

**Plenary Session:
Viewing the Landscape—
Myths and Realities about the Current and Future Economy and Workforce**
Monday, December 10, 2007
1:30—3:00 pm

Speakers

Julia Lane, Senior Vice President, Director, Economics, Labor and Population Department, National Opinion Research Center, University of Chicago

Vivek Wadhwa, Wertheim Fellow, Labor and Worklife Program, Harvard Law School and Adjunct Professor/Executive in Residence, Duke University

Moderator

Larry Good, Chairman of the Board, Corporation for a Skilled Workforce

~~~~~  
SUMMARY NOTES

Vivek Wadhwa: PowerPoint Presentation

Vivek discussed the reality of the perceived failings of the United States when it came to training and supporting scientists and engineers compared to countries such as India and China. Through the course of his PowerPoint presentation, Vivek highlighted a number of points, including:

- The quality of higher education in the United States is much better than in India and China and so comparisons regarding the number of engineers produced in these countries can be misleading;
- Immigrants provide a huge benefit to the United States innovation economy; immigration backlogs are a potential problem for economic growth in this country;
- To succeed in the innovation economy the United States should focus on its strengths, such as quality of higher education and entrepreneurship, and not on the strengths of other countries, such as the relative cost of labor.

Julia Lane: PowerPoint Presentation

Julia presented findings on a study which examined trends in five industries that face particularly volatile circumstances. Looking at this research, Julia presented recommendations as to what factors are associated with growing industries and profitable companies:

- The firms with the highest productivity have the highest wages. High wages appear to be a profit maximizing strategies;
- The two industries hit hardest by off-shoring, semiconductors and software, have seen very large growth in wages. This growth is due to an industry transition from manufacturing to development;

- Personal characteristics are often less important for determining wage and job security than the specific firm where someone is employed. Therefore, economic strategies must focus on firm development.

### Question and Answer

A question and answer period followed the two PowerPoint. Some of the themes highlighted in the question and answer period:

- Julia emphasized the importance of looking at the demand side of labor when developing economic development strategies;
- Vivek noted the importance of skilled immigrants to the economy and criticized the H1B visa process for the immigration bottleneck it has created;
- Julia cautioned against relying too heavily on using tax benefits for firms to prevent outsourcing
- Vivek advocated increasing the quality of engineering programs in this country, specifically by adding more business and entrepreneurship content to the curriculum, as opposed to simply increasing the number of engineering graduates.

### MORE DETAILED NOTES

Larry Good: The point of this session is to really start looking at the myths and realities of the current system. What attracted us to these presenters is that they've both worked with data extensively and they say some proactive things that push the discussion.

Vivek Wadhwa: I started researching globalization because students asked me questions like how to make their jobs outsource proof and I didn't know. I've been a technology executive who has outsourced positions.

Prescriptions for outsourcing: the problem is we need to look at data. Statistics about how many engineers China and India have, education in United States kids, lack of computer scientists, etc., paint an alarming picture. However, many of these numbers are totally bogus. And the quality of degrees in these countries is often not comparable.

#### Themes of Vivek's Research

- The perceived lack of engineers in the US is not borne out by actual data.
- American workers also have more desirable skills except for cheap and worker harder.
- In other countries employers are training employees themselves, not looking for people with certain degrees. The labor costs less, so it's not cost prohibitive to take this approach.
- People outsource because of cost.

#### New Trends

- 95% of respondents think outsourcing will compete and will move into R&D.
- There's been a dramatic increase in the number of graduating (BA) engineers in China.
- Masters and PhD's: China graduates more than US.

- 60% of the PhD's awarded in the US PhD's go to foreign nationals.
- India is racing ahead to become innovator in R&D in pharmaceuticals, aerospace, consumer appliances.
- China is using manufacturing ties to induce American companies to do R&D there.
- However, it's more difficult to encourage innovation than with manufacturing.

#### United States Advantages

- Entrepreneurship, innovation, immigration, education, government style.
- 25% of US companies have an immigrant as a key founder (52% of revenue in Silicon Valley comes from immigrants).
- Alarming, the percentage of patents belonging to foreign nationals in US increased substantially.
- Vast majority of immigrant entrepreneurs are highly educated.
- Danger is that US immigration has huge backlog of skilled immigrants.
- Only 120,000 admitted every year and max number of visas per country of 8400.
- Without a green card, these people cannot start companies.
- Over the next five years more and more visiting workers will go home.
- Important to remember though that university research, while touted as a bonus, has many problems and inefficiencies. Academics are a gold mine that needs to be harnessed.

#### Concluding Thoughts

- We need to improve math and science, but shouldn't think the system is broken.
- We need to recruit immigrants.
- We need to focus on our strengths, not compete on their strengths.

Julia Lane: I have no problem with foreign nationals either, but my mother-in-law does. I want to talk about issues Steve raised. If you think about what's happening to the United States economy, its defining characteristic is change. The amount of turbulence in our economy is great, and this creates a lot of angst. Angst can be a good thing in that it induces an edge it can also spawn bad policies. The head of the Congressional Budget Office has talked about feeling that economic variability is increasing and this is creating a lot of policy movement. I recently was in Ann Arbor and toured a Pfizer plant that had just closed. These high visibility shut downs have been big part of driving angst. However, what might be happening is that a plant of 5,000 shuts down, but 100 little firms start up. So we thought we'd look at how much job creation is in the economy, what is happening to career ladders, and what is happening to low skill jobs.

We looked at five economies being hit by the types of change Steve hit on. We did this in two ways: we looked at records of workers and firms through unemployment insurance records. We matched those data to demographic characteristics of workers and what was going on at firms. So we had universe of workers and firm jobs from 1992 to 2003 so we could track workers and firms longitudinally. We combined this with the case study knowledge of the Sloan School of Management, who understood these industries in great

depth. Our basic questions: Have good jobs disappeared? Do firms only compete on a cost basis? Do jobs need to be protected?

They found that the highest productivity firms have highest wages; this appears to be a profit maximizing strategies (Wegman's, Nordstrom, Costco, etc). For instance, Tesco decided to change strategies and go for a higher wage more stable workforce. They look at this as a secret to their success. Our study also found that productivity growth has come from firms entering and growing and less productive firms exiting.

Our research found that earnings in the five industries have increased across the board – in total and by quartile. The two industries hit hardest by off-shoring are semiconductors and software; they have seen very large growth in wages. In semiconductors this is because the domestic industry has gone from manufacturing to development.

What about job loss? There has been enormous growth in higher skilled jobs and less growth in lower skilled industries such as trucking and retail. There is even larger growth in high skilled jobs when just looking at the demographic of men between the ages of 30 and 50.

Do jobs need to be protected? We found that where you work can be more important than education level. Firm pay setting can matter more than your individual characteristics. Firms in very similar industries pay very different wages. Wal-Mart and Costco have much different wage strategies. We need to think about how firms are setting those wages. So the specific firm someone is in is more important than their personal demographic characteristics.

Are low wage workers trapped in low wage jobs? 8% of the workforce is low wage; most move out of low wage work, and what matters for increasing their wages is that they land with one of these high wage firms. It's critical to move to high wage firm. The firm needs to be front and center in policy debate.

Are all low wage jobs bad jobs? We found that many low wage jobs, particularly in temporary help industry, act as a portal from unemployment to employment.

#### Concluding Thoughts

Anecdotes that dominate the press, such as those from Lou Dobbs, have little to do with reality. Aggregate data is misleading due to turbulence.

Larry – Let's now move into a discussion. We're going to be sharing these PowerPoints through the Wiki.

#### Question and Answer Session

*Larry Good:* Both of you laid out assertions that don't track popular decisions. What did each of you say that doesn't track what you found?

*Vivek Wadhwa:* So what do we do about what Julia found?

*Julia Lane:* Need to pay more attention to demand side of labor. We see huge differences in firm behavior; finding out what they're doing and how we can change it is key. 100 years ago when congress establish land grant universities, to show farmers to be better farmers, the notion that a typical entrepreneur right now understands what it takes to be good leader of a firm may not be true. Many may think that you compete is by keeping wages though – creating an industrial extension program where successful firms help develop successful human resource strategies for new startup firms. It is important to instill those skills in new firms.

*Vivek Wadhwa:* I think that one of the biggest challenges is that the interests of multinational corporations are not well aligned with the country's needs.

*Larry Good:* So what's the way to have an impact on them?

*Julia Lane:* I think you need to target small and medium firms. Although I disagree that we can't do anything about multinational corporations. They are as interested in competing in United States as anyone else; Marriot is a good example of this.

*Vivek Wadhwa:* But what about technology and semiconductor business? How do you make sure those opportunities stay in the United States;

*Julia Lane:* You don't want an industrial policy with a target of keeping jobs in the United States. In semiconductor industry reason why it grew was because of new firms.

*Vivek Wadhwa:* But what happens when design moves overseas?

*Julia Lane:* Vivek had two contradictory points: 1. we're not growing enough native scientists; and 2. we're not offering H1b visas. But our research shows the more H1B visas we have the less Americans will be encouraged to go into science

*Bob (from the audience):* My own view is that we're unable to discover a shortage in the normal sense. What we've discovered is that we're generating supply but not so much demand. Whether this is because demand is shifting to foreign workers, the question is: can we have collaborative advantage where people coming here advantage American workers

*Vivek Wadhwa:* We should abolish H1B visas. We've created this shortage. With unskilled workers it's fine to bring them in temporarily because they don't bring anything back with them, but with skilled workers you teach them about your markets and train your competitors. We shouldn't argue about temporary skilled workers, we need to keep these workers and keep these people here temporarily.

*Larry Good:* One of things I heard you both say is that pay level doesn't necessarily have to do with educational attainment. A lot of people here work to increase educational attainment, is that valuable?

*Vivek Wadhwa:* Absolutely that's valuable; we need to move workers up the ladder. I just came back from China. One of things that stood out is the extent to which these companies invested in their workers. American companies don't do that. When courses are made available they don't incentivize these. Boeing in China incentivizes education courses for all workers, but Boeing doesn't do it in the United States.

*Julia Lane:* That question is too broad to answer. We need to focus on professional science degrees. Jim Heckman's assessment that the return on public training education program is practically zero is probably still true. These things are important, but we need to focus on supply side

*John O'Kane:* One aspect not mentioned that relates to Julia's point: I don't think a company can say I'm going to be successful because I pay high wages, I think you do

other successful things that allow companies to pay high wages. The differentiation is key to creating successful companies. We can't compete with China and India on number of engineers, but we can differentiate better. We need to look at broader strategies of companies that are successful

*Julia Lane:* Using the same data we looked at starting firms and the ones that succeeds chose to pay high wages. So we were looking at small firms too. High wages reflect ability to attract better employees

*John O'Kane:* And this leads to more productivity and more differentiation

*Julia Lane:* Certainly this leads to more productivity, but more importantly it leads to higher profitability

*Vivek Wadhwa:* We don't need more engineers, we need better engineers. We should overhaul engineering programs to add content on business, etc. We may need fewer engineers with higher skills.

*Booker Graves:* From what I'm hearing, it mirrors many things we've been trying to do. What I'd like you to do is not knit pick each others work, but to talk about public policy implications from your results. I've heard you talk about short, mid and long term solutions to issues you've raised. I think that productivity has been defined by one of you as tech driven, while the other defined it as environment and worker driven. So what strategies do that?

*Julia Lane:* I guess my hope is that that's what the next couple of days are for. I don't think that there are short-term strategies. Midterm and long-term? We need data sets to figure out which firms in your states are succeeding and why and have they passed that on in their industry; I agree with Vivek: I don't think a successful strategy is just to focus on K-12. Lifelong learning has to be a critical part. You see this in European countries too.

*Vivek Wadhwa:* Short term: we need to figure out how to adjust tax system to keep companies in states; need to encourage grads to stay in state and start businesses. Need to re-look at tech transfer at Universities: how to use them to get new companies started, not make money for the university. The biggest fear of small business is health insurance: short term health insurance for entrepreneurs. Maybe offer amnesty to high skilled workers caught in immigration limbo. K-12 is too long-term to be only strategy. Need to fix system in next five to seven years.

*Julia Lane:* I want to disagree on one point: I don't agree with the tax suggestion. Changing tax to keep companies in your state is a negative return on investment. Tax incentives are not the way to retain business.

*Vivek Wadhwa:* The problem is that the incentives that China offers are amazing. They are allowing entrepreneurs incredible incentives to get companies to move over there. China provides venture capital, business space, equipment – so it's not a level playing field.

*Julia Lane:* The point is those that those investments get taken from other fields, no evidence they succeed.

*Larry Good:* We asked our presenters to help us think out of the box. I think they have done that. Disagreements underline the fact that we don't know what we know. We're going to break and then breakout sessions. We are breaking into 3 groups – one will focus on supply side of question. Bob Lerman is content expert. 2<sup>nd</sup> is on demand side – Julia is the content expert. 3<sup>rd</sup> breakout is regarding social contract – what do these things

imply about what needs to change. John Morton will be the content expert. In the breakouts we would like the groups to be largely equal. Let's thank our presenters.