by NAFTA.

As an alternative, we attempted to buy land and build a manufacturing facility in Canada. When this plan became visible to our competitors, they launched a series of actions directly against various Canadian government agencies and the local Chobani entity to stall our Canadian plants. Despite the fact that we and the Canadian government prevailed in court, all of the previous market barriers continue to exist. Accordingly, we recommend that Congress and the administration use the TPP umbrella to look at the closed borders for dairy with Canada.

Last, we understand there are many discussions surrounding tax reform in the halls of government. We wholly support this effort to eliminate inconsistencies and the taxation of different types of US entities and to have a globally competitive tax system. We at Chobani thank you for your support of a fair and competitive business environment.

Chairman RICE. Thank you, Mr. McConeghy.

Next, I want to introduce Mr. Smyth McKissick. Since 1988, Mr. McKissick has served as the president and CEO of Alice Manufacturing Company in Easley, South Carolina. For 90 years, four generations of the McKissick family have led Alice Manufacturing Company. Alice is widely recognized today as a modern and successful textile company, as well as an important part of the upstate community. Mr. McKissick also serves as a life trustee of Clemson University. He has previously served as the chairman of the South Carolina Manufacturers Alliance, chairman of the National Council of Textile Organizations, co-chair of the American Manufacturing Trade Action Coalition, and is an independent director of People's Bank Corp, Inc. He is a graduate of Clemson University, and has an MBA from the University of South Carolina, which is his redeeming factor. He and his wife, Martha, reside in Greenville and have three children.

Mr. McKissick, welcome.

STATEMENT OF SMYTH MCKISSICK

Mr. MCKISSICK. Chairman Rice and members of the Subcommittee, thank you for the opportunity to be here today.

My name is Smyth McKissick, and I am the CEO of Alice Manufacturing Company. We are a 103-year-old company located in Easley, South Carolina, employing 300 associates. We produce fabrics primarily for home furnishings, apparel, and health care applications.

Over the years, we and other U.S. textile manufacturers have consistently invested in the most technologically advanced equipment, continuing education, and technical training. In fact, the U.S. textile industry has been a world leader in innovation, developing biological resistant factors, wrinkle-free fabrics, and sophisticated fabrics for military and industrial applications. The U.S. textile industry is the third largest exporter of textile products in the world. We ship nearly $23 billion worth of textile and apparel products to over 170 countries and our product industry employs over half a million people.

Our industry is experiencing a resurgence, and we have invested over $3 billion in new technology, machinery, and manufacturing facilities since 2010. This positive trend could be further bolstered by sound U.S. trade policy, especially as our government negotiates the terms of the Trans-Pacific Partnership or TPP. TPP is the largest free trade agreement since NAFTA. Our country, as you will know, is negotiating with 11 other nations, including Viet Nam. U.S. manufacturing jobs are at stake, and it is critical that our negotiators get this trade agreement right.

Prior to the Asian currency crisis, the U.S. textile industry was thriving. Overnight, as foreign currency values sank, the U.S. market was flooded with imported goods. These devaluations allowed our foreign competitors to gain a huge pricing advantage; thus, the U.S. textile supply chain was decimated. Our industry was cut in half and thousands upon thousands of U.S. textile jobs were lost in the process.

At Alice Manufacturing Company, we realize we had to quickly establish a new business model in order to survive. We employ two primary strategies in our company. The first was a direct sale to retail whereby our company became a virtual vertical home textile supplier. Our second strategy was our optimization of our NAFTA and CAFTA partnerships. Alice partnered directly with manufacturers in Mexico and Central America, and this allowed for the opening of new markets for our fabrics. Our business is growing as a result of these new strategies.

NAFTA and CAFTA are so beneficial to the U.S. textile industry because of three critically important provisions. The first is a yarn forward rule of origin. The second are fair market access provisions, and finally, strict customs enforcement. Yarn forward has been instrumental in the creation of nearly $25 billion of two-way trade between the industry and our free trade agreement partners. It is critically important to maintain yarn forward and fair market access principles in the TPP. If not, the TPP could become the single greatest threat to the U.S. textile industry since the Asian currency crisis.

Our industry's principle concern with the TPP is the participation of Viet Nam, a nonmarket economy. The government of Viet Nam heavily subsidizes its textile and apparent sector. We must have counterbalancing measures such as long tariff phase outs for sensitive products and strict customs rules and enforcement to deter illegal trade. While our government continues to negotiate for yarn forward in the TPP, the Vietnamese government are opposed to yarn forward. They are looking for a single transformation rule of origin. Vietnam wants to import goods from China and export those goods to the United States duty free. This would put over 500,000 U.S. textile jobs at risk. More than 75 percent of the apparel produced in Vietnam today uses fabrics and other textile imports from China. The total projected job loss in the U.S. after 10 years of a single transformation rule is over 530,000. The total projected job loss in the Western Hemisphere is two million.

Another major concern of the U.S. domestic textile industry is that nonmarket export-driven countries have been known to use currency manipulation to create artificial competitive advantages in the marketplace. Currency manipulation clearly distorts true competitiveness. It can quickly negate the intent of trade agreements and it can cause serious job loss. Currency manipulation is the antithesis of the principles of free trade and this practice must be addressed in the TPP.

In conclusion, a poorly negotiated TPP will cause widespread job losses in the United States and the Western Hemisphere. I am here today to urge you to endorse the textile and apparel trading rules in the TPP that are cornerstones of every major free trade agreement since NAFTA. You can take action by signing onto the Coble-McHenry-Pascrell Dear Colleague Letter to the USTR.

I would like to thank you Subcommittee members who have already agreed to sign this important letter, including you, Mr. Chairman, and thank you all for the opportunity to be here this afternoon. Thank you very much.

Chairman RICE. Thank you very much, Mr. McKissick.

I will now yield to Ranking Member Chu to introduce our last witness.

Ms. CHU. Yes. It is my pleasure to introduce Dr. Cynthia R. McIntyre. Dr. McIntyre is senior vice president at the Council on Competitiveness. During the last five years, she has led the High Performance Computing Initiative that promotes the use of HPC in the private sector for greater economic return and competitive advantage. As a result of these efforts, the council was asked by the White House in 2010 to create and lead a public-private partnership to help small- and medium-size (SME) manufacturers use this type of modeling and simulation. Since its inception, several of these enterprises have seen improvement to their product development process and bottom-line sales projections. Dr. McIntyre holds a Ph.D. in physics from the Massachusetts Institute of Technology.

STATEMENT OF CYNTHIA MCINTYRE

Ms. MCINTYRE. Chairman Rice, Ranking Member Chu, and other distinguished members on the Subcommittee, thank you for having me here today. My name is Dr. Cynthia McIntyre and I am a senior vice president at the Council on Competitiveness, a nonpartisan, nongovernmental organization composed of CEOs, labor leaders, university presidents, and national laboratory directors working together to keep America competitive and Americans prosperous.

It is an honor to share with you a public-private partnership with which the Council on Competitiveness has been heavily involved since its inception, the National Digital Engineering and Manufacturing Consortia. This pilot public-private partnership connecting small- and medium-sizes manufacturers with high-performance computing via modeling and simulation, is currently wrapping up its pilot phase in the Midwest. Research by the Council on Competitiveness presents powerful evidence of the capacity of high-performance computing, also known as HPC, to drive innovation and make U.S. companies and the nation more competitive. Indeed, for those who have adopted it, HPC represents a crucial edge that can build and sustain competitive advantage through innovative product design, production techniques, cost savings, improved time-to-market cycles, and overall quality.

However, Council research has also shown that many U.S. companies are stuck on the desktop, not able to take full advantage of HPC, while still others, including many suppliers to U.S. tier one companies, have limited, if any, computational R&D capacity. Through additional research, the Council determined that public-private sector collaboration is the best and most effective means for quickly advancing HPC and manufacturing.

Next, the Council and selected original equipment manufacturers developed a Midwestern Regional Pilot Program as a public-private partnership with the U.S. Federal Government. The pilot program is aimed at improving competitiveness and innovation in small- and medium-size enterprises in the U.S. manufacturing supply chain. The ultimate outcome of the pilot program will be a workforce with enhanced technical skills, improved product quality, better customization of products, and job retention and growth. With these principles as goals, the National Digital Engineering and Manufacturing Consortium, known as NDEMC, was born. NDEMC brokers and promotes collaborative relationships that will sustain the growth of American manufacturing through job creation and enhanced competitiveness. NDEMC provides modeling simulation and analytics, education, and training, access to high performance computing, and access to software as a service to small- and medium-size manufacturers. These services will be available through a distributed application to make U.S. SMEs more competitive in the global marketplace.

A great example of how NDEMC has positively impacted U.S. companies is the case of Jeco Plastic Products, LLC, a small, custom-mold manufacturer of large, complex, and high-tolerance products with a plant in the Indianapolis area. And this is plastic material. Jeco's custom base includes large U.S. and international original equipment manufacturers in the automotive, aerospace, printing, and defense industries. To take advantage of a monumental opportunity to secure a large OEM account, Jeco Plastic Products required high-performance computing to perform tasks that inhouse software that they had could not accomplish. Jeco joined the NDEMC program to gain education, training, experience, access to university expertise, software, and hardware to successfully compete against large foreign competitors. By employing HPC through NDEMC, Jeco earned a multi-year contract with a large German automotive company, increasing American exports and keeping people employed. In fact, due to increased production demand from their large client, Jeco is expected to increase payroll and hire 15 advanced manufacturing workers during the next few years. Jeco's size is about 35 people all total. So they are looking to hire 15 more.

Currently, the NDEMC pilot program is wrapping up its federal funding and the Council on Competitiveness and other key NDEMC stakeholders are working to move NDEMC from a public-private partnership to a nonprofit entity which would be the conduit for new partnerships, including new public-private partnerships across the United States which will continue to work together to sustain America's manufacturing competitiveness. The EPA and its partners will study the economic impact of technology-based innovation infrastructure towards boosting the long-term job capacity and competitiveness of U.S. manufacturing and industry.

Thank you, and I look forward to your questions.

Chairman RICE. Thank you, Dr. McIntyre, for being here.

So now comes a time when you are on the hot seat. We get to ask questions.

I am going to use my time to allow Professor Porter to complete his presentation. Professor Porter.

Mr. PORTER. We need to equip the U.S. Congress with Harvard Business School-style name cards. We will transfer that technology. I need to put this on. It is probably best off the record anyway.

So thank you, Mr. Chairman. I would like to take a few more minutes to complete some of the remarks that I was hoping to make earlier in the short time, but also I think reflect on the comments we have just heard. Because I think what we just heard is actually a wonderful series of case studies in both the problems and the solutions that I talked about earlier.

Now, again, going back to this slide, I want to emphasize, and we heard this in the testimony, there is a lot of strengths in America. We have a lot of innovation, a lot of technology, a lot of new business models, a lot of path breaking companies, and we heard about the transformation of Alice. We heard about the Chobani story. Look at the amazing things that we can do. Look at the amazing strengths that we have in this country that are in many ways unique in the world, and still unique in the world despite the effort of many other countries to catch up in these areas.

But net-net, the cold hard truth is we are not generating jobs at a reasonable rate. This has been going on now for well over a decade and so we have this chronic job issue. We do not have an attractive enough business environment to generate enough investment to create enough jobs. We have great stories but net-net we are not creating jobs fast enough.

In terms of incomes, people with high skill and Ph.D.s are doing great. That is not the real problem. The problem is really the middle. It is that great middle. The people without unique skills, without Ph.D.s, how can we create an environment where they can prosper, where their incomes can rise? Instead, we are in an environment where inequality is growing and that is creating all kinds of stresses and strains in our society.

When we look at the problems that are holding us back, it is not the lack of innovation. It is not the lack of top management. It is not the lack of excellent, high-end education. It is these things in the lower left. It is these basics. It is having an efficient, simple, responsive regulatory system. Listen to Mr. McConeghy's commentary about the FDA and getting a regulation updated after 30 years to deal with the changes in the marketplace. Look at the cost of that. The company is doing okay, but think of how much better it could do if we had more responsive regulation, more pragmatic that did not slow things down and add unnecessary cost. Look at the examples of how the trading system has not * we have not taken the leadership and not been forceful in really making sure that the trading system works for America like it works for other countries. There was a time when we did not have to worry about that. We were so strong that we could simply not worry about trade barriers and subsidies and restrictions on U.S. goods in Canada, but those days are over. Other nations have caught up, so trade is again one of the areas that I spoke about in my eight recommendations.

Mr. McConeghy also talked about the fundamental need for tax reform. This is the number one thing that we hear in business. Just give us a reasonable corporate tax rate. We will give up on the loopholes. We are ready to do that deal but right now we cannot have the highest corporate rate in the OECD and expect to be able to invest and renew our activities in America. Again, another one of our eight recommendations.

The weaknesses that we see in that lower left-hand corner actually have a disproportionate negative impact on small business. Big businesses can deal with this stuff. They have the legal departments. They have the tax minimization departments. They have multinational operations where they can kind of mitigate the effect of the unproductive American business environment, but small businesses who are basically in America, they are the most affected. We cannot help small businesses by passing new subsidies for small businesses to try to offset the fundamental weaknesses in the business environment. That is a loser's game. We have been trying to do that but it is not working. We have to fix the basic circumstances in our business environment that are leading to the anemic job growth, the lack of income growth, and the lack of economic growth in our economy.

Now, who needs to take action here? Well, I think what we found through our Harvard Business School project is all the stakeholders need to act. There is a lot that business can do. You heard Dr. McIntyre's description of a very innovative public-private partnership where businesses are actually playing a major role in really improving skills and in improving technology and seeding other small companies. So business can do a lot, and we have been working all across the country to mobilize and inform business to take a more forceful role back in America again. Many businesses kind of lost the understanding that they really had to invest in improving America's business environment. There is a lot they should be doing.

States and local regions and cities have a lot to do. All across the country we see all kinds of innovative efforts at the state level—in South Carolina, in Tennessee, and state after state in which I work where government and business are working collaboratively together to deal with the problems that can be dealt with at the state and local level.

But the real sticking point now, the thing that is fundamentally driving the poor performance of our economy, is right here in Washington. This is where we are not making progress. This is the one place in our society where we do not see progress. And where do we need to make that progress? We need to make that progress in those—that small set of things that is really on the critical path. Again, we can make our patent system better, but that is not the problem. We have got a lot of patents. We can improve our R&D spending. We should, but that is not the critical constraint. There is a lot of things that we can improve, and there is somebody in this town and some interest groups that are arguing that that is the most important issue, but actually, the reality is that the most important issues are the things that are staring at us right on that screen, in that lower left-hand corner. And if we move to my last slide with those eight areas, it is these eight areas that when we engage with business and we survey thousands of companies and we scour the economy looking for what is really going on here, it is these eight areas that are the sticking points that would unlock that resurgence of progress, that sense of optimism, that confidence in the business community and among other stakeholders that America was actually in business again.

The high-skilled immigration is a pressing constraint. We have thousands of jobs that we cannot fill today. That does not mean we should not train Americans, but we need to take some steps today to get onboard with what has been a great American strength, which is getting people to come to this country that can really contribute to our economy.

The corporate tax code, again, we are not talking about a windfall to corporations; we are talking about just bringing the corporate tax rate down to a reasonable level, and the price of that is going to be to eliminate a lot of these loopholes. It is time to do that deal now. Our alumni are overwhelmingly willing to do that deal.

The international tax system, we do not need to seek perfection here but right now the idea that if you bring money back in the U.S. you should pay the highest tax rate in the OECD. Nobody is going to bring money back to the U.S. just pragmatically. So we have got to find a compromise, a way of changing that international taxation system so that it is hopefully fair for the country but also fair for business.

The trading system we just heard about, there are a lot of distortions there that did not matter to us when we were dominant but they matter now and they are really stalling the ability to create jobs and grow incomes.

Regulatory costs, we need good regulation. We need high standards. We need safe products, but we do not need to spend years and years and years and years on process and delay and expense to get there. Let us do it a better way.

Logistics and transportation. We have got to be efficient in moving goods and services around; otherwise, it is going to make it even harder to pay higher wages to workers, and so on. We have got to deal with these areas.

Now, the challenge is that to make progress on these common sense areas, we sometimes get caught up in trying to be perfect and do everything at once. And I think what we have deemed now more than everything else is to start making some progress on these things where we can, get some momentum, and then I think you are going to find that there is a steamroller that can restart. This American machine, this American competitive machine that we have, these strengths that we have are sitting there and they can be unleashed, but we have got to start the ball rolling in Washington. I think this is the critical constraint.

So let me stop there, Mr. Chairman. And I know some of the things I have said are controversial, but I think we all have to be honest and realistic about where we stand. We are a nonpartisan institution. We are just about trying to help you and all of us understand what is really going on and hopefully this is something that can start to build from this Committee on this day in this meeting and these discussions to a much wider process of really pragmatically moving ahead on some of the things that are holding our country back.

Chairman RICE. Well, I appreciate your comments, Professor Porter. I hear people on both sides of the aisle talking about many, if not all of these things frequently. It is just we do not seem to make progress on them, and one of the reasons I wanted you here was to see if you could help nudge us in that direction.

I am going to yield now to Ranking Member Chu for her questions.

Ms. CHU. Dr. McIntyre, you talked about the NDEMC system, the National Digital Engineering and Manufacturing Consortium, which was bringing cutting-edge technologies such as modeling, simulation, and analytical tools to small- and medium-size businesses that would otherwise not have access to them. In introducing these suite of services, what challenges are you facing in getting small companies to adopt these new tools? Do they need specialized personnel? Do the employees have the capability to use them? And also, what are the costs of these services?

Ms. MCINTYRE. Thank you so much for the question.

There are challenges that the small- and medium-size manufacturers face even with our assistance to use these tools. I think the biggest problem for them is not having the in-house expertise oftentimes to understand how to use the tools, the benefit of the tools, even though these tools can help solve some of the problems that they are facing. We oftentimes say that if we gave them all the HPC equipment and all the software that they needed for free, it probably would just sit in a closet because there is no person there who could actually use those tools. So getting them connected to the right expertise and we go to the university so we are trusted sources, and couple them to the university so that they can act as educators, trainers, and consultants to help them use those tools. So it is a very time-intensive process working with them to make sure that they have the expertise that they need.

Ms. CHU. And the cost?

Ms. MCINTYRE. And the cost right now, there is no cost to them in the pilot. The federal dollars and the OEM dollars cover that cost at this time. We are looking at making it affordable, trying to understand what that price point should be. We have had some of the SMEs come back a second and a third time and volunteer to pay, so we are moving towards a pay per service, but right now in this pilot it is a free cost to them, no money out, but they must dedicate human resources in order to do it.

Ms. CHU. Thank you.

Mr. McConeghy, your story about Chobani Yogurt is certainly most impressive. And you mentioned that Mr. Ulukaya, the founder of Chobani Yogurt used an SBA loan to purchase the commercial real estate that became the first Chobani factory. The SBA provides capital to companies that are unable to secure conventional financing. Why did the founder choose to obtain a SBA loan over conventional financing?

Mr. MCCONEGHY. Frankly, I think it was the most cost-effective and it was available. He is an entrepreneur at heart. He started the business fundamentally with nothing and when you are an entrepreneur, capital is everything to just get started. And so the SBA program just was a very cost-effective program. He worked with his bankers at the time, Key Bank, and they introduced him to the program and made it work. There is not a lot of seed capital available for virtually what is a startup unless you have it yourself. So the SBA program was very helpful.

Ms. CHU. Thank you.

Professor Porter, nearly two decades ago you formulated the Porter Hypothesis, which proposed that strong environmental regulations can actually spur efficiency and innovation and lead to improvements in competitiveness. Can you share with this Committee your theory and how we can improve competitiveness by having high standards?

Mr. PORTER. Well, thank you, Ms. Chu, for that question.

The conventional wisdom about environmental regulation historically has been that, frankly, environmental regulation inevitably would raise cost because if you had to be cleaner that would be costly. What we have learned from decades of research is actually that environmental impact is costly; that is if you are dumping materials or not using resources effectively, you are actually wasting money. And the Porter Hypothesis was really based on this insight which grew out of the early work that I did on competitiveness. I found that some of the countries that had the highest environmental performance were actually the most efficient because they used energy better, they used resources better, they used water better, they did not waste resources, they did not dump material; they recycled it. And so that was an insight that I think was radical but now has become widely accepted in the business community. And so business is now radically transforming the way it does business, the way it runs its supply chains, to try to minimize logistical waste and minimize energy use and so forth.

Now, how do you achieve high environmental performance? Well, one of the ways you do that is you set high standards—standards for energy, standards for quality, and providing those standards are set in a sophisticated way, those standards can be very, very positive. High standards are a good thing. The countries with high standards usually do well in the effective industries. But the big risk is twofold. First of all, there is a difference between the standards and how you actually implement the standards. And you want to have very high standards but you want to implement the standards in a very efficient and very timely and very nonintrusive way. And the other thing about the standards is you want to make sure the standards are about outcomes, not about the methods you use. So, for example, if you tell a company to deal with the water issue, they have to clean up the water with a particular technology, that actually is going to add cost. But if you tell the company, well, you need to improve your water use, you figure it out and we will just measure whether you achieve it or not, then that stimulates innovation.

So the debate we are having on regulation frankly is a little bit of a silly debate. We are debating whether regulation is good or bad. That is a completely silly debate. We need regulation because if we do not have regulation, we have bad outcomes. The real debate ought to be about do we have efficient regulation or inefficient regulation. There is really no debate to have there. And that is what I am saying and that is what our recommendation is; that we need to rethink the way we go about regulation. That does not mean reducing the standards; that means reducing the time delays.

That means catching up with 30-year-old process technology changes in the yogurt industry.

At this moment, we are driving our medical device industry to Europe because the FDA is so slow in implementing new standards for medical devices, that medical device companies are just saying, look, we cannot wait. We are going to go to Europe. The European standards are just as high as the American standards but they just go about it in a more efficient way. So our challenge in America on regulation—in environmental regulation and other kinds of regulation—is to keep our high standards but go about applying those standards in a very, very cost-effective way. That is the challenge. And unfortunately, it is not easy. You cannot just pass one law and you are done. You have to go area by area by area but we have not yet found a mechanism to do that effectively in this country so far. Hopefully, we will. Hopefully, we can come out of this period we are in right now raising the level of debate and really understanding what the real issues are and working constructively on the things that we all care about, which is creating a business environment where companies can thrive, where people can hire more workers, where we can export more, and not thinking that it is a contest between business versus the worker, and not thinking it is a contest between wealthy people and poor people, but it is really a contest to be productive.

Ms. CHU. And so Professor Porter, you mentioned that there are certain countries that have high standards, but is there a country that has high standards and also regulations that are manageable?

Mr. PORTER. Well, you know, I think one country that I think is sort of an interesting model for us to consider in America is Germany. I mean, Germany has very high wages, which they have been able to sustain and they have very high levels of employment. Germany has quite high standards in many areas, but the way they go about applying those, implementing those standards is much more pragmatic, much less intrusive, and that would be true in a number of other European countries as well. If we look to a country like China, that is not what we aspire to. They have low standards. It is polluted. The air is horrible. People are getting sick, so that is not where we are going. We do not want to be like that. That is not going to make us competitive. We want high standards but we want to be pragmatic and efficient and timely in how we apply those standards. And in order to do that we are going to have to have a much more trusting dialogue between the private sector and the public sector in setting these standards and we are going to have to create new processes and methods for actually setting these standards really sector by sector, industry by industry. That has been very hard for us to achieve historically over the last 10 or 20 years.

Ms. CHU. Very interesting. Thank you, Professor Porter. And I yield back.

Chairman RICE. To Mr. Hanna.

Mr. HANNA. Thank you.

Dr. McIntyre, Mr. McConeghy, and Mr. McKissick, do you agree or disagree with Mr. Porter's statements here today?

Mr. MCCONEGHY. I agree.

Mr. MCKISSICK. I agree.

Mr. HANNA. All yeses. Me, too.

All of this being said, I want to ask you a few things. You are familiar with a gentleman, Michael Spence.

Mr. PORTER. Michael Spence is one of my coauthors.

Mr. HANNA. I am glad to hear that. Someone I enjoy and his belief in tradable goods.

The middle class is shrinking, incomes are down, taxpayers are not there because they are simply not making enough money. A couple things. What is the future like if we stay on the path we are on? Because you have already indicated in your statement that we are way behind in the sense that we have taken, I guess, some things for granted and the rest of the world is passing us by, doing exactly what we do, but doing it in many ways as well. STEM education, there is much talk about science, technology, engineering, and math. Mr. Spence is particularly written about that a great deal. And how we can change the dynamic. I mean, I have read what you wrote here but what you say is so poignant to me and it is something everybody I think in this Congress should hear said as beautifully as you have said it. I would also like to give a little more time to talk about maybe Michael Spence's work and what you think about his thesis in terms of tradable, value-added, highly-intellectual properties being that place that the rest of the world goes to because we cannot make what we used to make as well and be who we want to be, which is a thriving middle class who once again become taxpayers and kind of live that "American dream."

Mr. PORTER. Well, thank you for that question. Mike Spence and I are dear old friends and I am very proud of him for his tremendous contribution.

The point he makes about traded and nontraded is something I actually skipped earlier and it grows also out of the work I have done. When you look at an economy like the United States, there are really two economies there. One is the local economy, and there are a certain number of industries that are really existing to serve the needs of the population living in California or America. So let us take health care. The health care industry is not a traded industry. It is a local industry. Health care services are provided to the people who live near the health care provider. The same is true with retailing. The same is true with housing and real estate. There is a big local economy. In fact, about two-thirds of all the jobs are local. They are not traded. They are serving the local region.

The other one-third of the jobs are traded. Those are in industries like automobiles where we not only serve the local market but we also serve the international or global market in that particular field. Those are traded goods. The local economy is very important and it accounts for a lot of jobs, but the real driver of prosperity in an economy is the traded economy. It is our ability to compete in those fields where we can specialize in areas where we are really unique and we can then expand and grow those industries and serve the world. So Hollywood is a great example. We serve the world in video entertainment and movies. That is a traded good. Software. We are a global player in that traded industry, and those industries serve the world. They do not just serve the United States.

Now, the stunning statistic, Mr. Hanna, is over the last 20 years of the jobs that America has created, zero net jobs have been created in the traded economy. Zero. And I think Mike Spence, through his work, really came to the same conclusion. All the jobs that we have created over the last 20 years, net jobs, have been in the local economy.

Mr. HANNA. He calls it service-oriented.

Mr. PORTER. And it is service-oriented. It is some goods but mostly service-oriented. And so this is just a further sign that something is broken here, that we have not created enough of an effective enough business environment so that that traded work where we have to compete can actually be successfully done competitively here. So I think it really reinforces the point that I am making.

Now, the point you made about the middle class is a profound point. In America, the problem we are having is not with the people who have high levels of skill and high levels of education. They are doing actually quite well. The global economy is a net plus for them. The problem is the people that have a high school degree that do not have special skills. They are very dependent on the competitiveness of our business environment. If we have a crummy business environment, then the person with just average skill, that job is going to go because you can get that job done cheaper somewhere else.

So what we have to do is we have to have such an efficient business environment that people without really unique high-level skills can be employed and be productive in America. And that is where we really lost out. And that is putting us on a profoundly dangerous course because if upper income people do well—usually because they have really high and unique skills—and the middle and lower income people do poorly and we have a growing divide, it just tears our society apart. And it erodes the support for business. And so it starts leading to policies that really work against business and then that just makes it worse and worse and worse and worse. So what we have got to do is we have got to get this flywheel reversed and moving in the other direction. If we can improve our business environment, there will be more investment here. Not only will the high skilled people do well but the middle skill people. You know, Apple was a brilliant, innovative company but they made nothing in America. So we did not get all the benefits of that innovation because we did not have a competitive enough business environment so that they could make anything in America cost-effectively. But what if we had a better business environment? Then we would not only get Apple's brilliance and innovation and patents, but we would also get a lot of manufacturing opportunities that would spawn off of those innovative companies.

So this is kind of the fix that we are in. The good news is that the really, really hard stuff, the hardest thing that we have to fix is K-12 or public education. Finally, after decades of work I think there are some bright signs there. We are working on that. The reason we did not put it on our list is because it is really not fundamentally a federal issue, but these other areas, these eight areas, we can fix those areas. They are not rocket science and there is a lot of common ground. And the question is how do we get enough weight and energy behind this to actually get it done.

Mr. HANNA. Thank you.

Chairman RICE. Mr. Payne.

Mr. PAYNE. Thank you, Mr. Chairman.

This has really been an extraordinary panel in terms of your testimony. And you know that when two or three of your questions have been answered before you ask them. So I would like to thank you for that.

Mr. Porter, in your submitted presentation you also identified the need to responsibly develop the American shale gas and oil reserves. With the similar environmental concerns as oil drilling, do you agree that the fracking should undergo the same amount of regulation or at least improve regulations such as measuring and reporting air pollution and minimizing water use and improving well casing and cementing?

Mr. PORTER. Mr. Payne, thank you for that question.

Everybody needs to know that the great windfall that we have got in America is the shale oil and gas. It is transformational. It is going to allow us to do things in America with a competitive advantage that we could have never dreamed of before. It is going to allow us to over time diminish our need to import oil which has been a massive part of our negative trade balance for decades. So it is a windfall.

It does not come easily because there are legitimate environmental issues that have to be addressed. That said, there are rapid improvements in technology, and if we put in place the right kind of regulatory framework that requires reporting and inventory and best practices in terms of technology and utilization of water and aquifers and so forth, I am confident from everything I know and from all we have studied that we can develop this resource in a very responsible way that will adequately protect our environment. Again, if we approach the regulatory process pragmatically and with common sense, without emotion, without extreme positions.

I know a number of the companies in the field and, for example, Baker Hughes is one of our great American oil field service companies. They have come up with breakthrough technologies to minimize water use to reduce the risk of some of the environmental impacts. So the innovation machine in America is working but we need an overall regulatory framework here. I am confident we can put one in place but yet we do not have one now and that has created a lot of uncertainty about whether this resource can be developed, how it can be developed, whether we should export gas or not, and right now we are kind of stuck in that terrible situation where we have got a great asset but really we are not moving forward in putting it into production.

Mr. PAYNE. And to the rest of the panel, each one of you, if you could just address the impact that the education system has had on your sectors, and do you have recommendations to address the negative impacts?

Ms. MCINTYRE. Thank you for that question.

As far as science and engineering, education in the U.S., we certainly have excellent universities and are doing quite well there. The pipeline for students going into science and engineering is a concern that we, in fact, are able to produce a number of engineers and scientists that we need in order for the innovation stream to come forward at this point. For high performance computing, it is a real challenge. The expertise that I talked about not having for small- and medium-size manufacturers, there are not a lot of people migrating towards education that would help them to learn how to use high performance computing. So we need a way of getting younger people to understand the benefits of using this type of computing technology and the education that should undergird the use of that technology. But there are universities now looking at how can we do this, how can we educate the professionals now to use these tools.

Mr. MCCONEGHY. Congressman, thank you.

I guess I would offer two things. Certainly, we were founded by an immigrant to the country, and having good common sense immigration, certainly educating foreign students in our fine universities and then inviting them to leave probably does not sound real smart to a guy like me.

Secondarily, business has to cooperate with universities to drive practical education and certainly, we have worked with a number of the colleges in our area in New York State and with our recent move to Idaho around manufacturing techniques and technologies, and I would say both of those things I would put at the top of the list. Immigration, certainly starting with those students that are here studying and inviting them to stay, not inviting them to leave, and clearly business has to work with the institutions in this area.

Mr. MCKISSICK. Thank you, Congressman Payne.

In the northwestern corner of South Carolina, we are quite blessed because we have an outstanding K-12 system in our community. However, I would say South Carolina's single greatest problem is K-12 and clearly we must make improvements there if we are to advance as a state.

Regarding technical training, South Carolina is incredibly blessed to have an outstanding technical education system, and frankly, when Senator Ernest F. Hollings was the governor of South Carolina in the early '60s, he led an effort to really drive great investment in technical training, and it has been growing and thriving and changing with industry needs and changing as our economic dynamics have changed ever since. So that is quite a positive for us. Higher ed in South Carolina is terrific, especially in the region that I live. And I am biased. I am a Clemson University fan. But I do not think there is any doubt but that we must focus on K-12 in our state and in our country.

Mr. PAYNE. Mr. Porter, any thoughts?

Mr. PORTER. Well, I think the panel has made excellent contributions, and I have little to add. I would add a few points.

I think at the university level, the U.S. historically had more university graduates as a percentage of the workforce than any other country. Today, we are way back in the pack, so I think we still have a higher education issue, and the issue there is more accessibility and affordability, and also the issue of getting people into the STEM pipeline as Dr. McIntyre was talking about. There are some excellent efforts in that area; we can do better.

There is a critical need in the middle skill area. Lots of promising efforts, including South Carolina. The K-12 problem is a profound problem and that is probably the subject for a whole another discussion, but Harvard Business School is working with the Gates Foundation and Boston Consulting Group to do kind of a comprehensive assessment of what we have learned about improving K-12 education. There are a lot of success stories and we would love to share that work with you as it rolls out.

Mr. PAYNE. Thank you, Mr. Chairman. I yield back.

Chairman RICE. I am going to ask one more question which is going to open it up to another round if anybody else does, but this is the most important thing to me as far as I am concerned. Our American competitiveness in jobs is the most important thing. If we can make progress on this front, if we can get it resolved, I think it solves a lot of other problems.

Mr. McKissick, I want to ask you—could you put that slide back up, the slide that was up earlier about the quadrants?

Mr. McKissick, do you know what your effective tax rate is at your company?

Mr. MCKISSICK. Yes. Ours is in the high 30 percent range.

Chairman RICE. You had mentioned earlier—I am an ex-lawyer by trade and they say never ask a question if you know the answer, but I do not know the answer to this and I am treading on dangerous ground here.

You said earlier that you worked with partnerships with people in Mexico to do part of your manufacturing. Was the effect of that to get a lower tax rate in Mexico at any point?

Mr. MCKISSICK. No. It was more about partnering with companies that had state-of-the-art technology and a desire to be best in class.

Chairman RICE. Right.

Mr. MCKISSICK. And it was also to create a new outlet for our fabrics. And in Mexico, unlike most NAFTA models, most NAFTA models are such that you do a level of production in Mexico and it comes back to the U.S. market. Not in our case. In our case, our fabrics stay in Mexico. We spin yards. We weave fabrics. Those fabrics are finished in Mexico, cut and sewn in Mexico. Outstanding designs are applied to those fabrics, and they have got an incredible distribution system that goes to the Mexican consumer. So to me it is a wonderful example of how NAFTA should work.

Chairman RICE. All right. Let me ask you this. You are in the high 30s tax rate here in the United States. Ireland is 13. Would you be more competitive at a 13 percent tax rate worldwide?

Mr. MCKISSICK. Well, absolutely. And you ask, well, what do you do with the money. Well, it goes right back into plants. I mean, that is seed capital. If you are a private company, and we are, that is seed capital to grow your business. So there is absolutely no question but that you can buy new technologies. You can get better in everything you do.

Chairman RICE. If we cannot get our ports dug out for all of our environmental regulations it takes so long to work through and as a result of that you pay 10 percent more in transportation costs than your competitors worldwide, are you more or less competitive as a result of that?

Mr. MCKISSICK. There is no doubt that Charleston Harbor is a competitive advantage to every manufacturer in South Carolina. You know, if you look at the resources of our wonderful state, Charleston Harbor has a huge advantage and it is critically important that that harbor be dredged to be able to access so the biggest of ships can come in there and ship product in and ship product out.

Chairman RICE. And if we close down all of our coal plants and the price of our utilities go up 20 percent, are you more or less competitive worldwide?

Mr. MCKISSICK. Well, I agree with Dr. Porter in that one of the phenomenal advantages we have in this country are the cost of energy, especially if you are a manufacturer like ours. We use a lot of compressed air. That is what we do. When you spin yarn and weave fabrics, you use a lot of compressed air. We have got such a leg up on our foreign competitors on our utility costs. We have got one of the best utilities I think on the planet that services our area, Duke Energy. They are fantastic. But if we do not understand the criticality, the critical importance, the role that they play in our economy, we are going to hurt ourselves. They are laying the golden egg, and I think we have got to protect that and we have got to leverage our energy resources.

Chairman RICE. Mr. McConeghy, I am going to ask you the same questions.

Mr. MCCONEGHY. Okay.

Chairman RICE. Do you know your effective tax rate?

Mr. MCCONEGHY. I do know our effective tax rate.

Chairman RICE. What is it?

Mr. MCCONEGHY. Our effective tax rate is very low, basically, because of the significant investments that our founder has chosen to make in factories where the bonus depreciation has knocked a lot of income off our books in the short term. But over the long term—it is just a timing question for us. We are actually a sub S-corporation, so I expect our tax rate will be in the high 30 percent in the very near future.

Chairman RICE. All right. And you talked about operations in Canada, and I was not sure if you continued with that. Did you actually complete the new facility in Canada?

Mr. MCKISSICK. We did not complete it because of the barriers that we found fundamentally in the trade system that protected the Canadian dairy industry.

Chairman RICE. Do you have any other operations offshore?

Mr. MCKISSICK. Our international headquarters is based in Amsterdam, and we own a business in Australia, and we are exporting product from the United States to the U.K. at this time.

Chairman RICE. Do you produce product in Amsterdam?

Mr. MCKISSICK. We produce product in Australia only at this time and the U.S.

Chairman RICE. Why is your international headquarters in Amsterdam?

Mr. MCKISSICK. It is the best place to set up an international business?

Chairman RICE. Why?

Mr. MCKISSICK. Because of the taxes.

Chairman RICE. Okay.

If we cannot get our ports dug out, if it takes 14 years to get permission to dig out the Miami port and as a result transportation costs to the United States are 10 to 20 percent higher than other places in the world, does that hurt or help your competitiveness worldwide?

Mr. MCKISSICK. I think it is pretty straightforward. It hurts. Right? You know, for us we know that cost is an important factor. Most of our product actually comes from the U.S. obviously with dairy being our number one input. We actually recently on-shored some manufacturing because of the logistics costs. We actually took manufacturing from Central and South America and brought it back to the United States because of costs. So we pay close attention to costs, as all business people do all the time. And it is critical that we do it effectively, that we do not just run over the environment. Nobody thinks that that is the way to go. Dr. Porter is absolutely right.

We have had a situation in New York recently. We want to bring some cutting-edge technology and we have spoken to the folks in the New York government. We said, "Hey, we want to do this, but we are going to generate a lot more water. It is very clean but it is above the quantities." And they said, "Hey, we can help with that so long as it is clean." That type of change in headset is critical; not just to have arbitrary standards because that change will drive our costs down and make us much more competitive.

Chairman RICE. Thank you, sir.

Mr. Porter, I just want to say do you have anything to add to that?

Mr. PORTER. Well, you know, I think on the corporate tax issue this is the number one issue that we heard from the thousands and thousands of business people that we surveyed—give us a more reasonable corporate tax structure that is more in line with other countries. We will not then have to play all these complicated games to try to figure out how to move activities and minimize taxes by being complicated. We have great American companies with headquarters in Switzerland—world headquarters in Switzerland right now, and every time I see that it makes me want to cry because that is simply happening because we are just too far out of line. If we could bring down that rate to let us call it a median level. It does not have to be low, it does not have to be Ireland, just a median level, and then do the trade of eliminating a lot of the deductions and special deals that have been made over the years, I think business is ready to do that deal. And I think a lot of people would breathe a big sigh of relief if we could move in that direction.

Now, how to deal with the territorial system is much more complicated. I think there is room for compromise. I am not a purist. Jumping to a pure territorial system now may not be feasible. Let us find movement in that direction that will make progress. Again, the system we have now is the one that is creating all this complexity and tax shifting and transferred pricing. We have created that ourselves. That did not happen as an act of God. We created this complex world that we live in now from a tax point of view, and I think most business people now have understood that that is just not the way to go. It is not good for business. The question is can we move in the right direction? Can we be pragmatic?

We also, Chairman, surveyed the general public about competitiveness—a sample of the general public, 1,000 members of the public, a very carefully selected sample to be unbiased in every possible way. And their number one, of all the eight things on the list that I have that you have seen earlier, of all the eight things, the one that had the most support from the general public was corporate tax reform. Because I think intuitively these people understood that the current system is not working for America.

Chairman RICE. I want to ask one more question and then I will shut up.

Go back to that other slide. At the top right, things where we are strong and improving—universities, entrepreneurship, firm management, property rights, clusters, innovation, capital markets—most all those things are in the realm of the private sector. Not all, but almost every one of them; right?

Mr. PORTER. A lot of them.

Chairman RICE. Those are the things we are doing great at. Bottom left, things we are not doing well. First, tell me where this section of quadrants came from. How did you derive this?

Mr. PORTER. Well, this quadrant came from—we have done two large-scale surveys of all Harvard Business School alumni, and those alumni are in general in relatively senior management positions, and they are actually spread over the world. So this is a mixture of what our alumni living in Germany think and our alumni living in America think. And this simply tabulates the survey data from our alumni.

Chairman RICE. Okay. So is this like 35 people or is it 100 people?

Mr. PORTER. This is more than 10,000 people. We have done it twice and gotten basically the same answer twice.

Chairman RICE. All right. So top right, private sector, doing pretty good.

Mr. PORTER. Right.

Chairman RICE. Bottom left, legal framework, regulation, tax code, macro policy, political system.

Mr. PORTER. That is pretty much sitting right around us where we are speaking now.

Chairman RICE. Thank you, sir.

Ms. Chu.

Ms. CHU. Well, I just have one question, which is that one of the pilots—and this is for Dr. McIntyre—one of the policy recommendations put forward by your council, the Council on Competitiveness, is to ensure lower cost, easy access to high quality education, and training for all Americans. And on July 1st, the student loan rates doubled from 3.4 to 6.8 percent for over seven million students. What impact will this have on students who already face high education costs? And how could this possibly affect the American labor force?

Ms. MCINTYRE. The increase in the rate to pay back loans is going to have an effect on time to degree completion for students, many of whom have to work in order to sustain themselves. They may not take out as large a loan in order to go to school, and so they will have to work more. So it could impact time to degree.

It is going to have an impact on those who are able to go to college or to universities or even two-year colleges because of not being as affordable as it used to be. So it is a concern. I think we will see some of those effects I think sooner rather than later in terms of the number of loans. And then decisions will be made because of that.

Ms. CHU. Thank you. I yield back.

Chairman RICE. Mr. Hanna.

Mr. HANNA. No.

Chairman RICE. I want to thank our witnesses for their testimony and participation today. As we have heard today, restoring America's competitiveness is imperative to our country's well-being. I am encouraged by the firms who have managed to remain competitive despite the obstacles and changes needed that are clearly outlined by our witnesses. As I stated at the outset, I am committed to reviving our nation's competitive edge and will continue to work toward that goal. The real-life experiences shared by the businesses and solutions proposed by economic experts who are dedicated to our nation's long-term success will help our nation's political leaders better understand our current environment and make wiser choices for the future.

I ask unanimous consent that the members have five legislative days to submit statements and supporting materials for the record.

Without objection, so ordered.

Thank you very much, panel, for being here. This is the best panel I have had since I have been in Congress. I have truly enjoyed it. These are really fundamental things that we need to work on and I appreciate so much your time. The hearing is now adjourned.

[Whereupon, at 3:17 p.m., the Subcommittee was adjourned.]

APPENDIX

"Restoring U.S. Competitiveness"
Testimony by Michael E. Porter, Bishop William Lawrence University Professor, Harvard Business School
House Committee on Small Business, United States House of Representatives,
July 9, 2013

House Committee on Small Business

United States House of Representatives

Restoring U.S. Competitiveness

Michael E. Porter

Bishop William Lawrence University Professor

Harvard Business School

July 9, 2013

Washington, DC

"Restoring U.S. Competitiveness"
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Contents

Executive Summary

WHAT IS COMPETITIVENESS?

A country such as the United States is competitive if the companies operating there can compete successfully in the global economy while simultaneously raising living standards for the average American.

- To be competitive over time, the United States requires a business environment that enables businesses and citizens to be highly productive over the long run.
- Increasing productivity over the long run should be the central goal of economic policy.

THE U.S. IS FACING A LONG-TERM STRUCTURAL PROBLEM

The United States is facing a long term competitiveness problem, not just a cyclical downturn.

- The challenge is competitiveness, not jobs per se.
- A number of disturbing trends emerged well before the Great Recession, pointing to a structural problem.
- The American jobs machine began sputtering well before the Great Recession.
- Industries exposed to international competition saw almost no job growth in the 1990s and 2000s.
- The U.S. labor force participation rate peaked in 1997, stagnated and started to fall in 2001. It has fallen to a level not seen since the early 1980s.
- Real household income began stagnating well before the Great Recession.
- Since 2008, the United States has fallen in all competitiveness and business rankings, relative to the rest of the world.

AMERICA'S CORE STRENGTHS

HBS research shows that the United States retains a series of core strengths to build upon. These include:

- *Entrepreneurship*: The United States offers a vibrant environment for entrepreneurship, such as by providing access to capital for high-quality ideas, ease of setting up new businesses and a lack of stigma for failure.
- *Innovation*: The country's innovation infrastructure remains strong with high-quality scientific research institutions and the availability of scientists and engineers.

- *Universities:* The country has many high-quality universities with strong linkages to the private sector.
- *Clusters:* There are many strong clusters—that is, geographic concentrations of related firms, suppliers, service providers, and supporting institutions with effective collaboration.
- *Capital markets:* The quality of capital markets remains high especially in terms of ease of firm access to appropriate capital and the allocation of capital to most-profitable investments.
- *Property rights:* The United States enjoys high protection of physical and intellectual property rights and low corruption.

SERIOUS WEAKNESSES IN THE U.S. BUSINESS ENVIRONMENT

The United States is facing a series of severe business environment weaknesses. These include:

- *Tax code:* The national tax code is complex
- *Legal framework:* An inefficient legal system results in high legal costs and slow adjudication.
- *Regulation:* Ineffective and unpredictable regulations place a heavy burden on firms.
- *Macroeconomic policy:* The government's budgetary, interest rate and monetary policies are unsustainable.
- *K-12 education system:* The United States does not offer universal access to high-quality education. The curricula do not prepare American students for productive work.
- *Political system:* The ineffectiveness of the political system was identified as the single greatest weakness affecting U.S. competitiveness.

THE IMPACT ON SMALL BUSINESSES

Small business is disproportionately disadvantaged by eroding U.S. competitiveness.

- Small business is crucial for job generation and important for income and wealth for all communities.
- Small businesses are **disproportionately** affected by weaknesses in the U.S. business environment.
- The recent focus on providing tax benefits and preferences for small business will be ineffective in the long term.

- The best way to support small business is to **improve the overall U.S. business environment**.

RESTORING U.S. COMPETITIVENESS

Restoring competitiveness will require a strategic agenda involving multiple stakeholders.

- Addressing the challenge will require taking a holistic approach to competitiveness, not one focused on individual policy areas.
- The United States needs a **national strategy** to improve competitiveness.
- A strategy requires long-term, multiple-decade perspective informed by America's competitive position today.
- Washington has a crucial role, but so do states and regions. Policymakers have to ensure a healthy U.S. business environment in which companies can grow, innovate, prosper and improve productivity—and in the process provide rising wages and improving living standards to workers in America.
- Businesses can and should also play a major role in improving U.S. competitiveness.

THE FEDERAL COMPETITIVENESS AGENDA

Our work has identified eight strategic areas where Congress and the Administration must take important steps to restore competitiveness.

- The agenda
  1. Ease the immigration of highly skilled individuals.
  2. Simplify the corporate tax code.
  3. Tax overseas profits earned by American multinational only where there are earned.
  4. Aggressively address distortions and abuses in the international trading system.
  5. Simplify and streamline regulation.
  6. Improve logistical, communications and energy infrastructure.
  7. Responsibly develop American shale-gas and oil reserves.
  8. Create a sustainable federal budget, combining greater revenue and less spending.
- Each of the eight areas addresses a critical weakness, can transform America's economic prospects over a 3-5 year period and enjoys widespread, bipartisan support.
- While there are numerous other areas where improvement is possible, these eight areas comprise America's crucial priorities today.
- Progress in multiple areas over the next year will have a transformational impact on business sentiment and confidence to invest.

Harvard Business School's U.S. Competitiveness Project: Overview

Harvard Business School (HBS) launched the U.S. Competitiveness Project in 2011 as a research-led, non-partisan, multi-year effort to understand the state of U.S. competitiveness as well as the interrelated factors that shape and improve competitiveness. Led by Project co-chairs HBS Professor Michael E. Porter and Professor Jan W. Rivkin, the U.S. Competitiveness Project now engages a group of more than 25 HBS faculty members and colleagues from other leading institutions including Harvard School of Education, Harvard Kennedy School, and MIT.

The Project defines competitiveness as *the ability of firms operating in the U.S. to compete successfully in the global economy while supporting high and rising living standards for the average American*. The Project aspires to mobilize the business community and policymakers to address the challenges to U.S. competitiveness. To galvanize the business community, the Project gathers best practices and data and disseminates it to business leaders to help them understand the role they can and should play in improving U.S. competitiveness. To mobilize policymakers, the Project focuses on data and research in policy areas that strengthen the environment for doing business in the United States.

HBS research on U.S. competitiveness is particularly relevant and significant for small businesses. The factors that strengthen U.S. competitiveness—innovation, entrepreneurship, clusters, and property rights—help small businesses in the U.S. flourish and prosper. The factors that weaken U.S. competitiveness—legal complexity, regulatory burdens, an inadequate K-12 education system, a gridlocked political system—cripple small businesses and stunt their growth.

Factors that weaken or erode the state of U.S. competitiveness hit small businesses hard. The fact that the U.S. economy is suffering from long-term, structural issues—and not just a cyclical downturn—is of particular concern for small businesses. While the overall economy might show signs of a cyclical recovery, this is not a tide that raises all boats equally. The long-term structural issues that continue to beset the U.S. economy are a drag on small businesses. These negative forces hold back and curtail the prosperity of small businesses, and reduce their impact as potential engines of growth for the nation.

U.S. Competitiveness Project: Highlights

HBS faculty members prioritized research and data collection that provided insights into the structural long-term issues besetting U.S. competitiveness. They created a definition for competitiveness and identified the key areas that are pertinent to strengthening the U.S. as a location for business. These include: innovation, manufacturing, entrepreneurship, company location choices, firm governance, local business ecosystems, human capital, K-12 education, fiscal policy, tax policy, capital markets, environmental sustainability, democracy, and international trade. Unprecedented for any business school, HBS has invested effort and resources in bringing the research to a wide audience of business leaders and policy leaders in an effort to influence the national dialogue on competitiveness and to provide fact-based frameworks for change. The Project outputs so far include:

HBS CEO Summit on U.S. Competitiveness, November 2011: To engage business leaders in the issues surrounding U.S. competitiveness and solicit guidance for the Project's research, HBS convened a gathering of 100 U.S business leaders in November 2011. Many of these leaders remain engaged in U.S. competitiveness research and want to commit to improving U.S. competitiveness.

"Prosperity at Risk," HBS Survey on U.S. Competitiveness, January 2012: To capture the perceptions of the global business community on the current state and trajectory of U.S. competitiveness, HBS conducted the first ever survey of all HBS alumni worldwide. Nearly 10,000 alumni responded, making it the largest research-based survey of HBS alumni in the School's history. The survey was developed to solicit concrete, specific recommendations that policymakers and business leaders could follow to improve U.S. competitiveness. The survey report, "Prosperity at Risk" was distributed to more than 75,000 business leaders across the country, as well as media, policymakers, civic leaders and not-for-profit leaders.

"Restoring U.S. Competitiveness," Special Issue of Harvard Business Review, March 2012: The research undertaken by the scholars and practitioners contributing to the U.S. Competitiveness Project was published in a special issue of Harvard Business Review (HBR) devoted to U.S. competitiveness, in March 2012. Faculty members contributed more than a dozen articles in the special issue titled "Restoring U.S. Competitiveness." The special issue was distributed to Harvard Business Review's 203,000 subscribers and a projected 29,000 others through newsstand sales. Copies of the issue were also included in a bundled mailing sent to 11,500 HBS alumni in March 2012, and an additional 5,000 copies have been distributed to business and policy leaders across the country.

"Paths Forward," a National Campaign to Engage Business Leaders on U.S. Competitiveness (March 2012-Now): For the first time ever, HBS faculty as a team stepped outside the Boston campus to promote their research to a national audience of business leaders across the U.S. Since March 2012, HBS has conducted seven *Paths Forward* events across the country. Each event was held at a major economic center of the country and convened HBS alumni, business leaders, elected officials and local organizations. At each event, HBS faculty members presented research on U.S. competitiveness and sparked dialogue and discussion on competitiveness opportunities and issues at the local and regional level. HBS has held *Paths Forward* events in New York, Washington D.C, Charlotte N.C., San Francisco, Chicago, Detroit and Boston. Nearly 3,000 people attended the events, with 30 percent in leadership positions such as Chairman, Chief Executive Officer, President, Executive Directors or Partner, Managing Director, Managing Partner, Vice-President and Founder.

<u>"Commitments" from Business Leaders (March 2012-Now)</u>: Each *Paths Forward* event ends with a "call to action." HBS faculty members request attendees to reflect on the commitment they or their company can make to improve U.S. competitiveness. Designed to spur action, commitments include helping a local community college improve its curriculum, helping small businesses grow, building a local supply chain and participating in a regional cluster strategy. The list of commitments provides HBS with a framework for future research on specific areas of U.S. competitiveness.

<u>Database of Best Practices for Business to Improve Competitiveness, June 2011</u>: HBS engaged a leading international consulting firm on a 12-week project in 2012 to deepen the Project's understanding of how companies might already be investing in improving U.S. competitiveness. HBS is building an inventory of efforts that companies in the U.S. are undertaking to invest in their local communities. So far, this effort has yielded a rich treasure trove of more than 500 potential case studies and best practices, identifying a large number of companies and organizations that are doing innovative, proactive work to improve skills (256 examples), upgrade supporting industries (119), support innovation and entrepreneurship (56), reshore business activity to the U.S. (58), bolster regional strength and participate in cluster-based activities (53), adopt management best practices (32), and eschew individual company lobbying to advocate business-wide improvements (4).

<u>"Competitiveness at the Crossroads," the 2012 HBS Survey on U.S. Competitiveness, February 2013</u>: In September 2012, HBS conducted the second alumni survey on U.S. competitiveness. In addition, the survey was also administered to 1,025 members of the general public. The survey not only provides an updated view of the U.S. business environment, but also illuminates specific actions that business leaders and policymakers can take to improve U.S. competitiveness. For example, across the political spectrum, business leaders and the general public strongly called on the President and Congress to put the federal budget on a sustainable path, reform the corporate tax code, improve America's infrastructure, address distortions of the international trading system and craft a responsible framework for developing new energy sources.

<u>Influencing the national dialogue on competitiveness (January 2012-Now):</u> HBS is investing in a national media and awareness campaign to promote its non-partisan data and research on U.S. competitiveness. The Project was featured in over 200 articles in top-tier publications including The Economist, Fortune, Financial Times, Wall Street Journal, Forbes, Time, Reuters, USA Today, Bloomberg Businessweek, Chicago Tribune, Los Angeles Times, The Huffington Post, The Washington Post and Politico.

- Professor Michael Porter and Professor Jan Rivkin collaborated on a thought-piece on the role of business in promoting competitiveness. The article "*What Business Should Do to Restore U.S. Competitiveness*" was published in Fortune on October 29, 2012.
- Professor Michael Porter and Professor Jan Rivkin also worked together to develop an eight-point plan for policymakers to restore U.S. competitiveness. An article based on their findings "*What Washington Must Do Now*" appeared in The Economist's special issue "The World in 2013" on November 22, 2012.
- Over 12 television segments were broadcast on the Project on CBC, CNN, FOX, and MSNBC.
- Research by more than a dozen HBS professors has been mentioned in top-tier articles and influenced the national dialogue and debates on U.S. competitiveness issues.
- Five of the top 10 Google results of "U.S. Competitiveness" are related to the HBS U.S. Competitiveness Project. Seven of the top 10 Google video search results of "U.S. Competitiveness" are related to the HBS U.S. Competitiveness Project.
- The Project website which showcases research, data and video content, has had more than 90,000 page views. While 67 percent of the visits are from people within the U.S, nearly one-third come from outside the U.S, pointing to the global interest in the subject of U.S. competitiveness.

Future Agenda: Taking Ideas to Action

HBS continues to invest in research and data collection on U.S. competitiveness. In 2013, faculty members seek to go deeper into "taking ideas to action." In this phase, HBS research will focus on best practices on the role of business in improving U.S. competitiveness.

The six areas that HBS faculty members are currently working on are:

The role of business in working with educators to transform K-12 education: America's K-12 education system is undermining our national competitiveness. To address this critical issue, HBS professors Jan Rivkin and Kevin Sharer and Senior Fellow Allen Grossman are partnering with the Bill & Melinda Gates Foundation and The Boston Consulting Group to examine how business can help educators accelerate change in K-12 education. The faculty members are currently working on: a survey of district leaders; a booklet to help business leaders better understand America's schools and why the conditions are now right for transformational change; and a playbook of specific ways business leaders can engage with educators to create fundamental and lasting change. HBS will convene a select group of business and education leaders in November 2013 to learn from past business efforts, help focus the business community on a handful of priorities and form a plan to engage more business leaders to action, in partnership with educators.

The role of business in local supply chain development: The mass migration of manufacturing away from the United States has hampered the country's ability to innovate in cutting edge areas like flat-panel displays, advanced batteries, machine tools, precision bearings, optoelectronics, solar energy and wind turbines. To reverse the large-scale outsourcing of products and processes, American firms will need to invest in building local suppliers who can offer quality as well as scale of manufacturing. Professor Michael E. Porter and Professor Gary P. Pisano are collaborating on a research-led effort to understand the current state of local supply chain development in the United States and identify best practices for building strong supply chains within the United States. This effort will include identifying and researching case studies on American companies that have invested in building a strong and supple supplier base within the country.

The role of business in closing the middle skills gap in America: With nearly 3.8 million job openings posted in recent times and more than 11.8 million unemployed, there is clearly a skills mismatch in America—especially in middle skills. Professor Joseph B. Fuller is developing a data-driven model to understand the middle skills gap across the United States, by geography as well as by industry. HBS is partnering with the international consulting firm Accenture to identify data sources, develop a national and regional heat map of middle skills gaps across America, and identify best practices of companies investing in closing the middle skills gap. The effort will also include regional pilots to bring the data to the country's largest middle skills employers, educators such as community colleges, as well as local and regional policy leaders. The goal will be to provide stakeholders within a region with all the data they need to work together collaboratively to close the egregious middle skills gaps in their region.

The role of business in infrastructure, communications and transportation: America needs to get moving again and that means finding smart and efficient ways to move people, goods and information. Professor Rosabeth Moss Kanter is spearheading research on the United States' current state and future needs in infrastructure, communications and transportation. This will culminate in a national summit on "America on the Move: 21st Century Transportation and Infrastructure."

The role of business and labor in improving U.S. competitiveness: From 1983 to 2011, total union membership declined by 41 percent. Yet the percentage of unorganized workers who want representation has steadily increased in the last three decades. As unions struggle to adapt and companies and workers alike struggle to acquire the increasingly more advanced and innovative skillsets imperative in today's economy, research indicates that partnership between business and labor can play a critical role in improving U.S. competitiveness. Professor Michael E. Porter and Professor Jan W. Rivkin are in the early stages of investigating best practices for joint business-labor actions to enhance U.S. competitiveness. Most recently, they engaged AFL-CIO President Richard Trumka and his senior management team in discussion with 20 faculty members from Harvard Business School and the Massachusetts Institute of Technology Institute for Work and Employment, on the current state and trajectory of the business-labor relationship.

The role of business in making location choices and choosing the United States: If location decisions by firms are a referendum on a nation's competitiveness, the United States has great cause for concern. The U.S. is just not winning enough location decisions that can support a healthy job growth and rising wages. Professor Jan Rivkin and Professor Michael Porter are taking their research on firm location choices further by identifying and capturing case studies on re-shoring to the U.S. By focusing on the off-shoring and on-shoring experiences of small and large, multinational businesses, they will gather insights into the driving forces as well as challenges of locating in the U.S. The effort will seek to create a library of best practices and case studies on re-shoring.

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Princeton University, BSE, 1969 (Aerospace and Mechanical Engineering)

UNIVERSITY POSITIONS

Bishop William Lawrence University Professor, Harvard University, 2000-present

C. Roland Christensen Professor of Business Administration, Harvard University, 1990-2000

Professor of Business Administration, Harvard University, 1982-1990

Associate Professor of Business Administration, Harvard University, 1977-1982

Assistant Professor of Business Administration, Harvard University, 1973-1977

TEACHING

Professor Porter's ideas on strategy are the foundation for modern strategy courses, and his work is taught at virtually every business school in the world. He speaks widely on competitive strategy, national and regional competitiveness, health care delivery, and related subjects to business and government leaders.

Professor Porter's university-wide graduate course on competitiveness and economic development, Microeconomics of Competitiveness, is taught at Harvard and in partnership with more than 100 other universities from every continent using curriculum, video content and instructor support developed at Harvard.

Professor Porter speaks widely on health care delivery and health care reform throughout the world, with intensive involvement in countries including the United States, United Kingdom, Germany, and Japan. He has created and delivers leadership workshops for top management of health care delivery organizations in the U.S. and other countries. He also leads intensive courses on value-based health care delivery to advanced graduate students and practicing physicians in the Harvard and New England communities, and an intensive course for residents and fellows at Partners Health Care.

Professor Porter created and leads the New CEO Workshop, a Harvard Business School program for newly appointed CEOs of multibillion dollar corporations. Given twice each year by invitation only, the workshop focuses on the challenges facing new CEOs in assuming leadership. The program has reached more than 150 CEOs of many of the world's leading companies. His Harvard Business Review article with Jay Lorsch and Nitin Nohria, 'Seven Surprises for New CEOs' (October 2004) describes some of the learning from this body of work.

RESEARCH FIELDS

Strategy

Professor Porter's core field is competitive strategy for companies. His book, Competitive Strategy: Techniques for Analyzing Industries and Competitors, is in its 71st printing and has been translated into 20 languages. His second major strategy book, Competitive Advantage: Creating and Sustaining Superior Performance, was published in 1985 and is in its 43rd printing. His book On Competition (1998) includes a series of articles on strategy and competition, including the award-winning Harvard Business Review article 'What is Strategy?', published in 1996. An updated version of his article, 'The Five Competitive Forces That Shape Strategy,' was published in early 2008, and his latest thinking on strategy was introduced in his 2011 article 'Creating Shared Value.'

Competitiveness of Nations and Regions

Professor Porter's 1990 book, The Competitive Advantage of Nations, introduced a new theory of how nations and regions compete and their sources of economic prosperity. Motivated by his appointment by President Ronald Reagan to the President's Commission on Industrial Competitiveness, the book has guided economic policy in countless nations and regions. Subsequent articles have expanded on the concept of clusters (geographic concentrations of related industries that occur in particular fields) and other aspects of the theory.

National Competitiveness. Professor Porter has published books about national competitiveness on New Zealand, Canada, Sweden, Switzerland, and Japan. His book, Can Japan Compete? (2000), challenged long-held views about the Japanese economic miracle.

Professor Porter chaired for several years the Global Competitiveness Report, an annual ranking of the competitiveness and growth prospects of more than 120 countries published by the World Economic Forum. A recent paper, 'Determinants of National Competitiveness' (2012) develops a comprehensive framework for understanding the determinants of competitiveness and tests it in a large sample of countries over the last decade.

Clusters. Professor Porter's ideas on clusters, first introduced in 1990, have given rise to a large body of theory and practice. Cluster-based economic development thinking has resulted in many hundreds of public-private cluster initiatives throughout the world. The article 'Clusters and Competition: New Agendas for Companies, Governments, and Institutions' (1999) provides a summary. Recent papers with Mercedes Delgado and Scott Stern, 'Clusters, Convergence, and Economic Performance' (2012) and 'Clusters and Entrepreneurship' (2010), provide statistical evidence of the powerful role of clusters in economic development.

Regional Competitiveness. Professor Porter extended his work on competitiveness to sub-national regions. He led the Clusters of Innovation project which examined five major U.S. regions developing new theory and methodologies. He created the Cluster Mapping Project at Harvard, which provides rich data on the economic geography of U.S. regions and clusters on a special web site. Professor Porter's methodology is the basis for comprehensive new data on the economic geography of the 27 countries of the European Union. The article 'The Economic Performance of Regions' (2003) summarizes some of the important findings from this data as does his recent working paper, 'Clusters, Convergence, and Economic Performance.' The U.S. Economic Development Administration has awarded Professor Porter's team a major grant to make the cluster mapping data and site the national standard.

Innovation. Professor Porter is co-author (with Professor Scott Stern and others) of a body of work on the sources of innovation in national and regional economies, including 'The New Challenge to America's Prosperity: Findings from the Innovation Index' (1999), 'The Determinants of National Innovative Capacity' (2000), and 'Measuring the 'Ideas' Production Function: Evidence from International Patent Output' (2000).

Health Care

Advanced Economy Health Care Delivery. Since 2001, Professor Porter has devoted considerable attention to research on health care competition and the strategy, organization, and measurement of health care delivery organizations. His book with Professor Elizabeth Teisberg, Redefining Health Care: Creating Value-Based Competition on Results (Harvard Business School Press, 2006), was the first comprehensive statement of his value-based health care delivery framework. It has achieved a growing influence on thinking and practice not only in the United States but in numerous other countries.

Professor Porter has published a series of other articles on health care delivery, including 'A Strategy for Health Care Reform - Toward a Value-Based System' (New England Journal of Medicine, 2009), 'What is Value in Health Care?' (New England Journal of Medicine, 2010) and 'Solving the Cost Problem in Health Care' (Harvard Business Review, 2011). He has also developed an extensive curriculum designed not only for use at Harvard but at other universities, medical schools, and professional education programs for health professionals around the world. The curriculum includes case studies of numerous health care provider organizations, health plans, and employers offering health benefits, along with accompanying videotapes of case protagonists. The curriculum, which allows rich discussion of the key concepts of value-based health care delivery and their application in actual practice, is being adopted by medical schools in the U.S. and elsewhere.

Professor Porter has co-authored two monographs which describe and analyze health care systems in other advanced countries using the concepts of value-based health care. Each health care system offers unique lessons about policy and the structure, reimbursement, and measurement of care. The book on Finland (Porter, Teperi, Vuorenkoski, and Baron, *The Finnish Health Care System: A Value-Based Perspective,* SITRA), was published in the spring of 2009. *The German Healthcare System: A Value-Based Competition Perspective*, with Dr. Clemens Guth, was published in 2012. Professor Porter is collaborating with health care leaders in multiple countries to put the ideas into practice.

Recently, Professor Porter has co-founded the International Consortium for Health Outcomes Measurement, devoted to accelerating and standardizing health outcomes measurement globally.

Global Health Delivery. Professor Porter co-leads a research project on health care delivery in resource poor settings. With Professors Jim Yong Kim and Paul Farmer, he founded the Global Health Delivery (GHD) Project, a collaboration of Harvard Medical School's Department of Social Medicine and the Harvard Business School's Institute for Strategy and Competitiveness. Professor Porter has co-authored several articles laying out a strategic framework for global health delivery. The GHD project has also developed a body of in-depth case studies and other teaching materials, which examine value-based health care delivery in resource-poor settings in practice, and a growing number of courses as well as a Master's program. The curriculum and an accompanying web site GHD online (globalhealthdelivery.org), aim to provide a bridge between known science and the actual delivery of care in the field, and a vehicle to train practitioners.

Competition and Society

Professor Porter's fourth major body of work has addressed the relationship between competition and society.

Inner City Economic Development. Professor Porter offered a new theory of urban economic development, beginning with the Harvard Business Review article 'The Competitive Advantage of the Inner City'. In 1994, he founded The Initiative for a Competitive Inner City (ICIC), a non-profit, private-sector organization to catalyze inner-city business development across the country. Professor Porter is Chairman of the ICIC, a national organization that works in cities across America. It has developed numerous articles and national programs (see ICIC.org).

Rural Development. In 2004, Professor Porter published a study commissioned by the Economic Development Administration on rural development, 'Competitiveness in Rural U.S. Regions: Learning and Research Agenda.'

The Natural Environment. Professor Porter introduced a new theory that argued that environmental progress and competitiveness were not inconsistent but complementary. His Scientific American essay, 'America's Green Strategy', triggered this literature as did the article 'Toward a New Conception of the Environment-Competitiveness Relationship' (1995). The so-called "Porter Hypothesis" has been much studied in subsequent literature.

Philanthropy and Corporate Social Responsibility. Professor Porter has devoted growing attention to philanthropy and the role of corporations in society. His Harvard Business Review article with Mark Kramer, 'Philanthropy's New Agenda: Creating Value' (1999), introduced a new framework for developing strategy in foundations and other philanthropic organizations.

His Harvard Business Review article, 'The Competitive Advantage of Corporate Philanthropy' (2002), focused on how corporations can create more social benefit from their philanthropy. His Harvard Business Review article with Mark Kramer, 'Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility' (2006), tackles the strategic underpinnings of corporate social responsibility.

Creating Shared Value. Professor Porter's 2011 Harvard Business Review article with Mark Kramer, entitled 'Creating Shared Value', introduced the next generation of thinking about the role of the corporation in society. Creating Shared Value is about utilizing capitalism itself to address societal needs and problems. This article is giving rise to widespread changes in corporate practice and shifts in governmental and NGO perspectives globally.

With Mark Kramer, Professor Porter co-founded FSG, an international non-profit advisory firm that provides advice and innovative ideas about social strategy to corporations, foundations, and social service organizations. FSG, with a staff of more than 100, has offices in multiple countries and works with leading companies, NGOs and foundations globally. FSG and Professor Porter have recently launched the Shared Value Institute to advance research and catalyze broader adoption of shared value thinking in business, government and the NGO community.

ADVISORY

Professor Porter has served as a strategic advisor to many leading U.S. and international companies, including Anglo American, Procter & Gamble, Royal Dutch Shell, Scotts Miracle Gro, and Taiwan Semiconductor Manufacturing Company. He also works with national and state government leaders in the U.S. and other countries and regions including the Basque Country, Canada, Central America, Colombia, Korea, New Zealand, Peru, Portugal, Rwanda, Saudi Arabia, Singapore, and Taiwan. More recently, he has assisted major health care delivery organizations including the Cleveland Clinic, MD Anderson Cancer Center, Texas Childrens Hospital, The National Health Service (U.K.), The National Health Service (Portugal), Amil Assistência Médica Internacional (Brazil), and others.

ORGANIZATIONS FOUNDED

Co-Founder, International Consortium for Health Outcomes Measurement, 2012, non-profit

Co-Founder and Senior Advisor, FSG, 2000, non-profit

Co-Founder, Center for Effective Philanthropy (CEP), 2000, non-profit

Founder and Chairman, Initiative for a Competitive Inner City (ICIC), 1994, non-profit

Co-Founder, Monitor Company, 1983, for profit

PRINCIPLE BOARDS OF DIRECTORS/ADVISORY BOARDS

Corporate Boards:

Parametric Technology Corporation

Merrimack Pharmaceuticals

Advisory Boards:

American Securities LLC

Pershing Square Capital Management, LP

Major Public Service Boards:

Presidential Advisory Council, Rwanda

Presidential Advisory Group, Republic of Korea

Princeton University, Board of Trustees, 2008-2012

Chairman, Governor's Council on Economic Growth and Technology (Massachusetts), 1994-1996

Executive Committee, Council on Competitiveness (Washington, DC): principal advisor for Competitiveness Index, Innovation Index, and Clusters of Innovation projects

International Advisor, National Competitiveness Council of Nigeria

Special Advisor to the President of the World Bank

AWARDS AND PRIZES

National Honors

Lifetime Achievement Award in Economic Development, U.S. Department of Commerce, 2008

Order of José Dolores Estrada, Great Cross, Government of Nicaragua, 2002

La Creu de Sant Jordi, Government of Catalonia (Spain), 1998

Honorary Doctorates

- Honorary doctorate, University of Puebla, Mexico, 2012
- Honorary doctorate, Illinois Institute of Technology, 2011
- Honorary doctorate, Universidad del Pacifico, Peru, 2009
- Honorary doctorate, University of Toronto, 2009
- Honorary doctorate, McGill University, 2009
- Honorary doctorate, Nyenrode Business Universiteit, 2009
- Honorary doctorate, Leipzig Graduate School of Management, Germany, 2008
- Honorary doctorate, Universidad de los Andes, Bogota, Colombia, 2007
- Honorary doctorate, Universidad Deusto, Bilbao, Spain, 2007
- Honorary doctorate, University of Iceland, Reykjavik, Iceland, 2006
- Honorary doctorate, BI Norwegian School of Management, Oslo, Norway, 2003
- Honorary doctorate, Universidad San Martín de Porres, Lima, Perú, 2001
- Honorary doctorate, HEC School of Management, Paris, France, 1999
- Honorary doctorate, INCAE, Alajuela, Costa Rica, June, 1996
- Honorary doctorate, Universidad Adolfo Ibañez, Chile, 1995
- Honorary doctorate, Mount Ida College, 1994
- Honorary doctorate, Universidada Tecnica de Lisboa, 1994
- Honorary doctorate, Erasmus University, Rotterdam, The Netherlands, 1993
- Honorary doctorate, Johnson & Wales University, 1991
- Honorary doctorate, Stockholm School of Economics, 1989

Scholarly Honors

American College of Healthcare Executives James A. Hamilton award, 2007

John Kenneth Galbraith Medal, American Agricultural Economics Association, 2005

Distinguished Contributor to Case Research and Teaching Award, North American Case Research Association, 2005

The Academy of Management Award for Scholarly Contributions to Management, August 2003

Distinguished Award for Contribution to the Field of Management, International Academy of Management, 1998

Adam Smith Award, National Association of Business Economists, in recognition of exceptional contribution to the business economics profession, 1997

Award for Outstanding Contribution to Competitiveness, American Society for Competitiveness, 1994

Irwin Outstanding Educator Award, Academy of Management, 1993

Charles Coolidge Parlin Award for outstanding contribution to the field of marketing and strategy, American Marketing Association, 1991

Graham and Dodd Award of the Financial Analysts Federation, 1980

David A. Wells Prize in Economics (Harvard University) 1973-1974

George F. Baker Scholar (Harvard Business School), 1971

BSE with High Honors, Phi Beta Kappa, Sigma Xi, Tau Beta Pi (Princeton University), 1969

Honors for Books and Articles

McKinsey Award for the best *Harvard Business Review* article, 2011

McKinsey Award for the best *Harvard Business Review* article, 2006

McKinsey Award for the best *Harvard Business Review* article (second place), 2002

McKinsey Award for the best *Harvard Business Review* article, 2001

McKinsey Award for the best *Harvard Business Review* article (second place), 1996

McKinsey Award for the best *Harvard Business Review* article, 1987

George R. Terry Book Award (Academy of Management) for outstanding contribution to management thought in 1985, for Competitive Advantage

Outstanding Academic Books 1980-81 for Competitive Strategy, *Choice* Magazine

McKinsey Award for the best *Harvard Business Review* article, 1979

Honorary Societies

Fellow, Royal Society of Edinburgh, 2005

Charter Member, Fellows of the Strategic Management Society, 2005

Fellow, World Academy of Productivity Science, 1995

Foreign Member, Royal Academy of Engineering Sciences (Sweden), 1991

Fellow, Academy of Management, 1988

Fellow, International Academy of Management, 1985

Athletic Honors

NCAA Golf All-American Team, 1968

Eastern Intercollegiate Golf Champion, 1968

All State in Football and Baseball, State of New Jersey, 1965 and earlier years

EXTENSIVE BOOKS AND COMMENTARIES ON PROFESSOR PORTER'S RESEARCH

Understanding Michael Porter: The Essential Guide to Competition and Strategy. Magretta, Joan. Boston: Harvard Business School Publishing, 2012.

The Lords of Strategy: The Secret Intellectual History of the New Corporate World. Kiechel, Walter III. Harvard Business School Publishing, Boston, 2010.

"The Porter Hypothesis After 20 Years: How Can Environmental Regulation Enhance Innovation and Competitiveness?" Stefan Ambec, Mark A. Cohen, Stewart Elgie, and Paul Lanoie. Resources for the Future Discussion Paper, Washington DC, 2011.

Well-Designed Environmental Regulations will Strengthen Companies' Competitiveness: Reviewing the Porter Hypothesis. Mitsuhashi Tadahiro (ed.) Japan, 2008.

From Adam Smith to Michael Porter: Evolution of Competitiveness Theory y. Cho, Dong-Sung Cho and Hwy-Chang Moon. Asia-Pacific Business Series, Korea, 2000.

"Retrospective: Michael Porter's Competitive Strategy." *Academy of Management Executive*, May 2002, Vol.16, No.2

Perspectives on Strategy: Contributions of Michael E. Porter, F.A.J. van den Bosch and A.P. de Man (eds.), Kluwer Academic Publishers, Dordrecht, The Netherlands, 1997.

O Projecto Porter: A aplicação a Portugal 1993/94. Lisbon, Portugal: Ministério da Indústria e Energia, May 1995.

BOOKS

On Competition, Updated and Expanded Edition. Boston: Harvard Business School Press, 2008.

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———, Juha Teperi, Lauri Vuorenkoski and Jennifer F. Baron. *The Finnish Health Care System: A Value-Based Perspective*, SITRA, March 26, 2009.

——— and Elizabeth Olmsted Teisberg. *Redefining Health Care: Creating Value-Based Competition on Results*. Boston: Harvard Business School Press, 2006. In Japanese: Tokyo: Nikkei Business Publications, Inc., 2009. In Portuguese: Sao Paulo: Bookman, 2007.

———, H. Takeuchi, and M. Sakakibara. *Can Japan Compete?* (in Japanese), Tokyo: Diamond, 2000. In English: Basingstoke, England: Macmillan, 2000; and New York: Basic Books and Perseus Publishing, 2000.

——— and Monitor Company. *Canada at the Crossroads: The Reality of a New Competitive Environment*. Ottawa, Canada: Business Council on National Issues and Minister of Supply and Services, 1992.

Strategy: Seeking and Securing Competitive Advantage edited and with an introduction by Cynthia A. Montgomery and Michael E. Porter. Boston: Harvard Business School Press, 1991.

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The Competitive Advantage of Nations. New York: The Free Press, 1990. Republished with a new introduction, 1998.

Competition in Global Industries. (editor), Boston: Harvard Business School Press, 1986.

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Competitive Advantage: Creating and Sustaining Superior Performance, New York: The Free Press, 1985. Republished with a new introduction, 1998.

Cases in Competitive Strategy, New York: The Free Press, 1982.

Competitive Strategy: Techniques for Analyzing Industries and Competitors, New York: The Free Press, 1980. Republished with a new introduction, 1998. Chapter 1 reprinted in *Competition*, J. High (ed.) as part of *Critical Ideas in Economics* M. Blaug and K.D. Hoover (eds.), Fairfax, Virginia: Institute of Public Policy, George Mason University (2001).

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———, A.M. Spence, J.T. Scott, and R.E. Caves. *Studies in Canadian Industrial Organization*. Canadian Royal Commission on Corporate Concentration, January 1977.

Interbrand Choice, Strategy and Bilateral Market Power. Cambridge, Massachusetts: Harvard Economic Studies, Harvard University Press, 1976.

ARTICLES

——— and Jan W. Rivkin. "Choosing the United States," *Harvard Business Review*, March 2012.

——— and Jan W. Rivkin. "The Looming Challenge to U.S. Competitiveness," *Harvard Business Review*, March 2012.

———, Mercedes Delgado, and Scott Stern. "Clusters, Convergence, and Economic Performance," National Bureau for Economic Development Working Paper, February 2012.

———, Mercedes Delgado, Christian Ketels, and Scott Stern. "The Determinants of National Competitiveness," National Bureau for Economic Development Working Paper, February 2012.

——— and Jan W. Rivkin. "Prosperity at Risk: Findings of Harvard Business School's Survey on U.S. Competitiveness," Harvard Business School, January 2012.

——— and Robert Kaplan, "How to Solve the Cost Crisis in Health Care," *Harvard Business Review*, September, 2011.

——— and Mark R. Kramer. "Creating Shared Value: How to reinvent capitalism—and unleash a wave of

innovation and growth," *Harvard Business Review*, January-February 2011.

"HBR Agenda 2011: Discovering—and Lowering—the Real Costs of Health Care," *Harvard Business Review*, January-February 2011.

———, Mercedes Delgado, and Scott Stern. "Clusters and Entrepreneurship," *Journal of Economic Geography*, May 2010.

"What is Value in Health Care," *New England Journal of Medicine*, December 23, 2010.

"Value in Health Care," *New England Journal of Medicine*, Online Supplementary Appendix 1, December, 2010.

"Measuring Health Outcomes," *New England Journal of Medicine*, Online Supplementary Appendix 2, December, 2010.

——— and Christian Ketels. "Clusters and industrial districts: Common roots, different perspectives," *A Handbook of Industrial Districts*, August 2009.

"A Strategy for Health Care Reform—Toward a Value-Based System," *New England Journal of Medicine*, June 2009.

Kim, Jim Yong, Joseph Rhatigan, Sachin H. Jain, and Michael E. Porter. "From a Declaration of Values to the Creation of Value in Global Health." *Global Public Health*, 2009.

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"Why America Needs an Economic Strategy," *Business Week*, November 10, 2008.

"Value-Based Health Care Delivery," *Annals of Surgery* 248, no. 4 (October 2008): 503-509.

"Contextuality within Activity Systems and Sustainability of Competitive Advantage, " *Academy of Management Perspectives*, May 2008.

"The Five Competitive Forces That Shape Strategy," *Harvard Business Review*, January 2008.

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"Colleges and Universities and Regional Economic Development: A Strategic Perspective," *Futures Forum 2007*, Forum for the Future of Higher Education and NACUBO, 41-44.

——— and Elizabeth Olmsted Teisberg. "How Physicians Can Change the Future of Health Care," *JAMA* 297, no. 10 (March 14, 2007): 1103-1111.

——— and Mark R. Kramer. "Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility," *Harvard Business Review*, December 2006.

——— and Mark R. Kramer. "Corporate Philanthropy: Taking the High Ground," *The Accountable Corporation* (Volume 3: Corporate Social Responsibility), Marc J. Epstein and Kirk O. Hanson (eds.), Westport: Praeger Publishers (2006).

——— and Daniel C. Esty. "National Environmental Performance: An Empirical Analysis of Policy Results and Determinants, *Environment and Development Economics* 10, issue 4 (August 2005): 391-434.

———, Jay W. Lorsch and Nitin Nohria. "Seven Surprises for New CEOs," *Harvard Business Review*, October 2004.

——— and Elizabeth O. Teisberg, "Redefining Competition in Health Care," *Harvard Business Review*, June 2004.

——— and Mark R. Kramer. "Evolution or Revolution: Challenging Assumptions," in a special report by European Business Forum on Corporate Social Responsibility, Summer 2004.

——— and Mariko Sakakibara, "Competition in Japan," *Journal of Economic Perspectives* 18, no. 1 (Winter 2004): 27-50.

"Building the Microeconomic Foundations of Prosperity: Findings from the Business Competitiveness Index," *The Global Competitiveness Report 2003-2004*, X Sala-i-Martin (ed.), New York: Oxford University Press (2004).

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"The Economic Performance of Regions," *Regional Studies* 37, nos. 6 & 7 (August/October 2003): 549-578.

"Building the Microeconomic Foundations of Prosperity: Findings from the Microeconomic Competitiveness Index," *The Global Competitiveness Report 2002-2003*, P. Cornelius (ed.), New York: Oxford University Press (2003).

——— and Scott Stern, "The Impact of Location on Global Innovation: Findings from the National Innovative Capacity Index," *The Global Competitiveness Report 2002-2003*, P. Cornelius (ed.), New York: Oxford University Press (2003).

——— and Anita M. McGahan, "The Emergence and Sustainability of Abnormal Profits," *Strategic Organization* 1, no. 1, (2003): 79-108.

——— and Mark R. Kramer, "The Competitive Advantage of Corporate Philanthropy," *Harvard Business Review*, December 2002. Also reprinted in *Annual Editions: Management* (F. Maidment, ed.), New York: McGraw Hill (2003). Also reprinted in *Harvard Business Review on Corporate Responsibility*, Boston: Harvard Business School Publishing (2003).

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——— and Mariko Sakakibara, "Competing at Home to Win Abroad: Evidence from Japanese Industry," *Review of Economics and Statistics*, May 2001.

"Strategy and the Internet," *Harvard Business Review*, March 2001.

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"Attitudes, Values, Beliefs, and the Microeconomics of Prosperity," in *Culture Matters: How Values Shape Human Progress*, (L.E. Harrison, S.P. Huntington, eds.), New York: Basic Books (2000).

"Clusters and Government Policy," *Wirtschafts politische Blätter* 47 (2000): 144-154.

"Location, Competition and Economic Development: Local Clusters in a Global Economy," *Economic Development Quarterly* 14, no. 1 (February 2000): 15-34. Also reprinted in *Globalization and the Location of Firms* (J. Cantwell, ed.), Cheltenham: Edward Elgar Publishing (2004).

——— and Mark R. Kramer. "Philanthropy's New Agenda: Creating Value," *Harvard Business Review*, November-December, 1999.

"Microeconomic Competitiveness: Findings from the 1999 Executive Survey," and (with Gregory C. Bond) "Innovative Capacity and Prosperity: The Next Competitiveness Challenge," in *The Global Competitiveness Report 1999*, Geneva, Switzerland: World Economic Forum, 1999.

"The Microeconomic Foundations of Economic Development and Competitiveness," *Wirtschafts politische Blätter* 46 (1999).

——— and Hirotaka Takeuchi. "Fixing What Really Ails Japan," *Foreign Affairs* 78, no. 3 (May-June 1999).

"Clusters and the New Economics of Competition," *Harvard Business Review*, November-December 1998. Also reprinted in *World View: Global Strategies for the New Economy*, Jeffrey E. Garten (ed.), Boston: Harvard Business School Press (1999); *Managing in the New Economy*, Joan Magretta (ed.), Boston: Harvard Business School Press (1999); *Systems of Innovation: Growth, Competitiveness and Employment*, Charles Edquist and Maureen McKelvey (eds.), Cheltenham: Edward Elgar Publishing Limited (2000).

——— and Anita M. McGahan. "The Persistence of Shocks to Profitability," *Review of Economics and Statistics* 81, no. 1 (February 1999): 143-153.

"The Microeconomic Foundations of Economic Development," and "Measuring The Microeconomic Foundations of Economic Development," in *The Global Competitiveness Report 1998*, Geneva, Switzerland: World Economic Forum, 1998.

——— and Nicolaj Siggelkow. "Competition and Strategy: The Creation of a Group and a Field," in *The Intellectual Venture Capitalist: John H. McArthur and the Work of the Harvard Business School, 1980-1995* (eds. Thomas K. McCraw and Jeffrey L. Cruikshank), Boston: Harvard Business School Press, 1999.

——— and Örjan Sölvell. "The Role of Geography in the Process of Innovation and Sustainable Competitive Advantage of Firms," in *The Dynamic Firm* (eds. Alfred D. Chandler, Jr., Peter Hagström, and Örjan Sölvell), Oxford, England: Oxford University Press, 1998.

—— with Daniel C. Esty. "Industrial Ecology and Competitiveness," *Journal of Industrial Ecology* 2, no. 1 (1998).

——— and Anita McGahan. "How Much Does Industry Matter, Really?", *Strategic Management Journal* 18 (July 1997): 15-30.

"Building Competitive Advantage: Lessons from Other Countries," *Voices from Marrakech: Selections from the Mediterranean Development Forum*, Washington, DC: Economic Development Institute, World Bank, 1997.

"New Strategies for Inner-City Economic Development," *Economic Development Quarterly* 11, no. 1 (February 1997), Thousand Oaks, California: Sage Periodicals Press.

"What is Strategy," *Harvard Business Review*, November-December 1996. Excerpted in *Spotlight on Performance* 12, no. 1, Northfield, MN: Fine Lines Creative Communications. Also reprinted in *Delivering Results: A New Mandate for Human Resource Professionals*, D. Ulrich, ed., Boston: Harvard Business School Press, 1998. Also reprinted in *The International Library of Critical Writings in Business and Management Strategic Management*, J. Birkinshaw, Cheltenham: Edward Elgar Publishing (2004). Also reprinted in *Annual Editions: Management* (F. Maidment, ed.), New York: McGraw Hill (2003). Also reprinted in *Strategic Management* (Volume 1), J. Birkinshaw (ed.), Cheltenham, England: Edward Elgar (2004).

"Competitive Advantage, Agglomeration Economies, and Regional Policy," *International Regional Science Review* 19, nos. 1 & 2 (1996), Regional Research Institute, West Virginia University.

"Competitiveness in Central America," in *Competitiveness in Central America: Preparing Companies for Globalization*, a publication of the Latin American Center for Competitiveness and Sustainable Development, INCAE, Costa Rica, July 1996.

"Capital Choices: National Systems of Investment," in *As If the Future Mattered*, Neva R. Goodwin (editor), Ann Arbor: The University of Michigan Press, 1996.

"Comment on 'Interaction Between Regional and Industrial Policies: Evidence From Four Countries,' by Markusen", in *Proceedings of The World Bank Annual Conference on Development Economics 1994*, Supplement to The World Bank Economic Review and The World Bank Research Observer, Michael Bruno and Boris Pleskovic (editors), Washington, DC, 1995, The International Bank for Reconstruction and Development/THE WORLD BANK.

——— and Claas van der Linde. "Toward a New Conception of the Environment-Competitiveness Relationship," *The Journal of Economic Perspectives* 9, no. 4 (Fall 1995). Reprinted in *A Reader on Environmental Law*, edited by Bridget Hutter, Oxford Readings in Socio-Legal Studies, Oxford: Oxford University Press. Excerpted as "Toward a New Paradigm," in *Perc Reports* 15 (October 1997), Bozeman, MT. Summarized in *Sustainable Human and Economic Development* (6th volume of series *Frontier Issues in Economic Thought)*, Washington, DC: Island Press (2000). Also reprinted in *Corporate Strategies for Managing Environmental Risk*, (T. Tietenberg and K. Segerson, eds.), Hampshire: Ashgate Publishing Group (2004).

——— and Claas van der Linde. "Green *and* Competitive: Ending the Stalemate," *Harvard Business Review*, September-October 1995. Also published in *The Earthscan Reader in Business and the Environment*, edited by Richard Welford and Richard Starkey, Earthscan Publications Ltd, London, 1996.

——— and Rebecca E. Wayland. "Global Competition and the Localization of Competitive Advantage," *Proceedings of the Integral Strategy Collegium*, Graduate School of Business, Indiana University, JAI Press, Greenwich, Connecticut, 1995.

"The Competitive Advantage of the Inner City," *Harvard Business Review*, May-June 1995. Also excerpted in *The City Reader*, second edition, Richard T. LeGates (ed.), New York: Routledge (1999).

"Competitive Strategy Revisited: A View from the 1990s," in *The Relevance of a Decade*, Boston: Harvard Business School Press, 1994.

"Global Strategy: Winning in the World-Wide Marketplace," in *The Portable MBA in Strategy*. Liam Fahey and Robert M. Randall (eds.), New York: John Wiley & Sons, Inc., 1994.

——— with Elizabeth O. Teisberg and Gregory B. Brown. "Making Competition in Health Care Work," *Harvard Business Review*, July-August 1994.

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"Applying the Competitive Advantage of Nations Paradigm to Norway," *Praktisk økonomi & Ledelse: et Konsurransedyktig Norge* 1 (February 1993), Oslo, Norway: Bedrifsøkonomens Forlag A/S.

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1. **Harvard Business Review, March 2012: *The Looming Challenge to U.S. Competitiveness***

The United States is a competitive location to the extent that firms operating in the U.S. are able to compete successfully in the global economy while supporting high and rising wages and living standards. Trends indicate the latest cyclical downturn, the Great Recession, is merely a symptom of longer-term structural challenges to U.S. competitiveness. America's crucial economic strengths are weakening and cracks are visible in its macroeconomic foundations. If government and business leaders continue to react only to the cyclical downturn without confronting America's structural challenges to its business environment, they will revive an economy with weak long-term prospects. A coordinated effort by business and government to pursue a national economic strategy can reverse the erosion of U.S. competitiveness and restore an upward trajectory to American living standards.

2. **Harvard Business School 2011 Survey on U.S. Competitiveness: *Prosperity at Risk***

As part of the U.S. Competitiveness Project, Harvard Business School asked its alumni to complete an in-depth survey on U.S. competitiveness. Nearly 10,000 business leaders responded worldwide, resulting in a first-of-its-kind analysis of data from a broad group of central actors in the global economy. The survey results provide strong evidence that America faces a deepening competitiveness problem and help pinpoint where the roots of the problem lie.

- 71% of survey respondents expect U.S. competitiveness to decline over the next 3 years.
- According to more than 1,700 respondents personally involved in business location decisions, the United States competed with virtually the entire world and fared poorly, losing two-thirds of the decisions that were resolved.
- Facilities involving high-end work and large numbers of jobs moved out of the U.S. much faster than they moved in.
- Respondents saw the underlying businesses environment in America as still strong in critical areas, but not keeping pace with other economies, especially fast-growing emerging economies.
- Respondents identified America's greatest current weaknesses as its tax, code, political system, and K-12 education system.

3. **The Economist: The World in 2013. *What Washington must do now: An eight-point plan to restore American competitiveness*, by Michael E. Porter and Jan W. Rivkin**

Our research indicates 8 strategic priorities for federal policy that the president and Congress should enact now that would dramatically improve the U.S. business environment and, with it, America's economic prospects. Each is highly achievable and can be implemented in 2 or 3 years. Most business leaders and policymakers – both Democrat and Republican – agree on the essence of these policies, at least behind closed doors. The 8 priorities are:

- Ease the immigration of highly skilled individuals, starting with (but not restricted to) international graduates of U.S. universities.
- Rewrite the corporate tax code with lower statutory rates and no loopholes.
- Create an international taxation system for multinational companies that taxes overseas profits only where they are earned, without additional taxes on profits repatriated to the U.S.
- Aggressively use established international institutions to address distortions and abuses in the international trading system that disadvantage the United States.
- Streamline regulations affecting business by focusing on outcomes while simplifying reporting and compliance, reducing delays, and minimizing the need for litigation.
- Enact a multiyear program to improve logistics, communications and energy infrastructure.
- Agree on a federal regulatory and reporting framework to guide the responsible development of newly accessible American gas and oil reserves.
- Create a sustainable federal budget through a combination of revenue increases (including reducing deductions) and less spending (through efficiencies in entitlement programs and revised spending priorities), embodying a compromise such as Simpson-Bowles or Rivlin-Domenici.

These 8 strategic priorities are not all that America must do to restore its competitiveness. There is, however, wide consensus on these 8 priorities and making progress on them will profoundly change the trajectory of our economy.

4. Harvard Business School 2012 Survey on U.S. Competitiveness: *Competitiveness at a Crossroads*

Second in the series of U.S. Competitiveness surveys, Harvard Business School gleaned responses from nearly 7,000 alumni and more than 1,000 members of the general public. The survey not only provides an updated view of the U.S. business environment, largely consistent with the 2011 survey findings, but also illuminates specific actions that business leaders and policymakers can take to improve U.S. competitiveness. Across the political spectrum, business leaders and the general public strongly called on the President and Congress to put the federal budget on a sustainable path, reform the corporate tax code, improve America's infrastructure, address distortions of the international trading system and craft a responsible framework for developing new energy sources.

5. Fortune: *What Business Should Do to Restore U.S. Competitiveness*

Every firm draws on the business environment in the communities where it operates, or the "commons". Government has a profound impact on the health of the commons and must do its part to make the U.S. a competitive location for business. At the same time, business leaders influence the commons on which they draw. Historically in the U.S. business and government collaborated to build the strongest commons the world has ever seen. Globalization opened up the entire world to business, and many companies forgot the importance of local conditions for their productivity and growth. But now a growing number of U.S. business leaders are rediscovering the critical role of the local business environment to their companies' success. Businesses can lead in restoring U.S. competitiveness by engaging in the following:

1. Vigorously pursue productivity and profitability in the business: Position the company to draw on U.S. strengths. Move back to the U.S. business activities that can be productive here.
2. Improve the commons:
    - Improve skills, by creating or expanding an apprentice and training programs, and partnering with a community college, technical school, or university.
    - Upgrade supporting industries, by identifying and increasing sourcing from capable local suppliers, and mentoring local suppliers to upgrade their capabilities.
    - Support innovation and entrepreneurship by participating in research collaboratives, and investing in or incubating promising startups related to the company's business.
    - Bolster regional and cluster development by participating in a regional or cluster competitiveness initiative in the company's field.
    -
3. Shift the business-government relationship: Advocate business-wide improvements rather than lobby for special interests.

THE LOOMING CHALLENGE TO U.S. COMPETITIVENESS

Michael E. Porter (and Jan W. Rivkin)
Harvard Business School

U.S. House of Representatives, Subcommittee on Economic Growth, Tax, and Capital Access Hearing on American Competitiveness Worldwide: Impacts on Small Businesses and Entrepreneurs
Witness Testimony
July 9, 2013

HARVARD | BUSINESS | SCHOOL

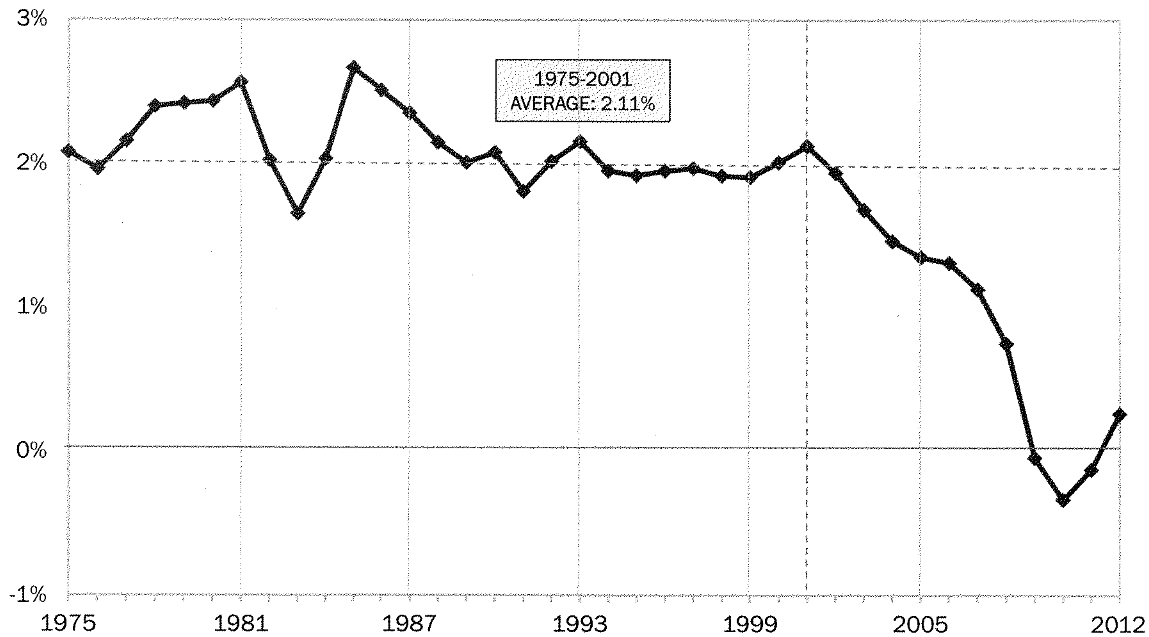
WHAT IS COMPETITIVENESS?

The United States is a competitive location to the extent that firms operating in the U.S. are able to **compete successfully** in the global economy while supporting **high and rising wages and living standards** for the average American

- Competitiveness is **not** low wages or a cheap dollar
- Competitiveness depends on improving **long-run productivity**
  - Productivity of existing employees
  - High participation of working age citizens in the workforce

DISTURBING TRENDS

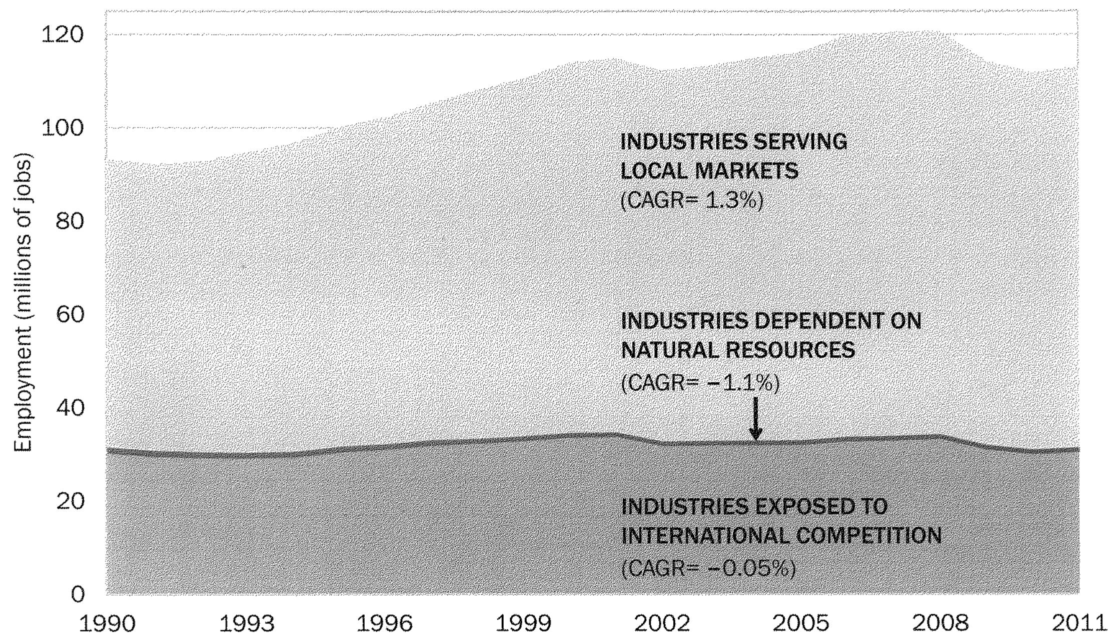
ROLLING 10-YEAR COMPOUND ANNUAL GROWTH RATE IN TOTAL NUMBER OF U.S. PRIVATE NONFARM EMPLOYEES, 1975-2012



Source: Bureau of Labor Statistics, Current Population Survey; author's calculations.

DISTURBING TRENDS

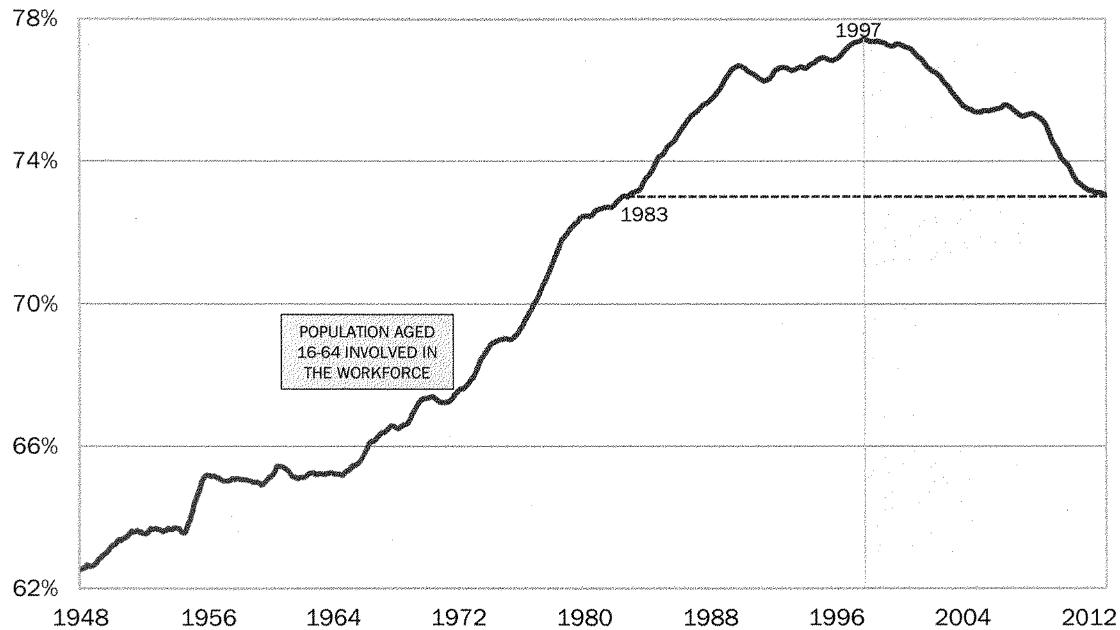
PRIVATE, NONFARM EMPLOYMENT BY TYPE OF INDUSTRY



Source: Prof. Michael E. Porter, U.S. Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director; author's calculations. Underlying data drawn from U.S. Census Bureau County Business Patterns.

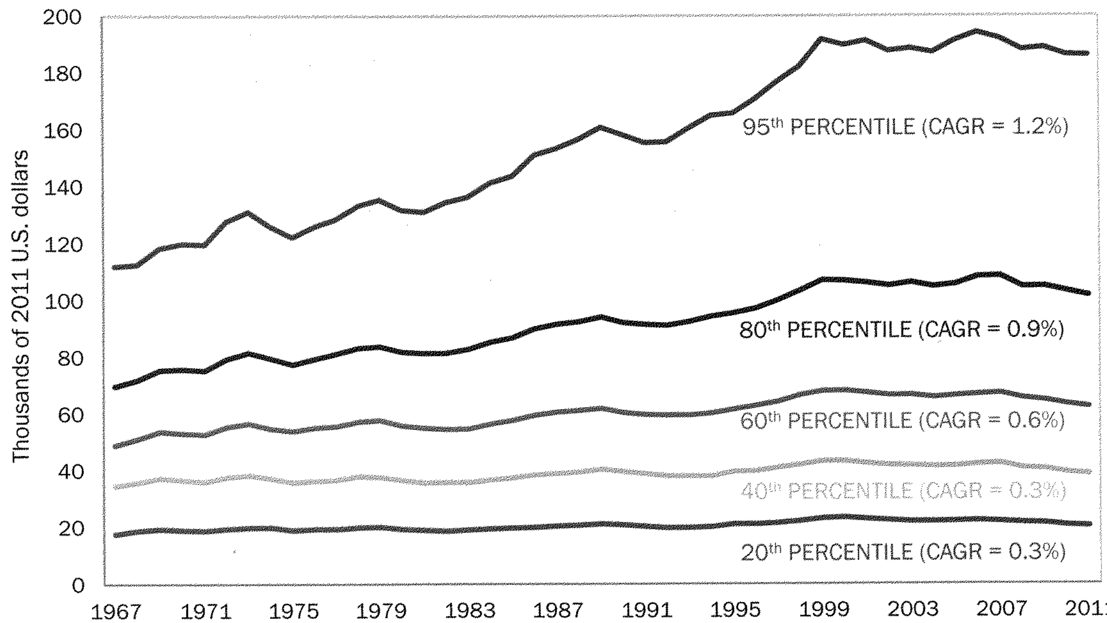
DISTURBING TRENDS

U.S. LABOR FORCE PARTICIPATION RATE



Note: Rolling 12-month average in civilian labor force (not seasonally adjusted) over civilian noninstitutional population.
Source: Bureau of Labor Statistics, author's calculations.

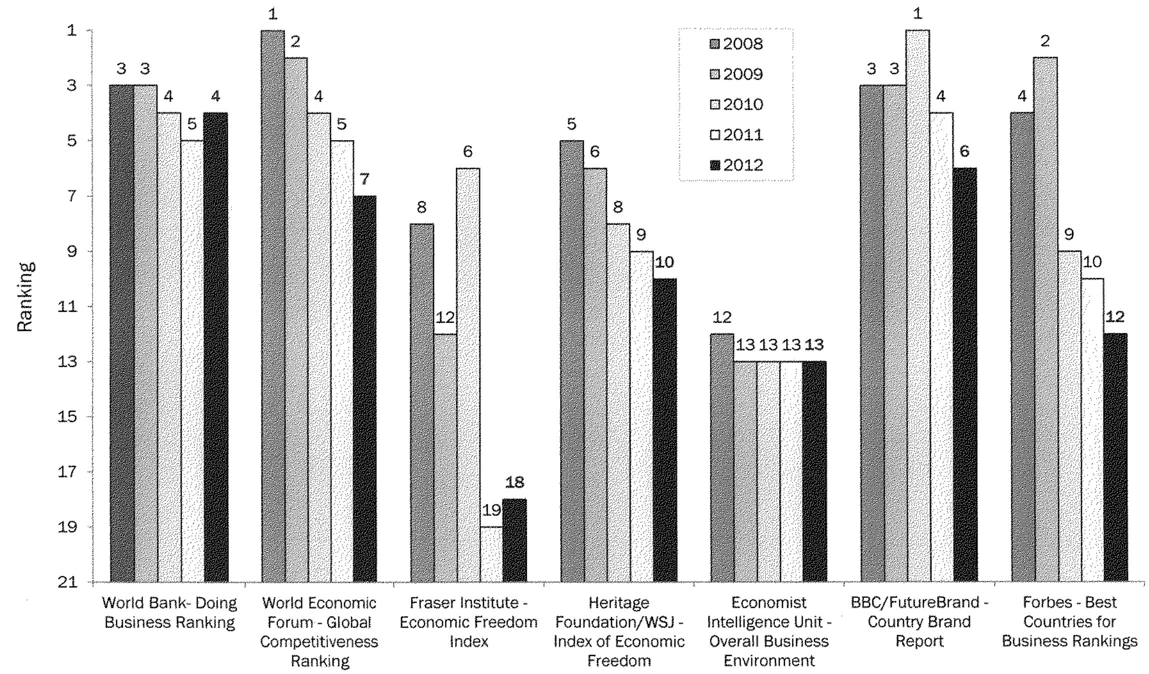
DISTURBING TRENDS
STAGNATING HOUSEHOLD WAGE GROWTH



Note: Household income includes wages, self-employment, retirement, interest, dividends, other investment, unemployment, disability, alimony or child support, and other periodic income.
Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements.

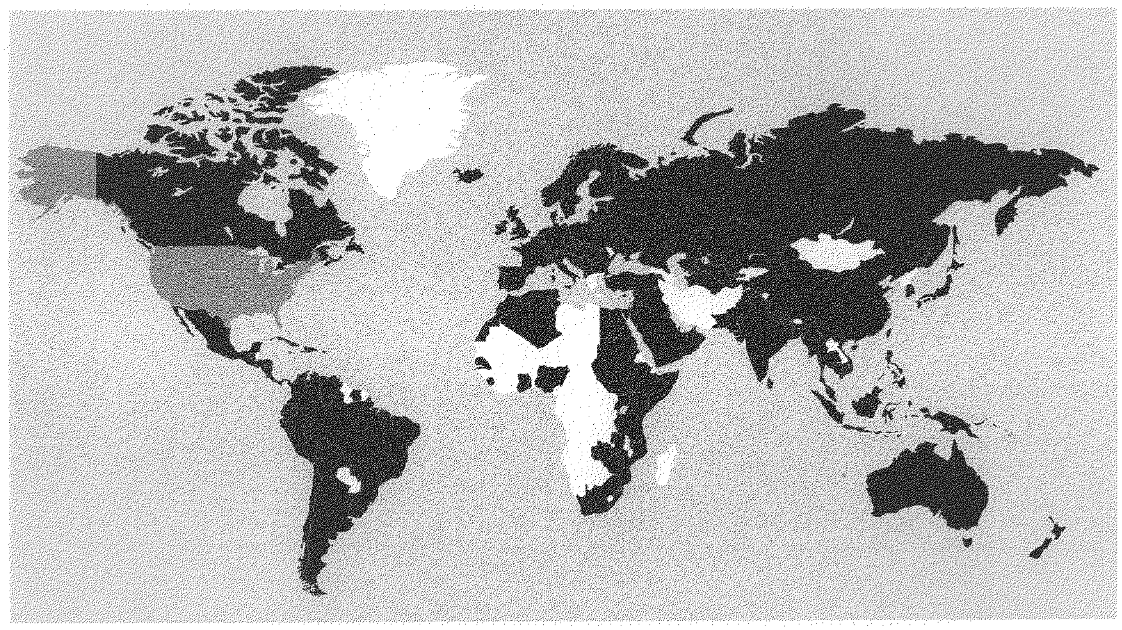
DISTURBING TRENDS

U.S. BUSINESS AND COMPETITIVENESS RANKINGS (2008-2012)



Sources: World Bank, World Economic Forum, Fraser Institute, Heritage Foundation, Economist Intelligence Unit, BBC/FutureBrand, Forbes

WHO DOES AMERICA COMPETE WITH AS A BUSINESS LOCATION?



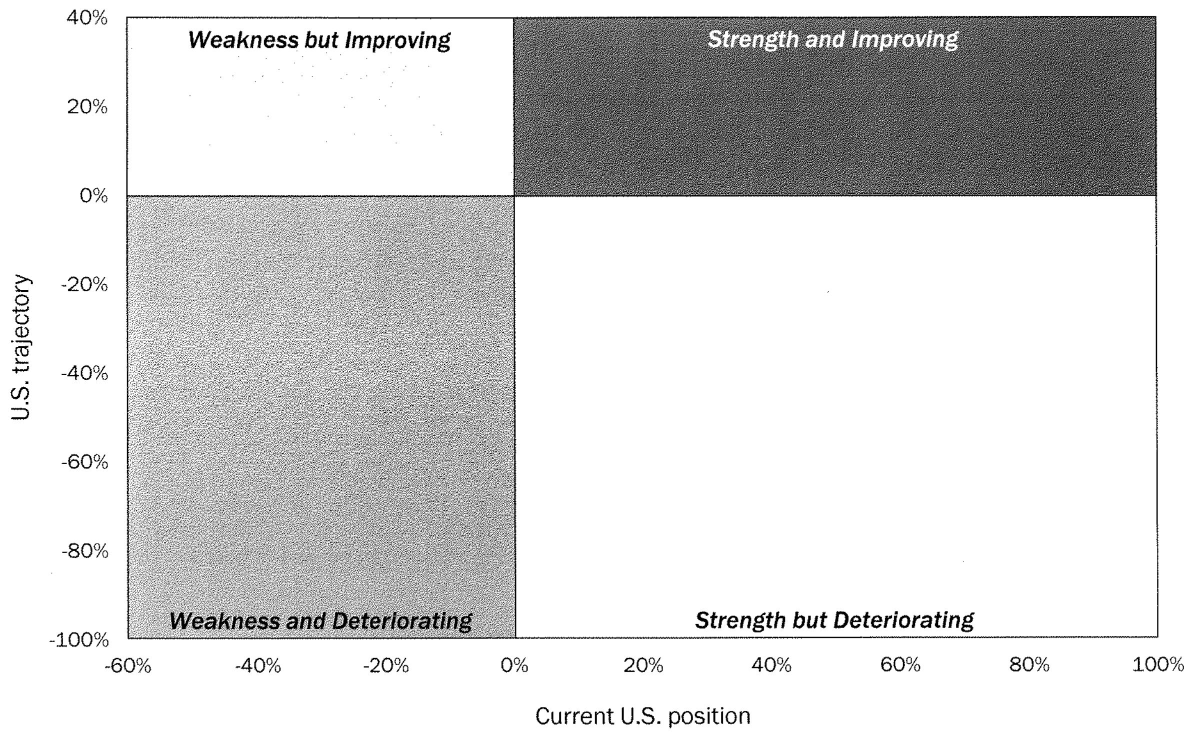
Source: Harvard Business School 2011 Survey on U.S. Competitiveness

HBS SURVEY FINDINGS

1. Business leaders see a **deepening U.S. competitiveness problem**

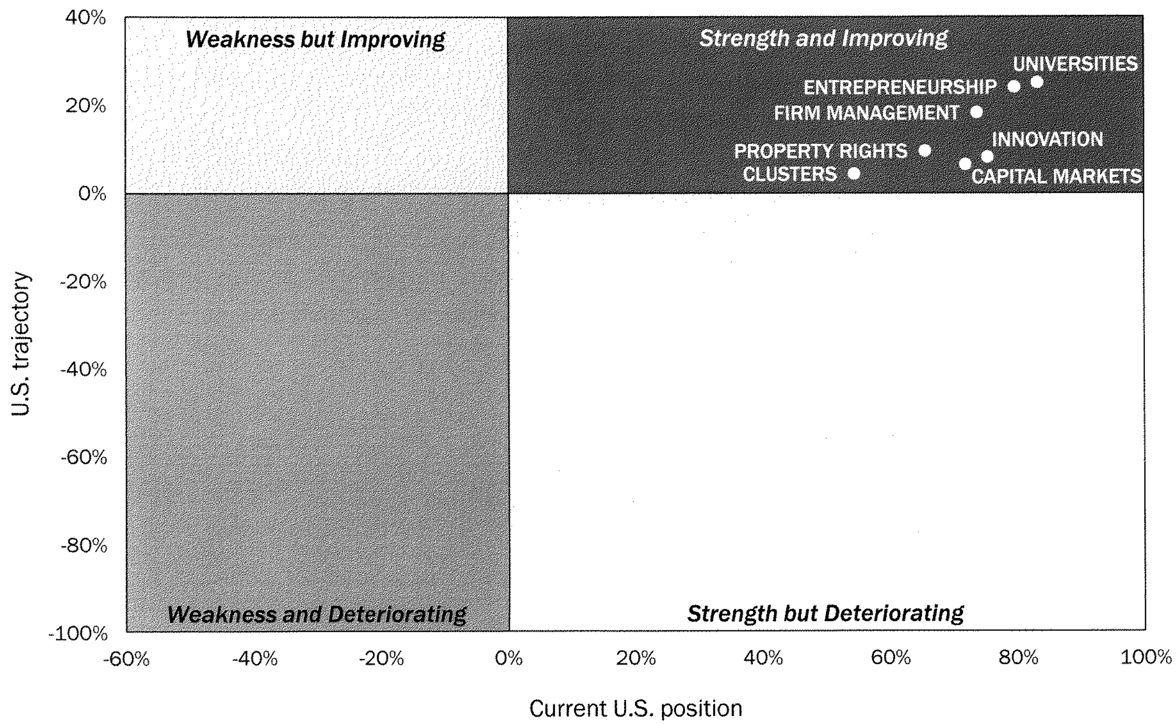
2. The United States is faring poorly in **business location decisions**

ASSESSMENTS OF ELEMENTS OF THE U.S. BUSINESS ENVIRONMENT



Note: Scored as percentage with positive views minus percentage with negative views.
Source: Harvard Business School Survey on U.S. Competitiveness

ASSESSMENTS OF ELEMENTS OF THE U.S. BUSINESS ENVIRONMENT



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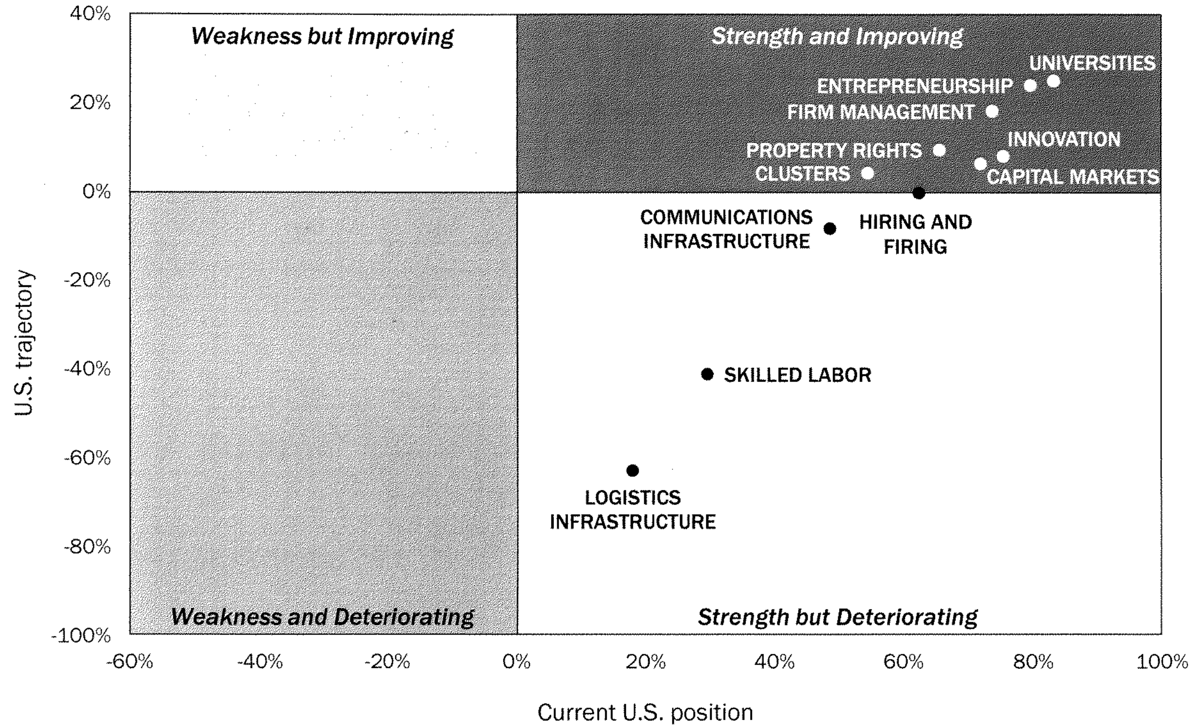

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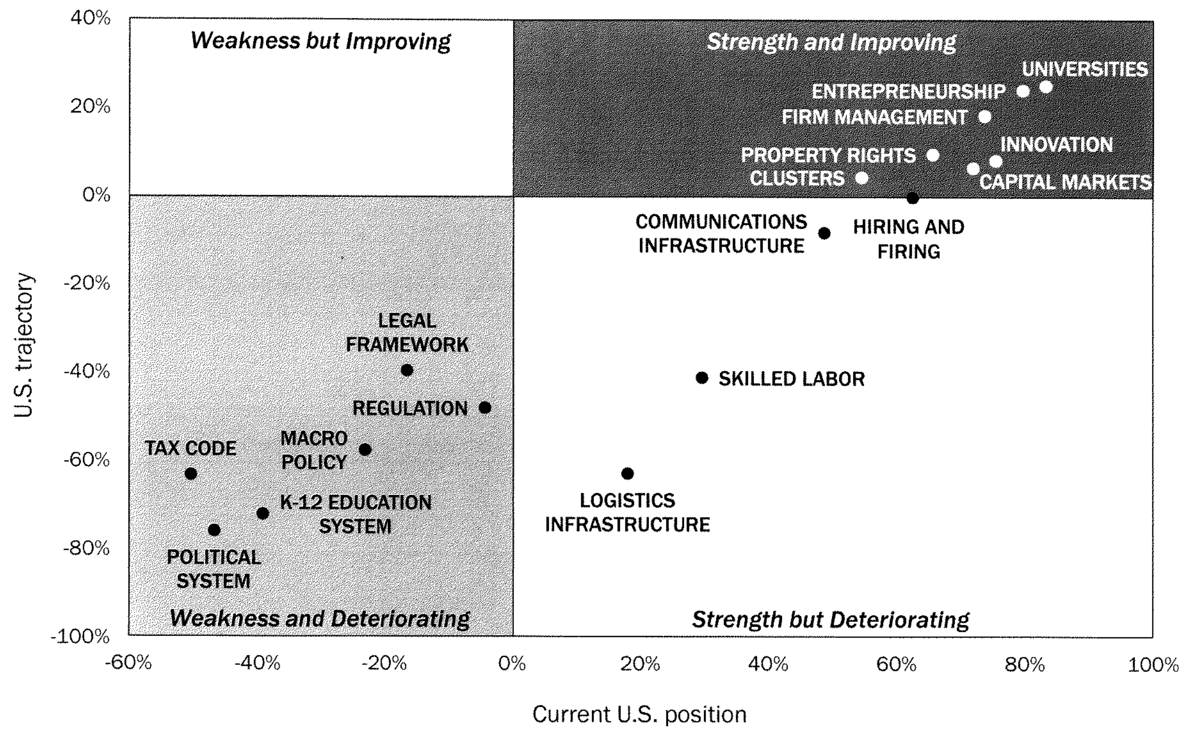
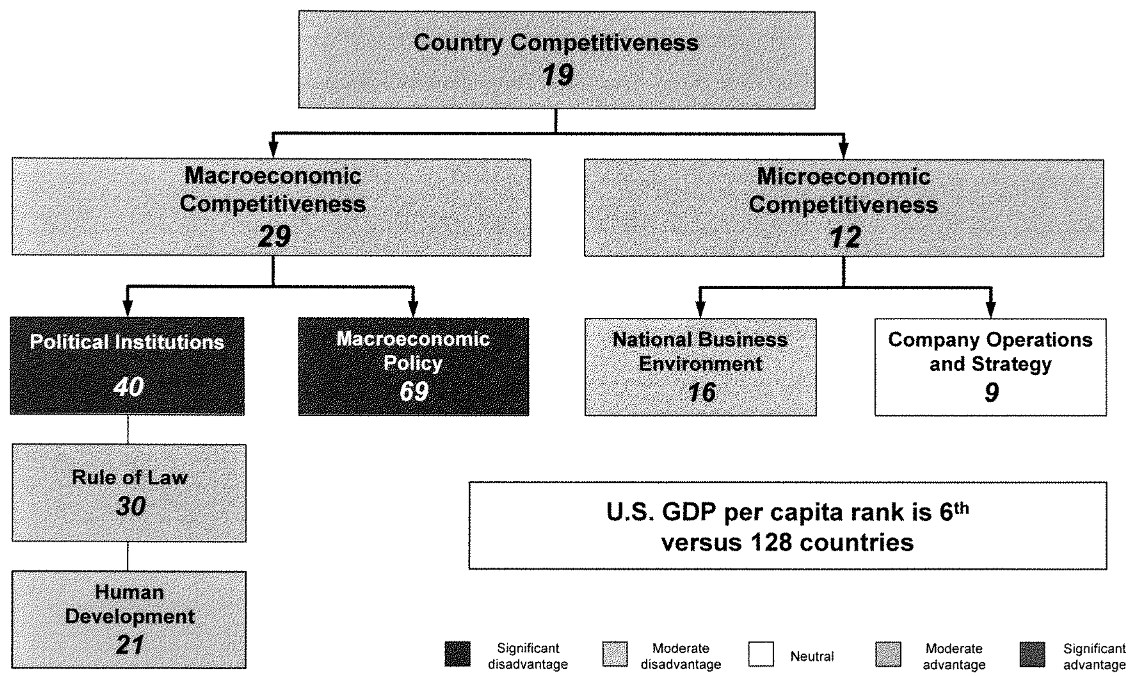


Note: Scored as percentage with positive views minus percentage with negative views.
Source: Harvard Business School Survey on U.S. Competitiveness

ISC Competitiveness Model

U.S. Competitiveness Profile, 2012



Note: Rank versus 128 countries; *Color coding based on comparison relative to income;
Source: Institute for Strategy and Competitiveness, Harvard University (2012), based in part on survey data from the World Economic Forum; analysis prepared based on research findings by Scott Stern, Mercedes Delgado, and Christian Ketels.

STRATEGIC PRIORITIES FOR FEDERAL POLICY ON U.S. COMPETITIVENESS

1. Ease the **immigration of highly skilled individuals**
2. Simplify the **corporate tax code**
3. Tax **overseas profits** earned by American multinational companies only where they are earned
4. Aggressively address distortions and abuses in the **international trading system**
5. Simplify and streamline **regulation**
6. Improve **logistics, communications and energy infrastructure**
7. Responsibly develop **American shale-gas and oil reserves**
8. Create a **sustainable federal budget**, combining greater revenue and less spending

Source: Porter, Michael, and Jan Rivkin. "An eight-point plan to restore American competitiveness." *The Economist: The World in 2013*. (Nov 2012).

CONSENSUS ON FEDERAL POLICY
BUSINESS AND THE GENERAL PUBLIC

	U.S. business leaders			General public		
	All	Liberal	Conservative	All	Liberal	Conservative
Corporate tax reform	91%	91%	92%	72%	75%	73%
Sustainable federal budget	90%	92%	85%	60%	62%	63%
High-skill immigration	89%	90%	88%	42%	55%	38%
Streamlined regulations	86%	71%	95%	52%	43%	62%
Infrastructure investments	85%	92%	75%	68%	74%	70%
International trading system	80%	81%	79%	60%	67%	58%
Responsible energy extraction	79%	75%	80%	64%	65%	64%
Territorial tax code	58%	34%	75%	25%	19%	30%

Source: Harvard Business School 2012 Survey on U.S. Competitiveness

OPPORTUNITIES FOR U.S. BUSINESSES
INVESTING IN THE COMMONS

<u>Improving skills</u>
- Create or expand an **apprentice program**
- Create or expand a **training program**
- Partner with a **community college, technical school**, or **university**

<u>Upgrading supporting industries</u>
- Identify and increase sourcing from capable **local suppliers**
- **Mentor local suppliers** to upgrade their capabilities

<u>Supporting innovation and entrepreneurship</u>
- Participate in **research collaboratives** in company's field
- **Invest in or incubate promising startups** related to company's business

<u>Locating in the U.S.</u>
- **Move back to the U.S.** business activities that can be productive here

<u>Bolstering cluster development</u>
- Participate in a **cluster competitiveness initiative** in your field

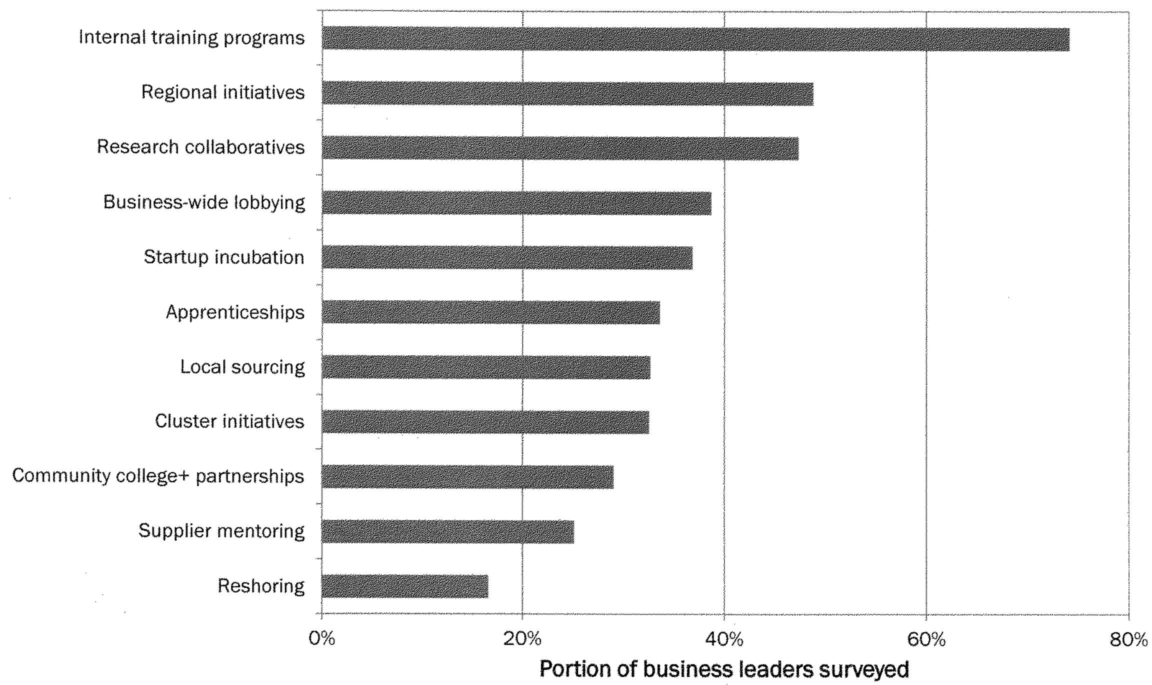
<u>Bolstering regional development</u>
- Participate in a **regional competitiveness initiative** in your region

<u>Shifting the business-government relationship</u>
- Advocate **business-wide improvements** rather than lobby for special interests

Source: Porter, Michael, and Jan Rivkin. "What Business Should Do to Restore U.S. Competitiveness." *FORTUNE*. (Oct 2012).

BUSINESS ACTIONS TO ENHANCE COMPETITIVENESS

HBS 2012 SURVEY FINDINGS



Excludes respondents who were not working, whose firms did not have U.S. operations, or who did not reply.
Source: Harvard Business School Survey on U.S. Competitiveness

Testimony of Mr. James McConeghy

Chief Financial Officer

Chobani

Before the U.S. House of Representatives Committee on Small Business Subcommittee on Economic Growth, Tax and Capital Access

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to testify at today's hearing. I am James McConeghy, the Chief Financial Officer at Chobani Greek Yogurt located in Norwich, New York.

The creation of Chobani is truly an American success story. Chobani was established in 2005 by Hamdi Ulukaya, a Turkish immigrant, who purchased an old Kraft Foods Plant in New Berlin, New York. Since its founding, it has grown from five to 2,600 employees and is the nation's top selling Greek yogurt.

The Chobani story is one that could only happen in America. Where else could a Turkish immigrant transform a shuttered factory into a thriving food manufacturing business in just a few short years?

Our story began in 2005 when, with the help of a Small Business Administration loan, our founder, Hamdi Ulukaya, acquired a former Kraft Food plant in Central New York. Two years later, the first cups of Chobani Greek Yogurt rolled off the line. Today, Chobani is the number one selling Greek Yogurt brand in the country.

In less than six years, we've grown our business from nothing to over $1 billion in sales, and expanded our reach across the globe. We've invested more than $700 million between our original manufacturing facility in New York and our new plant in Twin Falls, Idaho. We're no longer a start-up with 5 employees, but a global organization with a workforce more than 2,600 strong.

It is the American Dream come to life—proving that, if you truly believe in something and work hard, anything is possible.

Challenges to the Future of Chobani Greek Yogurt

The future of Chobani's success is strongly burdened by current federal regulatory and legal challenges. The four most prominent challenges that I will touch on today are the lack of an FDA standard of identity for Greek Yogurt, Geographic Indicators in international trade, Trans-Pacific Partnership (TPP) trade negotiations and their potential impact on trade in dairy products with Canada, and tax reform.

First, Chobani strongly supports the establishment of a standard of identity for Greek Yogurt. The Food and Drug Administration establishes standards of identity for various food products to reduce consumer confusion. Unfortunately, the current FDA standards of identity (SI) for yogurt are extremely outdated, do not take into account current manufacturing processes and only include definitions for Yogurt, Nonfat yogurt and Lowfat Yogurt. The definition does not reflect the composition and processes used to manufacture Greek Yogurt, which is very distinct from traditional yogurt. Greek Yogurt is to yogurt as sour cream is to milk.

The lack of a proper standard of identity for true Greek Yogurt literally allows any product that meets one of the current FDA standard definitions of yogurt to be branded as Greek Yogurt, regardless of its composition or the processes used to manufacture it. USDA's Child Nutrition Programs routinely follow FDA Standards of Identity for products used in their programs. The lack of a SI for true Greek Yogurt makes it difficult for consumers and the USDA to differentiate between yogurt and Greek Yogurt for purposes of the nutrition programs, including proper allowances for meat/meat alternates in child nutrition program crediting. FDA and Congress must recognize and address this blatant inequity in order for the rapidly emerging market for Greek Yogurt to meet its potential without misleading consumers towards a product that is not "true" Greek Yogurt.

Second, we have seen an increase in challenges of the labeling of common food products abroad. We recently embarked on a costly and difficult process of re-labeling in England and Wales after it was, incorrectly in our opinion, ruled that using the term 'Greek' on our true Greek Yogurt product mislead consumers into presuming the yogurt was made in Greece. The European Union (EU) has embarked on an aggressive campaign to monopolize commercially significant terms that are used in foreign markets as a competitive advantage for EU member country produced products.

Chobani is devoted to preserving and protecting properly applied use of common food names. However, the EU position puts common food names at great risk. If this problem is not dealt with soon, the EU's aggressive actions to monopolize common food names will damage sales of many popular food products around the globe.

Recently, the EU has been actively working to control many common names for foods, actions indicating a strategy to secure exclusive rights to names long used in many places around the world outside the EU. Generic names used by millions of consumers. Common names like bologna, chorizo, feta, gorgonzola, parmesan, provolone, and salami.

Arguing that a small group of EU producers should have an exclusive right to use such names is like claiming that only Italians should be permitted to use the term "pizza". Protectionism is protectionism, not matter how you couch it. We hope Congress will continue to urge our negotiators to take an aggressive stance on the matter of geographic indicators in future trade negotiations.

On a third point, Chobani recently engaged in an extensive process to bring our product to Canada. This process included researching the ability to import yogurt into Canada from the United States and to explore making yogurt in Canada for Canadian consumers.

In the case of importing yogurt, we found this to be essentially impossible, as there is a 237.5% duty for virtually all yogurt imports. This is despite the open borders promulgated by NAFTA.

As an alternative, we attempted to buy land and build a manufacturing facility in Canada. When this plan became visible to our competitors, they launched a series of actions directly against various Canadian government agencies and the local Chobani entity to stall our Canadian plans. Despite the fact that we and the Canadian government prevailed in court, all of the previous market barriers continue to exit.

Accordingly, we recommend that the Congress and the Administration use the TPP umbrella to look at the closed borders for dairy trade with Canada. We understand that other countries are recommending the same course of action.

Lastly, we understand that there are many discussions surrounding "Tax Reform" in the halls of government. We wholly support this effort to eliminate inconsistencies in the taxation of U.S. entities and to have a globally competitive tax system.

We appreciate the support that this Committee has shown and the opportunity for us to testify today. We look forward to working with the Committee in addressing the current challenges.

United States House of Representatives
Committee on Small Business –
Economic Growth, Tax and Capital Access Subcommittee
American Competitiveness Worldwide: Impacts on Small Businesses and Entrepreneurs

NCTO
NATIONAL COUNCIL of TEXTILE ORGANIZATIONS

Testimony Presented By:

Smyth McKissick
Chief Executive Officer
Alice Manufacturing, Easley South Carolina

On behalf of

The National Council of Textile Organizations
(NCTO)

Tuesday, July 9 2013

Chairman Rice and members of the subcommittee, Good afternoon and thank you for the opportunity to discuss the important role that over 500,000 men and women earning their livelihoods in the textile sector play in advancing the U.S. economy.

Good afternoon, my name is Smyth McKissick and I am the CEO of Alice Manufacturing. We are located in Easley, South Carolina. My company produces yarns and fabrics primarily for home furnishings, apparel, and health care applications. We also create home furnishing products, mainly fashion bedding, which we sell directly to our country's great retailers. Alice Manufacturing was established in 1910, and for four generations my family has lead this company through good times and bad including numerous recessions, the Great Depression, and World War II. Over the years, Alice and other U.S. textile manufacturers have consistently invested in the most technologically advanced equipment, continuing education, and technical training for our manufacturing facilities and workers. We employ best practices such as Lean, Six Sigma, and Maintenance Excellence. As a result our employee productivity, a key measure of competitiveness, has enjoyed incredible growth.

While our company and industry have adapted to changing times, U.S. trade policy has oftentimes hampered the growth and competitiveness of the U.S. textile industry. Our prosperity as an industry is dependent upon healthy engagement with the rest of the world. As the third largest exporter of textile products in the world, shipping nearly $23 billion in textile and apparel products to more than 170 countries, our industry is opposed to the unfair, or even in some instances illegal, trade practices that many foreign 'competitors' use to gain U.S. market share. These unfair practices are many and are damaging to the U.S. industrial base and run contrary to the core principles of "free trade".

The U.S. textile industry has been a world leader in innovation, developing biological resistant fabrics, wrinkle free fabrics, and sophisticated fabrics for military and other industrial applications. For all the positives that the U.S. industry enjoys, some serious challenges also confront U.S. textile manufacturers. For example, our chief competitors are located in countries that manipulate their currency, encourage nonperforming loans, ignore labor and environmental laws, tolerate nontariff barriers, and steal intellectual property. We also face the difficulty of the U.S. government's tendency to trade U.S. textile manufacturing interests away to competitors for perceived gains in other policy arenas. This does nothing more than erode the U.S. industrial base and displace workers and families in small towns and communities nationwide.

Prior to the Asian financial crisis, the textile industry in the United States was quite successful. One hundred percent of the apparel manufacturing process took place on American soil, from the cotton fields, to shirt, and retail. When the crisis hit, overnight, the U.S. market was flooded with artificially cheap goods. Due in large part to currency devaluations, our foreign 'competitors' gained a huge pricing advantage driven by weakened currency. These 'competitors' didn't become more productive nor did they develop new manufacturing practices that created a competitive edge, these 'competitors' cheated, and the United States textile supply chain was decimated. The industry was cut in half and thousands upon thousands of U.S. textile jobs were lost in the process.

At Alice Manufacturing, we realized that we had to quickly establish new business models in order survive. Our customers were being put out of business which required new strategies to access the consumer base. The first strategic move that Alice made was the creation of a new division whereby we would sell direct to retail. Before, we were an intermediate supplier of fabric in a complex, U.S. based, supply chain. Our new division, allowed Alice to become a "vertically integrated" home textile supplier. Knowing that the creation of outstanding designs is the "crown-jewel" of fashion bedding, we developed our own "in-house" design team by adding incredibly talented designers to our workforce. Using our fabrics, the product is finished with our designs, then cut and sewn, and sold to our country's major retailers. Our focus is on great designs, outstanding customer service, outstanding quality, and competitive pricing. Later, we diversified our product mix with the use of outside suppliers. This division of our company is a great contributor to our overall success.

Our second strategy is one whereby we partner directly with our neighbors in NAFTA and CAFTA countries. By doing so we are able to optimize our supply chain by spinning fibers into yarns and weaving fabrics in our U.S. based plants and then export the fabric to Mexico for finishing and cut and sew. Most of the products made from our fabrics are sold abroad. It's an optimal partnership and we are blessed to have "World-Class" producers in the NAFTA/CAFTA countries to partner with. We have benefited from having market access through out trade agreements to this region and our business is growing as a result. What makes these trade agreements so beneficial to the U.S. textile industry are the core tenants of textile and apparel trade: the Yarn Forward Rule of Origin, access to partnering countries markets, and customs enforcement.

Additionally, productivity is a critical component of competitiveness, and productivity growth is as important as anything we do. We invest in state-of-the-art manufacturing equipment as well as training to arm our workforce with the necessary skills and assets to compete. Most importantly, doing business with integrity is everything! We pride ourselves in doing what we say we'll do. Our customers depend on us to deliver great quality on time.

Though we've been able to "re-create" ourselves and start a new and growing business inside our company; at the same time we had to downsize our core business. It's incredibly difficult to go to a workforce that has been part of our company for generations and tell them that their job will be lost. Especially knowing that these workers were being displaced by foreign 'competitors' relying on a foreign supply chain that is dependent upon unfair or illegal subsidies like: currency manipulation, technology transfer, theft of intellectual property, and rebates of import duties to name a few. That is why enacting fair trade and investment policies that promote the competitiveness of U.S. manufacturers, as well as the competitiveness of the nations we trade with is critically important. Government to government, economy to economy, and industry to industry, the two-way exchange of goods must be fair and create mutual benefits.

Yet, there is good news to share, over the past few years the U.S. textile industry has experienced resurgence. Textile manufacturing has begun to come back to the United States; in fact, the textile industry has invested over $3 billion in new technologies, machinery, and manufacturing facilities since 2010. This positive trend could be further bolstered by sound U.S. trade policy, particularly as the U.S. government works to complete negotiations on the Trans-Pacific Partnership or the TPP. The TPP is the largest free trade agreement since NAFTA that the U.S. is negotiating with eleven other nations—Japan, Mexico, Chile, Peru, Canada, Australia, New Zealand, Brunei, Singapore, Malaysia and Vietnam. If properly structured, the U.S. textile industry is poised to continue a positive trajectory of growth. However, if weak rules are adopted, particularly given Vietnam's participation in the TPP, our industry will be at the mercy of an unfair free trade agreement, which will decimate the United States textile industry once again.

There have been a number of U.S. policies that have complimented U.S. textile manufacturing over the past 10 years. New markets have opened, and new international partnerships have been formed. The yarn forward rule of origin has been especially important to our industry. The yarn forward rule of origin means that the yarn used to form fabric, dyeing and finishing of fabric, and the final cut, sew, and assembly must occur in a free trade partner country to gain U.S. market access. Yarn forward has been the standard bearer in the creation of nearly $25 billion in two-way trade between the industry and our FTA partners. The rule has been the primary force behind the more than two million textile and apparel jobs in the United States and amongst our Western Hemisphere free trade partners.

Other examples of policies that have helped Alice to remain globally competitive are cotton and energy policies. Programs such as the Economic Adjustment Assistance Act have allowed Alice and other textile manufactures to invest in new machinery and equipment which had lead to the creation of thousands of textile jobs since the program was enacted in the 2008 farm bill. Energy costs have also been a huge contributor to our success. Textile manufacturing requires large amounts of energy and energy costs in the U.S. are an important competitive advantage.

While we have been able to regain a foothold over the past few years there are new policies which could present great danger to our industry. The Trans Pacific Partnership (TPP) could be the U.S. textile industry's single greatest threat since the Asian financial crisis. TPP negotiators must recognize that trade developed under free-market principles must be both defended and encouraged for the TPP to work as intended. In the case of Vietnam, a non-market economy, the government heavily subsidizes its industrial sectors particularly its textile and apparel sector. This requires new counterbalancing measures. These measures include long tariff phase outs for sensitive product categories and strict customs rules and enforcement to deter illegal trade. The U.S. textile industry continues to be concerned about the treatment of state owned and directed Vinatex, the 10th largest garment producer in the world, and by far the largest textile and apparel producer in Vietnam. This past week, news broke that the Chinese are considering heavy investments into Vinatex if the United States buckles to the single transformation rule that Vietnam would like to see in the TPP. Should the U.S. agree to a single transformation rule, Chinese state owned and operated textile producers will be granted duty-free access to the United States market through Vietnam. This is because single transformation rules requires that only the cut and sew part of the manufacturing process take place inside a TPP country in order to gain preferential access to the U.S. market. This means that Vietnam could continue to import textile inputs from China, cut and sew the apparel in Vietnam, and then export to the U.S. If this occurs, Vietnam and China stand to gain billions of dollars in textile trade at our industry's expense.

While the United States continues to hold fast on a yard forward rule of origin in the TPP, the Vietnamese oppose yarn forward. They are focusing on short-term foreign earnings and job growth from apparel exports. The Vietnamese are looking for a single transformation rule of origin and the U.S. apparel and retail importers have stated that they will support and push for single transformation as well. Single transformation creates an uneven playing field between the U.S. and Vietnam and will allow Vietnam to import goods from China and export those goods to the United States duty-free, circumventing the TPP agreement and flooding the U.S. market with duty-free Chinese textile and apparel products, leaving over 500,000 U.S. textile jobs at risk.

The initial 6–8 year impact of a single transformation rule in the TPP would prove devastating to the U.S. textile industry. Exports to the Western Hemisphere would decline by $3.8 billion and exports of apparel to the U.S. from the CAFTA, NAFTA, and the Andean regions would decline by $4.5 billion. Total possible job losses in the Western Hemisphere could total more than 1.5 million. These figures do not include collateral damage to other textile sectors including industrial, home furnishings, and military which are likely to be significant as overall industry capacity declines. The total projected job loss in the United States after 10 years of a single transformation rule as part of the TPP would be equivalent to 532,363 jobs. Vietnam fully expects that the TPP will allow integration of textile and apparel trade under a single transformation rule.

More than 75% of the apparel produced in Vietnam uses fabric and other textile inputs from China. A yarn forward rule would encourage Vietnam to build its own textile industry or source its inputs from another TPP country, like the United States, so that the value of the orders for textile processing goes to Vietnam and not China, as it does now. Vietnam continues to insist upon a single transformation rule and is prepared to trade the long-term benefits of having a primary textile sector for short-term gain; giving away a yarn forward rule would be a disaster for the textile and apparel industries in this hemisphere. The only winner in this situation is China.

Another concern of the U.S. domestic industry is that Vietnam engages in currency manipulation. Trade with countries that manipulate currency to gain export advantages and drive down the cost of goods creates uneven playing fields that sends manufacturing and jobs overseas. Currency manipulation easily nullifies any U.S. export benefits in an FTA with Vietnam. The Vietnamese government has steadily devalued the dong my more than 25% over the past three years; these devaluations have been a crucial assist in making Vietnam the fastest-growing apparel exporter to the United States and in taking the market share of production jobs from the U.S. textile industry and its Western Hemisphere partners. Currency manipulation must be addressed in the TPP if U.S. textile producers are to get a fair and competitive playing field under the agreement. It makes no sense to ignore such a fundamental issue in the TPP, particularly one that has such significant impact on U.S. jobs. If currency manipulation by the Vietnamese government continues to depress the value of the dong it will erase any market opening benefits for U.S. textile exporters under the TPP.

The United States government has a unique opportunity to develop a high standard 21st century forward thinking agreement through the Trans-Pacific Partnership. The yarn forward rule of origin supports hundreds of thousands of U.S. jobs as well as 1.5 million textile and apparel jobs in countries bordering and near the United States. In our past FTA agreements this rule is serving to bring jobs and production from Asia to the United States and the West Hemisphere. The yarn-forward rule of origin creates strong partnerships and export growth and opportunities for the U.S. textile industry around the world.

In conclusion, a flexible rule of origin will cause widespread plant closures and job losses in the United States and destroy enormous export markets that our free trade partners in CAFTA, NAFTA, the Andean region and African trade promotion programs depend on. It would also encourage Chinese textile manufacturers to continue to displace U.S. production and retard our textile sector development. In the entire TPP region the principal beneficiaries would be the importers and retailers who would get more than $1 billion in new duty savings, while displacing more U.S. manufacturing jobs at a time when the need for these jobs is extremely high.

I am here today to urge you to endorse the fundamental trading rules that have encapsulated every major FTA over the last 25 years along with the principles of fair market access and strong customs enforcement in the Trans-Pacific Partnership. This will allow the U.S. textile industry to continue to innovate, grow, and prosper. The distinguished members of this Subcommittee can support these principles by signing onto a Dear Colleague Letter authored by Representatives Coble (R-NC), McHenry (R-NC), and Pascrell (D-NJ) to the USTR that already has more than 143 of your colleagues supporting these important trading rules. I would like to thank those Subcommittee members who have already agreed to sign onto this important letter, including you, Mr. Chairman.

Thank you for the opportunity to provide testimony to the Subcommittee today and I would be pleased to answer any questions that you or any of the Subcommittee members may have of me, Mr. Chairman.

Respectfully Submitted:

Smyth McKissick
Chief Executive Officer
Alice Manufacturing

Key Facts about the U.S. Textile Industry

- The U.S. textile industry is a large manufacturing employer in the United States. The overall textile sector—from textile fibers to apparel—employed 499,000 workers in 2012.
  - Textile companies alone employed 235,000 workers.
  - The U.S. government estimates that one textile job in this country supports three other jobs.
- U.S. textile shipments totaled more than $53 billion in 2012.
- The U.S. textile industry is the third largest exporter of textile products in the world. Exports of all textile products exceeded $17 billion in 2011 and again in 2012. Total textile and apparel exports were a record $22.6 billion in 2012.
- Two-thirds of U.S. textile exports during 2012 went to our Western Hemisphere free trade partners. The U.S. textile industry exported to more than 170 countries, with 24 countries buying more than $100 million a year.
- The U.S. textile industry supplies more than 8,000 different textile products per year to the U.S. military.
- The U.S. is the world leader in textile research and development, with private textile companies and universities developing new textile materials such as conductive fabric with antistatic properties, electronic textiles that monitor heart rate and other vital signs, antimicrobial fibers, antiballistic body armor for people and the machines that carry them and new garments that adapt to the climate to make the wearer warmer or cooler.
- The U.S. textile industry invested $16.5 billion in new plants and equipment from 2001 to 2010. And recently producers have opened new fiber, yarn and recycling facilities to convert textile waste to new textile uses and resins.
- The U.S. textile industry has increased productivity by 45 percent over the last 10 years, making textiles one of the top industries among all industrial sectors in productivity increases.
- In 2011, textile workers on average earned 135% more than apparel store workers ($576 per week vs. $245) and received health care and pension benefits.

Testimony of Dr. Cynthia McIntyre
Senior Vice President
Council on Competitiveness

U.S. House of Representatives Committee on Small Business Subcommittee on Subcommittee on Economic Growth, Tax and Capital Access

Hearing

American Competitiveness Worldwide: Impacts on Small Businesses and Entrepreneurs

July 9, 2013

1:00 pm

Chairman Rice, Ranking Member Chu, and other distinguished Members on the Subcommittee, thank you for having me here today. It is an honor to share with you on a public-private partnership with which the Council on Competitiveness has been heavily involved since its inception, the National Digital Engineering and Manufacturing Consortium. This program currently wrapping up its pilot phase is a pilot public-private partnership connecting small and medium-sized manufacturers with high performance computing via modeling and simulation.

U.S. manufacturers are being challenged today by an unprecedented confluence of global events. This convergence of powerful internal and external forces—The Great Recession, global economic contraction, the U.S. automotive manufacturing base receiving from the financial crisis and the recession, and increasing competition from overseas—is challenging U.S. manufacturing leadership like never before. Indeed, these extraordinary circumstances require extraordinary measures, and the U.S. public and private sectors must cooperate strategically, coordinating and investing to repair, reposition, and reaffirm U.S. global leadership in manufacturing.

Research by the Council on Competitiveness presents powerful evidence of the capacity of high performance computing (HPC) to drive innovation and make U.S. companies and the nation more competitive. Indeed, for those who have adopted it, HPC represents a crucial edge that can build and sustain competitive advantage through innovative product design, production techniques, cost savings, improved time-to-market cycles, and overall quality. However, Council research has also shown that many U.S. companies are "stuck at the desktop" and not able to take full advantage of HPC, while still others—including many suppliers to U.S. tier 1 companies—have limited, if any, computational R&D capacity (with many not even using desktop workstations).

Our situation becomes even more critical when one surveys the competitive landscape that U.S. companies face today—where many foreign governments have established public-private partnerships for the use of HPC in manufacturing. Indeed, sustained national investments in innovation and manufacturing are occurring in China (e.g., China's 863 Program), the European Union (PRACE program), and in the UK to name only a few. Meanwhile, our own national policy regarding HPC is fragmented. The time is right for the U.S. federal government to take bold steps to leverage HPC for next-generation innovation, manufacturing, and U.S. competitiveness.

The Council sees public-private sector collaboration as the best and most effective means for quickly advancing HPC in manufacturing. However, to be successful in this effort, much closer coordination between government, national labs, universities, and industry will be needed and must be bolstered by a national strategy that transcends the parochial interests of any single federal agency, department, university, or HPC center. To these ends, the Council offered several recommendations for quick action:

- Improve coordination of the federal government's overall approach to advancing HPC (i.e., work toward a more balanced program across DOE labs, NSF-funded supercomputing centers, the DOD, universities, and so on).
- Increase outreach efforts to chief executives (the so-called "C-suite") in manufacturing to help them better understand the true benefits of HPC to their bottom lines. Bring together CEOs and CTOs from the nation's manufacturing base, along with U.S. experts in HPC hardware and software, in a national summit to better frame and address the issues surrounding HPC for next-generation manufacturing.
- Enhance industrial access to HPC resources by establishing a government-supported HPC center or program dedicated solely to assisting U.S. industrial partners in addressing their research and innovation needs by adopting or improving modeling, simulation, and advanced computation.
  - The center or program would provide assistance with problem definition; software selection, development, or customization (indeed, software is often the most crucial gap); and access to HPC hardware.
  - It should feature a task force or working group that would (1) visit all top U.S. manufacturing companies, HPC centers, national labs, and major independent software vendors (ISVs); and (2) work to address major technical hurdles in the manufacturing sector's use of HPC (e.g., software, interoperability, multiphysics, and so on).
  - It should be overseen by an advisory board with balanced membership from government, university, and industry.
  - It could be started with initial funding from the federal government, but should be supported in the long term by a broad mixture of support from federal, university, and industrial partners.

• Invest in U.S. HPC expertise. Some of our most precious national resources are the people who operate in the HPC domain—from the computational scientists and engineers to the domain experts that apply HPC in their fields (e.g. mechanical, electrical, chemical engineers). The federal government, national labs, universities, and industry need to take concrete steps to educate, train, retrain and retain people with the expertise to take advantage of large HPC systems and manage their application and deployment in new settings, and create the new software and hardware needed to drive innovation.

The Council on Competitiveness and selected original equipment manufacturers (OEMs) developed a Midwestern regional pilot program as a public-private partnership with the U.S. federal government based on these recommendations. The pilot program is aimed at improving competiveness and innovation in small- and medium-sized enterprises (SMEs) in the U.S. manufacturing supply chain. The ultimate outcome of the pilot program will be a workforce with enhanced technical skills, improved product quality, better customization of products, and job retention and growth.

On August 31, 2010, a Summit & Workshop was held at the Gleacher Center in Chicago that brought together representatives from a broad cross-section of industry, academia and the federal government to brainstorm ideas and to agree upon the necessary and desired components for such a pilot program. This document captures the decisions made at that meeting, and provides guidelines for implementing the pilot program.

The high level goal of this pilot program is to develop and demonstrate a sustainable, scalable and replicable model for accelerating and broadening use of modeling, simulation and analysis (MS&A) in Midwestern SMEs through a public-private partnership (described below). Funding will be provided as seed money for this pilot program, with the expectation that it will demonstrate a path toward long-term sustainability. This is only achievable if (a) the supply chain members can rapidly reach a point where the results produce cost-benefits that allow and incentivize them to continue use of MS&A, either independently or within the continued context of the pilot program, and (b) software vendors can develop a business model that provides easier and more affordable access to software tools for SMEs.

The longer term goals of this pilot program are to put U.S. manufacturing on a path toward using MS&A for digital prototyping of new and existing products and for process manufacturing. Also, we expect this pilot program to be a demonstration of effective coordination that will be used in the startup of other regional centers.

The current level of MS&A across the manufactures in the U.S. is greatly varied with the companies lying at one of the three levels; entry, advancing, and expert. The key points are that U.S. manufacturers are at different levels in their adoption of MS&A in their processes, and that a natural progression of adoption and expertise exists to either adopt or advance usage to the next level. The focus of the pilot program is on the first two levels:

• Entry level—supply chain manufacturers who currently have no capabilities in MS&A, but recognize the benefits as a way to increase their competitive advantage.

• Advancing—supply chain manufacturers who currently have some initial capability, but want to become more advanced in their use of MS&A to promote innovation and ensure their long-term competitive advantage.

This early pilot program laid the groundwork for the formal recognition of the pilot program as a partnership with the U.S. government. In March 2011, a Memorandum of Understanding was signed at a White House Ceremony, formally establishing the public-private partnership (PPP) known as the National Digital Engineering and Manufacturing Consortium (NDEMC) for five years. The Council of Competitiveness became the lead partner for the project, in collaboration with a number of other stakeholders. The Consortium is funded by a public-private partnership established by the United States Government and a number of participating OEMs. This funding partnership has the U.S. government giving $2 million and the private sector contributing $2.5 million to the project. Some of the companies backing the project include Deere & Company, General Electric, Lockheed Martin Corporation and Proctor and Gamble.

The NDEMC's main purpose is to pilot programs that promote adoption and advancement of modeling and simulation (MS&A) and high performance computing (HPC) among small and medium-sized manufacturers (SMEs) in the United States. The network of OEMs, manufacturers, solution providers, and collaborators that make up the NDEMC will result in accelerated innovation through a powerful collaborative ecosystem of like-minded organizations.

NDEMC is energizing the growth and development of small- and medium-sized American manufacturing enterprises (SMEs) by promoting public-private partnerships and encouraging skills transfer of advanced manufacturing techniques and processes that leverage computational power, simulation and cutting-edge modeling techniques. With funding through the Economic Development Administration, and as the initial project of President Obama's Advanced Manufacturing Partnership, the White House and the Council of Competitiveness are leading the effort to collaborate with SMEs to use modeling and simulation.

NDEMC brokers and promotes collaborative relationships that will sustain the growth of American manufacturing through jobs creation and enhanced competitiveness. NDEMC provides modeling, simulation and analytics education and training, access to High Performance Computing (HPC) and access to Software as a Service (SaaS). These services will be available through a distributed application to make U.S. SMEs more competitive in the global marketplace.

A great example of how NDEMC has positively impacted U.S. companies is the case of Jeco Plastic Products LLC. Jeco Plastic Products, LLC is a small custom-mold manufacturer of large, complex, and high-tolerance products with a plant in the Indianapolis area. Two processes are used in the manufacturing facility—rotational molding and twin-sheet pressure. Jeco's customer base includes large U.S. and international original equipment manufacturers (OEMs) in the automotive, aerospace, printing and defense industries. To take advantage of a monumental opportunity to secure a large OEM account, Jeco Plastic Products required high performance computing (HPC) and modeling, simulation and analysis (MS&A) resources to successfully evaluate design scenarios and predict the product performance of a complex custom pallet. In house finite element analysis (FEA) software and computing resources were inadequate to accomplish this task. Jeco joined the NDEMC program to gain training, experience, access to university expertise, software and hardware to successfully compete against large foreign competitors. By employing HPC simulation, the company was able to simulate and analyze their pallet in a highly predictive and time-efficient manner. Without these HPC resources, they would not have earned a multiyear contract from a large German automotive OEM.

Improvements to Jeco's pallet product have impacted their bottom-line as sales revenue is expected to double, payroll will increase by 35 percent at their plant, and they will be in contention for additional high-margin, domestic and export business projects.

Overcoming Technical Challenges with High-Impact Computing Jeco experienced a technical challenge in its simulation of complex, high tolerance designs in inhomogeneous anisotropic materials, which is virtually impossible to produce with the current commercially available software. Tedious trial-and-error physical design and testing was deemed inefficient and would not meet the expectations of their large automotive OEM client. High-ranking executives at the company were cognizant that they needed to upgrade their MS&A capabilities to effectively compete in this high growth niche industry.

A last minute requirement for a multi-year project with a major German OEM required Jeco to take immediate action to upgrade. The critical situation prompted the company to contact Purdue University for assistance through their Manufacturing Extension Partnership (MEP) program, which led to becoming part of the NDEMC Midwest Project. Jeco understood that the relatively small cosmetic alteration required by their client could potentially affect critical specifications for deflection, and they needed outside assistance. To facilitate this change and receive the initial order, they had to rapidly analyze a very complex design before making the expensive, irreversible tool changes. Access to HPC and the Purdue support staff were invaluable resources in enabling the company to make quick and accurate evaluations for the final step in the design process. Jeco CEO Craig Carson learned that the NDEMC public-private partnership would be instrumental in accessing the training, hardware and software necessary for MS&A.

Based on their limited resources, Jeco's participation in the NDEMC project became imperative to meet their strategic organizational, product and financial objectives. NDEMC's Midwest Project offered Jeco access to Purdue's faculty and staff. Jeco's leadership valued the university's strong collaboration, unwavering support and intellectual insight to assist them in bringing technological improvement to their pallet product. The program also introduced the company to superior test facilities for a wide range of applications. This included utilizing HPC simulation paired with laboratory materials test equipment at Purdue to validate their models.

From an MS&A perspective, NDEMC facilitated Jeco's access to software which ordinarily would have been beyond the realm of possibility due to budgetary constraints. By gaining access to MS&A and technical expertise, Jeco had the ability to develop creative technological solutions in the final, time-critical phase of the product innovation process.

Based on current projections, Jeco management is expecting a reasonably steady increase in incremental, cumulative sales revenue for rotational molding between 2013 and 2022, totaling nearly $23 million during the period. These projections are based on a full-scale release of a new product for their German OEM customer and additional projects in the twin-sheet thermoforming market. Due to increased production demand from their large clients, Jeco is expected to increase payroll and hire 15 advanced manufacturing workers within the next few years.

While we celebrate the successes and learn from the challenges of the Midwest pilot program, NDEMC continues to move forward. I am pleased to share with you that the NDEMC program received the HPCwire Editor's Choice Award for Best HPC Collaboration Between Government and Industry in 2012. Currently the NDEMC pilot program is wrapping up its federal funding and the Council on Competitiveness and other key NDEMC stakeholders are working to move NDEMC from a public-private partnership to a nonprofit entity which would be the conduit for new partnerships, including new public-private partnerships, across the United States which will continue to work together to sustain America's manufacturing and competitiveness. The EDA and its partners will study the economic impact of technology-based innovation infrastructure toward boosting the long-term job capacity and competitiveness of U.S. manufacturing and industry.

Thank you.

For further information on the National Digital Engineering and Manufacturing Consortium please visit www.ndemc.org.

For further information on the Council on Competitiveness and its manufacturing work, including the US Manufacturing Competitiveness Initiative and the American Energy & Manufacturing Partnership, please visit www.compete.org.

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Council on Competitiveness

CASE STUDY

NDEMC Helps Jeco to Exceed Growth and Financial Expectations

NDEMC Helps Jeco to Exceed Growth and Financial Expectations

Overview

Jeco Plastic Products, LLC is a small custom-mold manufacturer of large, complex, high-tolerance products with a plant in the Indianapolis area. Two processes are used in the manufacturing facility–rotational molding and twin-sheet pressure forming. Materials used range from commodity thermoplastic resins, such as polyethylene (PE), to extraordinarily difficult resins, such as polyetherketoneketone (PEKK) with continuous unidirectional carbon fibers. Jeco's customer base includes large U.S. and international original equipment manufacturers (OEMs) in the automotive, aerospace, printing and defense industries. For more information, visit the company's web site at jecoplastics.com.

STAKEHOLDERS

NDEMC Partners
Purdue University
Ohio Supercomputer Center (OSC)
Council on Competitiveness

MEP
NIST-funded, Purdue University-led Indiana Manufacturing Extension Project

Pilot Partners
Purdue University
Ohio Supercomputer Center

TOP KEY STRATEGIC INSIGHTS

Main Outcomes

- NDEMC provided access to OSC and Purdue's expert staff to enable Jeco engineers to promptly analyze and address a potential customer's last-minute design changes to a Jeco pallet product.
- Without the expertise and high performance computing (HPC) modeling, simulation and analysis (MS&A) resources, Jeco would have lost the opportunity for a multi-million dollar export order to a German OEM.
- NDEMC provided the engineering workforce training on the SIMULIA Abaqus Unfied Finite Element Analysis (FEA) software suite from Dassault Systèmes, used to analyze the pallet design change.
- Jeco's demonstrated capabilities with SIMULIA Abaqus Unified FEA and HPC are helping to pave the way for larger, more lucrative projects with major aerospace, automotive and joint product development projects.

Benefits

- A new opportunity for a multi-year contract with annual orders of $2.5 million during the next five to ten years.
- Fifteen additional jobs and a capital investment of more than $500,000.

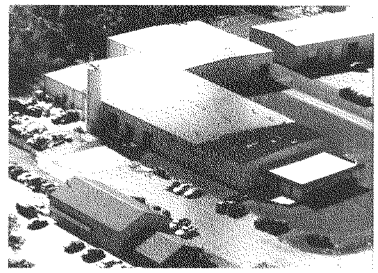
Executive Summary

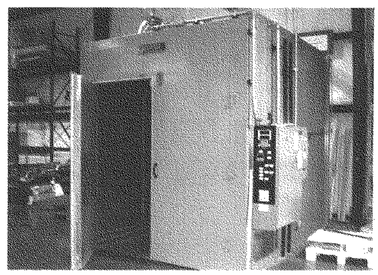
To take advantage of a monumental opportunity to secure a large OEM account, Jeco Plastic Products required high performance computing (HPC) and modeling, simulation and analysis (MS&A) resources to successfully evaluate design scenarios and predict the product performance of a complex custom pallet. In-house finite element analysis (FEA) software and computing resources were inadequate to accomplish this task. Jeco joined the NDEMC program to gain training, experience, access to university expertise, software and hardware to successfully compete against large foreign competitors. By employing HPC simulation, the company was able to simulate and analyze their pallet in a highly predictive and time-efficient manner. Without these HPC resources, they would not have earned a multi-year contract from a large German automotive OEM. *Improvements to Jeco's pallet product have impacted their bottom-line as sales revenue is expected to double, payroll will increase by 35 percent at their plant, and they will be in contention for additional high-margin, domestic and export business projects.*

Overcoming Technical Challenges with High-Impact Computing

Jeco experienced a technical challenge in its simulation of complex, high tolerance designs in inhomogeneous anisotropic materials,[1] which is virtually impossible to produce with the current commercially available software. Tedious trial-and-error physical design and testing was deemed inefficient and would not meet the expectations of their large automotive OEM client. High-ranking executives at the company were cognizant that they needed to upgrade their MS&A capabilities to effectively compete in this high growth niche industry.

A last minute requirement for a multi-year project with a major German OEM required Jeco to take immediate action to upgrade. The critical situation prompted the company to contact Purdue University for assistance through their Manufacturing Extension Partnership (MEP) program, which led to becoming part of the NDEMC Midwest Project. Jeco understood that the relatively small cosmetic alteration required by their client could potentially affect critical specifications for deflection, and they needed outside assistance. To facilitate this change and receive the initial order, they had to rapidly analyze a very complex design before making the expensive, irreversible tool changes. Access to HPC





Top: Aerial view of the Jeco facility in Plainfield, IN.

Center: The controlled relative humidity chamber used to maintain a specific moisture content in hygroscopic plastic sheet stock to be thermoformed.

Bottom: This custom twin-sheet thermoforming machine is unique in North America.

1 An anisotropic material is one with properties, such as strength, that are different in different directions.

and the Purdue support staff were invaluable resources in enabling the company to make quick and accurate evaluations for the final step in the design process.

Jeco CEO Craig Carson learned that the NDEMC public-private partnership would be instrumental in accessing the training, hardware and software necessary for MS&A. Based on their limited resources, Jeco's participation in the NDEMC project became imperative to meet their strategic organizational, product and financial objectives.

NDEMC Facilitates Jeco's Bright Future

NDEMC's Midwest Project offered Jeco access to Purdue's faculty and staff. Jeco's leadership valued the university's strong collaboration, unwavering support and intellectual insight to assist them in bringing technological improvement to their pallet product. The program also introduced the company to superior test facilities for a wide range of applications. This included utilizing HPC simulation paired with laboratory materials test equipment at Purdue to validate their models.

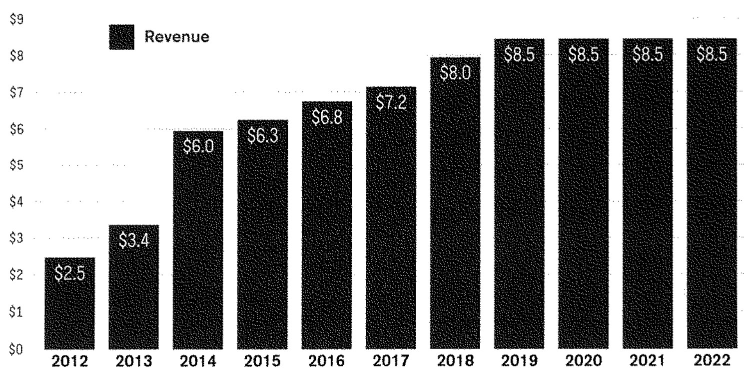
From an MS&A perspective, NDEMC facilitated Jeco's access to SIMULIA Abaqus Unified FEA,[2] which ordinarily would have been beyond the realm of possibility due to budgetary constraints. By gaining access to MS&A and technical expertise, Jeco had the ability to develop creative technological solutions in the final, time-critical phase of the product innovation process.

Long-term Economic and Financial Prospects for Jeco Plastic Products

Based on current projections, Jeco management is expecting a reasonably steady increase in incremental, cumulative sales revenue for rotational molding between 2013 and 2022, totaling nearly $23 million during the period. Figure 1 indicates a solid forecast of expected annual revenue growth during the next ten years.[3] These projections are based on a full-scale release of a new product for their German OEM customer and additional projects in the twin-sheet thermoforming market.

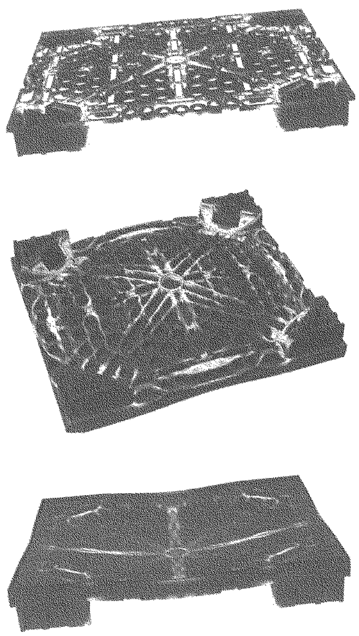
Due to increased production demand from their large clients, Jeco is expected to increase payroll and hire 15 advanced manufacturing workers within the next few years.

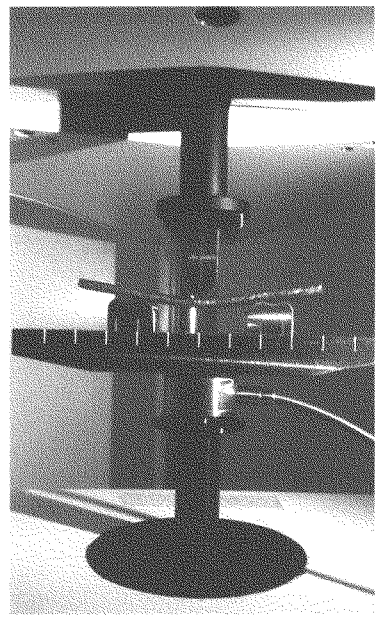
Figure 1. Projected Annual Revenue (Millions)



2 This is a suite of software applications for finite element analysis and computer-aided engineering.

3 The annual revenue figures include potential incremental rotation molding sales for the German OEM client totaling $2.5 million.





Left Side: *Stress and deformation simulations of Jeco's pallet—at top, inner pallet construction; center, pallet deformation bottom view; and bottom, pallet deformation top view. Based on the output from ABAQUS software, these views of the pallet deformation illustrate the level of stress in the material. Blue areas show the least amount of stress, while red indicates the highest level of stress.*

Right Side: *Laboratory testing equipment that measures the deformation characteristics of the material.*

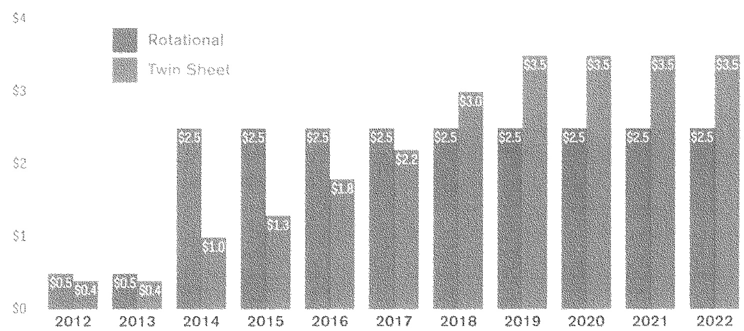
HPC Helps Deliver New Business Opportunities For Jeco

Carson and his company plan to utilize their new core competency to address emerging markets in the aerospace and automotive industry. The company has received a lucrative order from NASA for a major component for the International Space Station, based upon their new ability to design and manufacture products in layered anisotropic materials with continuous internal fiber reinforcement. HPC has become a vital resource in Jeco's product development process for various industrial applications. Most importantly, Jeco's demonstrated experience with MS&A during the Midwest Project was instrumental in helping them secure additional projects with other major aerospace and automotive clientele. Management reported that they are very pleased with the results of NDEMC's Midwest Project.

Additional Financial Projections

Carson insists the sales volume forecast for the next few years is very achievable, and the company will have working capital to fund growth by the 2015 fiscal year. Figure 2 illustrates revenue growth and sales projections for both rotational molding and twin-sheet forming processes. The total revenue for their twin-sheet work during the next ten years is expected to climb to nearly $24 million.

Figure 2. Sales Revenue for Twin Sheet Forming and Rotation Molding (Millions)



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National Digital Engineering & Manufacturing Consortium

NDEMC Midwest Project

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NDEMC is comprised of the following partners:

OEMs

- Deere & Company
- General Electric Company
- Lockheed Martin Corporation
- The Procter & Gamble Company

Solution Partners

- Council on Competitiveness
- National Center for Manufacturing Sciences
- National Center for Supercomputing Applications (University of Illinois)
- Ohio Supercomputer Center
- Purdue University
- SCRA

State Governments

- Ohio Board of Regents

Federal Government

- The White House
  - National Economic Council/ Office of Manufacturing Policy
  - Office of Science and Technology Policy
- U.S. Department of Commerce
  - Economic Development Administration
  - National Institute of Standards and Technology
- U.S. Department of Energy
- National Aeronautics and Space Administration
- National Science Foundation

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NDEMC has two major deliverables: a web based portal and up to 40 demonstration projects/case studies. The portal will be easy to access with features that include:

- A single point of entry to access MS&A software and HPC
- A searchable database of MS&A software (at present there are 143 types of software in the database)
- A secure business transaction capability (pay-by-use model)
- Access to unbiased advice and direction (university partners)
- A database of MS&A consultants and their areas of expertise

The first seven projects in process now are the following SMEs:

- Adams Thermal Systems
- Greenlight Optics
- Jeco Plastic Products
- Plastipak Packaging, Inc.
- Pratt Industries
- Rosenboom, Inc.
- TPI Composites

For more information, contact Dr. Cynthia R. McIntyre, Senior Vice President, Council on Competitiveness via phone at 202.969.3406 or email at cmcintyre@compete.org.