Rob Atkinson, Executive Director of the Information Technology and Innovation Foundation, Washington, D.C.

Structure business incentives to yield broader benefit, lasting value

A Civic Caucus Focus on Competitiveness Interview

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Present

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Summary

Minnesota's economy has two big core strengths, says Rob Atkinson: lots of knowledge workers, managerial and technical jobs, and scientists and engineers; and lots of research and development (R&D). But, he says, Minnesota needs to work on two big areas:making its linkages to foreign markets stronger and providing an environment that fosters entrepreneurship and new firm formation.

He believes strongly that economic incentives for businesses to grow or expand in a state should not involve just handing out cash to a company that it would put onto the bottom line. He's especially skeptical of giving money to retail. He discusses the incentives Texas offered when Texas Instruments was planning to build a new fabrication facility. The state said it would supply necessary highway infrastructure and invested in improving the electrical engineering department at the University of Texas-Austin. He calls this Texas model a creative way to give an incentive that helps the company, but also creates a tangible asset that other companies can use.

He comments on the failure of inner-city schools and says Minnesota could be a leader on education reform by moving inner-city schools much more to project-based learning. And, he says, the U.S. doesn't do a good job of aligning technical education with the needs of employers. He also believes we need to hold colleges more accountable for results.

Atkinson says the U.S. has no real strategy to compete in global markets and advocates competition among states to create better incentives for foreign companies to come here.

Discussion

In its *2012 State New Economy Index* , a survey looking at how states are measuring up to the new economy, the Information Technology and Innovation Foundation (ITIF) ranked Minnesota 13th overall among the 50 states. The ITIF does this survey every two years, looking at the economic structure of the states, specifically, knowledge jobs, globalization, economic dynamism, the digital economy and innovation capacity. According to ITIF Executive Director Rob Atkinson, Minnesota's overall rank has been fairly constant since 1999.

In 2011, ITIF did a report called *The Atlantic Century II ,* benchmarking the European Union and the U.S. on innovation and competitiveness. The report also compared states to countries. In that comparison, Atkinson said, Minnesota would have ranked as the second most innovation-based country in the world, behind Finland.

ITIF's 2012 new economy index showed both strengths and weaknesses for Minnesota in its rankings on individual measures:

- **1st:** health information technology;
- **4th:** high-wage traded services (i.e., service industries that tend to be traded across borders, such as insurance, consulting and engineering);
- **5th:** e-government;
- **6th:** industry investment in research and development (R&D); the digital economy; knowledge jobs;
- **8th:** information technology;
- **10th:** managerial, professional and technical jobs; workforce education;
- **11th:** scientists and engineers;
- **12th:** venture capital; inventor patents;
- **13th:** innovation capacity; high-tech jobs; patents;
- **14th:** online population;
- **17th:** migration of U.S. knowledge workers; manufacturing value added;
- **18th:** fast-growing firms;
- **20th:** online agriculture;
- **23rd:** broadband telecommunications;
- **24th:** movement toward a new economy;
- **25th** : immigration of knowledge workers; job churning;
- **26th:** initial public offerings (IPOs);
- **28th:** export focus of manufacturing;
- **29th:** foreign direct investment; economic dynamism;
- **37th:** globalization;
- **38th:** non-industry investment in R&D;
- **44th:** entrepreneurial activity.

Minnesota has two big core strengths:

1. Lots of **knowledge workers**, managerial and technical jobs, and scientists and engineers; and,

2. Lots of **R&D**.

"It's got the core capabilities for doing well," Atkinson said. "That's more and more important. It's hard to compete on commodity-based production, whether in software or in manufacturing. More knowledge-based jobs, more skill-based jobs are very important for the future."

Minnesota needs to work on two big areas:

1. Linkages to **foreign markets**; and

2. Entrepreneurship and **new business formation** .

Atkinson pointed out that Minnesota ranks 28th on the export focus of manufacturing and 29th on foreign direct investment (FDI). It is the farthest away of any state from any country, except Canada. He said there are FDI opportunities for companies wanting to get into the U.S. innovation economy, whether via R&D facilities or corporate regional facilities or other means.

He said generally the Midwest lags behind in entrepreneurial activity. "The Midwest is more of a corporate economy," he said, "as opposed to California, where there's a lot of movement, a lot of shifting, people taking big risks." Minnesota ranks 26th in IPOs, 18th in fast-growing firms and 44th in entrepreneurial activity.

Also, he said, Minnesota ranks 38th in nonindustrial investment in R&D, while New Mexico ranks first, because of the big presence there of federal government R&D.

Two things for Minnesota to think about are how to make its entrepreneurial ecosystem more dynamic and how to make its foreign linkages stronger. Atkinson said he likes Harvard ofessor Michael Porter's work on the importance of foundational factors, investment awareness and clusters of companies in similar industries to the success of regional and state economies. But, Atkinson said, Porter tends to give short shrift to other kinds of things you need to do to be successful as a state economy.

A country or state must get all the layers of a "growth pyramid" right to be successful. The ITIF issued a new report in September, *Localization Barriers to Trade ,* that lays out an alternative to protectionism as the way to grow a national or state economy. Atkinson called it a "growth pyramid," which has several layers.

He said Porter's concepts only go up to the bottom level of the pyramid, which includes things like rule of law, competitive markets, effective government, protecting intellectual property. "Most states get this level right automatically," Atkinson said.

He said the next level up in the pyramid includes effective trade or regulatory policies and a competitive tax policy. He believes states should raise taxes on non-mobile activities to pay for public

goods. People tend to move less than companies, so sales taxes are better than corporate taxes, in general.

The next level up includes key factor inputs: a robust physical and digital infrastructure, good universities, a skilled workforce, and good health care. "Everybody knows they have to do that stuff right," Atkinson said. "Those things are kind of entry level to the game. States must go up another level to win."

That top level includes innovation and competition policies. He gave the example of Iowa's innovation voucher program, which provides small vouchers, ranging from $10,000 to $25,000, to small, technology-based innovative companies. They can use the vouchers at any Iowa university or college to get technical assistance and applied R&D that their small companies might need. "It forces colleges and universities to compete, to be more open to business, to be more flexible, to be more responsive, and to explain and market what they can do for these companies," Atkinson said. "Big companies don't need that type of assistance."

Minnesota and other states should appeal to the fastest-growing companies in the state. He said the Minnesota Department of Labor has data every quarter that can identify the fastest growing companies in the state. He said the department could send out a message like the following to the five percent of Minnesota companies that are the fastest growing:

"We notice that you're growing fast. Minnesota values fast-growing companies. The state has a suite of services and help we can give you. If you're interested in finding out more about that, whether it's accessing foreign markets or financing programs or getting workers to fit your needs, here's a website or a number to call."

Atkinson also said the state could work with individual firms in particular areas, such as biotech. It could provide a forum for companies to learn from each other and to get in front of venture capitalists, lawyers, patent people and accountants and to offer joint support services. "Those are things that require everybody to work together," he said.

Economic incentives should not involve just handing out cash to a company that it would put onto the bottom line. An interviewer commented that the 2013 Legislature, in a specific, targeted effort, gave large amounts of money to the Mayo Clinic, the Mall of America, 3M, Baxter International and Emerson Process Management. He asked when and how the state should give subsidies and whether what Minnesota did this year makes sense for the new economy.

"I'm immediately skeptical of anybody giving money to retail," Atkinson said.

He discussed what Texas did when Texas Instruments, headquartered in Dallas, was planning to build a new fabrication facility. The company got lots of offers from other states and countries. Texas said it would supply necessary highway infrastructure and invested $200 million at the University of Texas-Austin to ramp up and improve the electrical engineering department, particularly around semiconductor engineering research. Texas Instruments needed a steady flow of semiconductor engineers, as well as semiconductor research, so the company built in Texas.

"That was a creative way to give an incentive, which was not just handing out cash to the company that they would put onto the bottom line," Atkinson said. "It was a way to build up more of a shared resource that helped everybody, but also helped the company. I tend to be dubious in general of giving cash grants to companies. It's better to support these shared knowledge infrastructure efforts. If the company ever leaves, you have a tangible asset that other companies can use."

Strong growth in innovation-based, high-wage jobs leads to higher wages in service jobs. Atkinson noted that a recent study found that the stronger your innovation and technology engine is, the better you do at pulling up people who are not directly related to that.

The U.S. doesn't do a very good job of aligning technical education with the needs of employers. Atkinson mentioned a chartered high school on the west side of Chicago, Austin Polytechnic, whose students, nearly all low-income students of color, work as interns or apprentices at small and midsize local manufacturers. They learn machinist skills, as well as skills they can use to go to college. "It's a very useful, interesting program," he said.

Minnesota could be a leader on education reform by moving inner-city schools much more to project-based learning. "This problem is a national one," Atkinson said. "What we're doing for inner-city schools is pretty much an abysmal failure. We're not going to get there by ramping up standards. I'm more on the side of letting kids follow their interests." He suggested picking five inner-city schools and trying project-based learning in those schools for five years.

The United States lost one-third of its manufacturing jobs in the last decade, the second worst rate of loss of any country in history. Atkinson said manufacturing historically has been a source of better, higher wage jobs for people with lower levels of education. Losing those manufacturing jobs has greatly reduced that opportunity.

"We have an opportunity to turn that around," he said. "We could create more manufacturing jobs in the U.S. There are some good trends in our direction."

Some young people who will be entering the workforce to replace retiring workers in the coming years are not well trained. An interviewer commented that Minnesota is projecting an absolute decline in its working-age population, the 25-to-64 age group. There will be more people retiring than coming into the workforce. He asked if that is a common problem in other states. Atkinson responded that because of immigration, the U.S. as a whole won't see an absolute decline in its working-age population.

Another interviewer asked what we should do about the huge cohort of young people who didn't do well in school already in the pipeline. He asked if adult basic education is a good strategy.

Atkinson replied that Minnesota is not unique in that situation. A thorough study of the adult education system in Massachusetts a few years ago showed a complete mismatch of when people could take various courses and when they were offered. Also, what the schools were offering was not really related to what businesses wanted. "Those are institutional changes one could make," he said.

We need to hold colleges more accountable for results. Atkinson noted that the Educational Testing Service surveyed students in the last semester of their senior year in college and found that

only 39 percent were fully literate and only 31 percent were fully numerate. Another study done by professors at New York University showed that 50 percent of an incoming class had learned nothing by the end of their sophomore year of college; there was no improvement whatsoever. "We don't hold colleges accountable for these results," Atkinson said. "A lot of higher education is just going through the process of going to class and getting a grade."

Using massively open online classes (MOOCs) could save Minnesota universities money that could be used to improve science R &D at the University of Minnesota. "We need world-class research universities," Atkinson said. States can't just focus on technological innovation, he said, but must also look at institutional innovation. "Look at how your institutions are working and adopt new models," he said. "That's what companies and the best countries in the world are doing."

The U.S. has no real strategy to compete in global markets. Atkinson said the U.S. Department of Commerce should study three or four industries a year to see what government is doing that create barriers for those industries and what it could do to open opportunities. He said medical devices would be a good place to start, since both Minnesota and the U.S. have real leadership in that industry. "But it's slipping away from us as a country to the Europeans and to Korea," he said. "We have no real strategy for that. We should help Congress understand what government must do."

Economic competition among states is good motivation for improvement. "The notion is a good one," Atkinson said. "It keeps you on your toes."

But funneling money to a particular business to keep it in the state is a zero-sum game when the company would otherwise have opened a new plant in another state. "I like the Texas model [described above]," he said. "The result tends to be a positive sum."

Competition among states to create better incentives for foreign companies to come here is clearly in our interest. "We don't do a very good job of that compared to other countries," Atkinson said. He proposed using knowledge investment zones. Foreign companies could come here and get a tax break to locate in these zones near universities. "But it's very hard for states to coordinate enough to reduce the bad competition and do more of the good competition," he said.

He said the U.S. needs better conditions for both domestic and foreign investment. He pointed to our corporate tax rate, which is the highest in world, and to the very low ranking of the U.S., compared to other countries, in putting money into research at universities.

Tax incentives are an important tool, but should be related to the company giving something back to the state. Atkinson said very few companies create jobs if they're getting a small tax incentive for that purpose. They'll add jobs if they have a market for their services or goods. But, he said, companies do make decisions on worker training, R&D and investing in machinery and equipment on the basis of tax policy and return on investment.

"How could Minnesota have the best tax incentives for companies to invest in training?" Atkinson asked. "The best way to train existing workers is through companies, but they have cut their spending on this in half compared to a decade ago. That's because workers leave their jobs so quickly and

companies are so short term in their investment strategy. A training tax incentive could kill two birds with one stone: it could improve the tax climate for Minnesota, but also get companies to be investing in the foundational future."

He said state R&D tax credits are quite effective at getting companies to invest more in R&D and as incentives for companies to move R&D to the state.

Don't rest on your laurels. Atkinson concluded by saying that the biggest mistake companies make is to rest on their laurels, thinking if they were good a year ago or 10 years ago, they're going to be good tomorrow. "The dynamism in the economy now to overturn leaders is so intense, so quick," he said. "That applies to states, as well. Minnesota has a long, long legacy of doing well. But don't take anything for granted anymore. Only the paranoid survive."