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Wharton Economic Summit 2013:

Fueling Growth in Uncertain Times

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Wall Street and Capitol Hill are in different cities, but where dialog on major economic issues is concerned, they might as well be on different continents. Many corporate executives suspect that policy makers do not understand business. And government officials, for their part, often view business people as being short-sighted and more concerned with profits than the pressures of public policy.

To bridge this gap between New York City and Washington, D.C., the Wharton School — located appropriately midway in Philadelphia — recently launched the Wharton Public Policy Initiative. On March 7, the Initiative hosted its first major event, the Wharton Economic Summit, in New York City. "Our goal was to bring together business leaders and policy makers and talk about major sectors of the economy," says Mark Duggan, faculty director of the Wharton Public Policy Initiative. "We wanted to shine a light on a path forward for the U.S. economy that will be important for future growth." Marc Rowan, co-founder of Apollo Global Management and chair of the Summit, adds: "Think tanks are funded by the left or the right. We are an independent party, and we want to show that business can be a resource for policy makers."

In this special report, Knowledge@Wharton covers themes from the Wharton Economic Summit, which opened with a discussion on leadership between GE CEO Jeff Immelt and Michael Useem, director of Wharton's Center for Leadership and Change Management. Other articles — based on sessions at the summit — deal with health care, innovation, real estate and energy. "We are at an inflection point," says Rowan. "We need a forum for airing important economic issues."

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GE CEO Jeff Immelt runs a $240-billion company that operates in 160 countries. He recently sat down for a candid discussion about leadership with Wharton management professor Michael Useem at the Wharton Economic Summit 2013 in New York City. Their conversation covered themes such as competitive advantage, global risk management, public policy, mentorship, growth strategies and even the toughest decision of Immelt's professional career.

The Future of Health Care: The Prognosis is Optimistic — Page 7

There's cause for optimism about the future of health care, according to panelists who discussed the topic at the Wharton Economic Summit 2013. While the panelists agreed on the enormity of the challenges posed by rising health care costs, increased demand and the need to rein in spending while still being patient-centric, all believed that the outlook for health care would be better by the end of the decade.

Why Innovation Is Tough to Define — and Even Tougher to Cultivate — Page 10

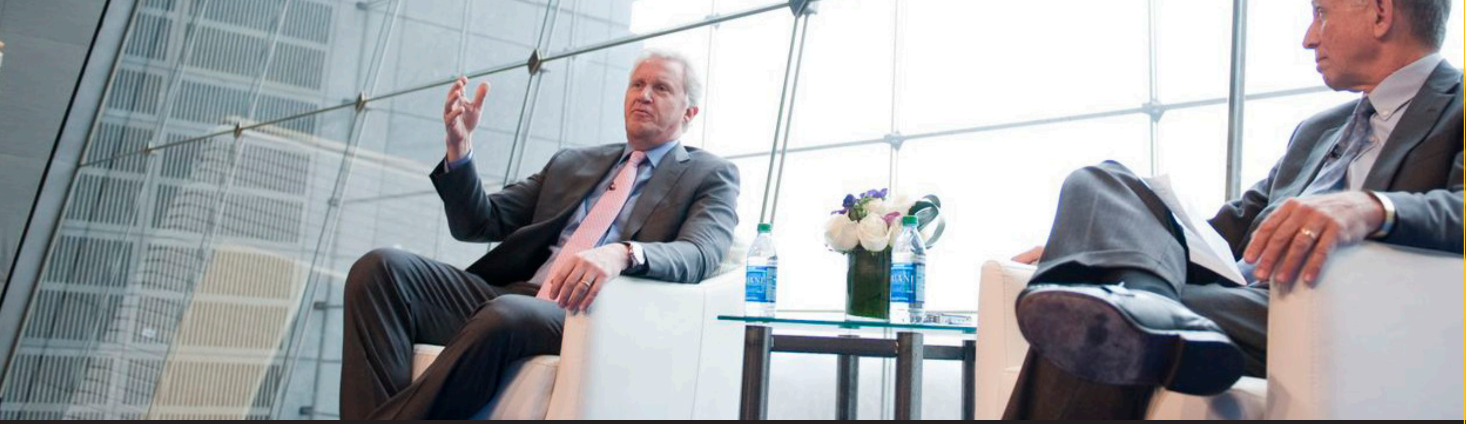
While most people would agree that they are in favor of innovation, providing a succinct definition or example of it is a tougher question, noted participants in a panel on the topic at the Wharton Economic Summit 2013. In addition to offering their personal definitions of truly game-changing discoveries, panelists also discussed the role of the government and the U.S. education system in fostering a new generation of entrepreneurs and innovators.

Housing Has Bounced Back, but Capitol Hill Holds the Key to a Sustained Recovery — Page 13

Housing demand in the U.S. is back, fueled by low interest rates and government subsidies. But a sustained recovery depends on legislative reforms to improve housing supply and encourage builders. Reforms will take time, but meanwhile investors have found new business niches in single-family home rentals and in buying distressed assets worldwide. Eventually, the American dream of home ownership will shore up the industry's fortunes, according to panelists at the Wharton Economic Summit 2013.

The Natural Gas Boom: Cheap Energy, but at What Cost? — Page 16

In the next year or two, there will be such a large surplus of natural gas and crude oil in the U.S. that the country won't "know what to do with it," said Anas Alhajji, chief economist at NGP Energy Capital Management, at the Wharton Economic Summit 2013. But John Deutch, former head of the CIA, pointed out that unconventional oil and gas production "involves very serious environmental impacts on air quality, water quality, community and land use." He added that there is also "a climate issue out there that is going to hit this world."



GE's Jeff Immelt on Leadership, Global Risk and Growth

At the inaugural session of the Wharton Economic Summit 2013, GE CEO Jeff Immelt sat down with Wharton's Michael Useem, director of the Center for Leadership and Change Management, to discuss everything from leadership to risk management to U.S. energy policy.

Over the course of the conversation, Immelt reflected on the challenges and rewards of running a global business that operates in 160 countries and the ways in which his company can develop its competitive advantage over the next decade. He also spoke about GE's investment in building leadership, global risk management and the toughest decision of his career. In addition, Immelt discussed U.S. public policy, focusing on improving health care, energy and education in America.

An edited transcript of the conversation appears below.

Michael Useem: The world is rather uncertain at the moment. Christine Lagarde at the IMF is forecasting about a 3.5% world growth rate: China's GDP will be 7% to 8%; India may be 5%; Brazil may be a bit below India. On the optimistic side, we might see 2% GDP growth in the U.S. Having said that, when you look at your company over the next five years, what are you doing to stay competitive in such a complex and mixed-growth world?

Jeff Immelt: It's important to run our companies with an eye on economics. We watch what happens in China because China is important and it pulls along the other emerging markets and growth markets around the world. We've kept this in mind and planned our businesses to operate in these different fast-growth and slow-growth markets.

A company our size thinks about global business in three ways. Number one: We're an approximately $110 billion infrastructure company. We are the world's biggest infrastructure company. We bet on infrastructure. There will be $60 trillion spent over the next 10 to 20 years in this area. It is a growth industry. We want to lead here. So we are following this big secular theme. We also have $400 billion in assets in financial services.

> "When you look at your company over the next five years, what are you doing to stay competitive in such a complex and mixed-growth world?"
>
> – Michael Useem, director of the Center for Leadership and Change Management

Number two: We have transformed the company to invest more in organic growth. We've gone from 2% of our revenue invested in R&D to 6% of our revenue invested in R&D. We went from being a company that could develop one commercial jet engine every decade to one that can develop a commercial jet engine every year. We now launch more products every year. Furthermore, we used to have one main strategy, but now we're in 160 countries and we run 160 different country strategies. We will sell more heavy-duty gas turbines in Algeria in the next three years than we will in the United States. So the second thing you have to do is you've got to open up the growth pipeline and you've got to play with more options in more places.

Thirdly I'd say we always want to lead in the important productivity-driving industries of every era. I think the important productivity driver of this era is shale gas. We have a big role to play in a big energy transformation. This involves advanced manufacturing; we have built a massive, awesome competency in advanced manufacturing.

One final thing: We have a ton of cash. In case things get really nasty fast, we learned that the only buffer is a boatload of cash. So I'd say those are the four main things we keep in mind when we think about running this global business.

Useem: You're ready for a rainy day. Now let's discuss your competitors. In a sense you compete against almost everybody: Siemens, ABB, banks, Toshiba, etc. You've been around since 1892 and through all that, your company has managed to sustain its competitive advantages. But looking ahead at the next five to 10 years, what are the one or two elements that will define how you're going to sustain your competitive advantage?

Immelt: I'm not going to list this as one of my main elements that will sustain our competitive advantage in the future, but I want to point out that you always want to have great people and a great culture. But let's just put that to the side for now.

I think nothing replaces really strong technical excellence. We do stuff that other people can't do. If you go see one of our jet engines, you will be in awe of its majesty. Anyone could sell these because the product speaks for itself. The ability to drive sustained technical systems excellence is very important.

We also play as a strong competitor in 160 countries around the world. We play as a great American company in every corner of the world. We can win contracts and business in Angola, China, Europe, etc., versus other companies. Having a big footprint and demonstrating technical excellence are both critical elements. If you can sustain these kinds of advantages over the next five years, you're going to grow. So the foundation is having great people, but I'm hot for those two things.

Useem: A book from 15 years ago that was written about the company had the following title, *The Leadership Engine*. I think everybody in this room knows a lot about Crotonville, which is well-known as being GE's leadership training ground, and I'm sure they know about its historic significant in the growth of the company. Are you still a leadership engine?

Immelt: We still invest a billion dollars a year in training and education. We still invest to develop great people and help them learn. But I'm extremely paranoid about it. I think leadership has a very short shelf life, and so every few years, we look outside the company to see what others are doing: What's Google doing? What's the U.S. Military Academy doing? What are they teaching at the Communist Party School in Beijing? What is McKinsey teaching its people? I'm paranoid about keeping up-to-date with attracting and retaining great leaders from Bangalore to Boston and everywhere around the world.

We invest in people. We demand performance. We teach them what's required. We try to stay at the cutting edge, and we move people through experiences where they can learn and improve. In the end, our success is proven based on where these people go.

Useem: Let's talk about your own leadership. You're the ninth chief executive at the company since it was founded in 1892. We can do the math. You've had people who've spent a good bit of time with the company. You joined as chief executive just a couple days before 9/11. Looking back over that last decade, plus now, thinking about the decisions you've made, the actions you've taken, pick out one that gives you the greatest pride.

Immelt: What I would say is, I'm proudest today. I think the company is in a great position for the next decade. American businesses have, to a certain extent, had a great run, but the last decade was very different from the previous 20 years. And so every company, I think, has had to readjust to a world where the U.S. is growing slowly, where the markets are extremely volatile, and where the incremental buyer is China. You've got a regulatory structure today in the U.S., and globally that's significantly different than the ones that existed a decade or more ago. What I'm proudest of is that we've got a focused portfolio. We're a high tech company and we're a global leader. You can't inherit these things, you have to build them. When I look at the next five or 10 years, I feel great about the way the company is positioned, and it's different than it was 10 years ago.

If I took just one thing to focus on in terms of being proud, it would probably be the global footprint. We've gone from a company a decade ago that was 70% inside the United States to a company today that's 65% outside the United States. Sometimes when I read the newspaper and I watch TV, people seem to think that this was part of a devious plot by American companies to move around the world. But really, I wish all our customers were in Chicago. It's easier. People pay on time. Everybody speaks English.

We were in the middle of this big power bubble in 1999 to 2000. We sold 279 gas turbines in the United States in the year 2000. This year we'll sell three. But our market share is identical. So does anybody in this room think it's easier to sell in Algeria than it is in Illinois? That's the transformation. You've got to move leaders. You've got to hire from the outside. You've got to get factories in place. You've got to drive this whole different product line. I think that if you look over the last decade, not just at GE but at other large companies, the biggest secular change in the last decade is this opening up of the global market. Companies need to be confident competitors in every corner of the world. That's what we are at GE.

Useem: Let me stay on that theme: When a country such as Algeria may buy a large number of reactors one year and very few the next year, this is where you have to think about risk and its management. Tell us how you think about risk. Then just to add one more element, what's your dialogue like these days about risk management with your board of directors?

Immelt: That's a great question. That's one of the seminal questions that every company or every business leader has to answer. In the world today, it's all about risk/reward. Nothing is risk-free.

Let's look at Nigeria: It's number six in the world in oil, number seven in gas. They have natural resources and the ability to have a ton of money. But they also have a 40-gigawatt electricity deficit. We sell things that make electricity. This is a market for us. So you've got money and a massive need for electricity, but everything in between is a mess in terms of governance structures, etc. But this is a 'good' risk for us. In this instance, you can go to your board and discuss capping your investment at around $200 million, or something like that. But if we get things right and the deals work, we'll make $10 billion. You sit with your board and you discuss the risks and you're very transparent about how much risk you're willing to take on, but you also know all about the upside. This is a risk you'd want to take.

On the other hand, let's look at India. India wants to rebuild its nuclear power structure. If you do everything right in India with a nuclear reactor, you earn $50 million. But if you do one thing wrong, you lose your company. No thanks. That is not an order I want to take.

It's all about risk/reward. It's all about transparency. I think boards are really about leadership, strategy and risk, and how you manage risk. I'm a 31-year GE guy and I've seen this company go through different times. Since I've been CEO of GE, I've seen 9/11, I've seen hurricane Katrina, the global financial crisis and Fukushima. We also watched Macondo from the sidelines, but weren't necessarily a player in that disaster. So I've seen five disasters; I've been a participant in four. These have made us much better managers.

We basically went through a couple of decades without a lot of what I would call 'tail risk'. But now that we've experienced these 'tail risks,' I think one of the reasons why American business is doing relatively well today on a competitive stage, even while the U.S. economy isn't that good, is because we've all seen tail risk up close. You're never the same after you've been through it. So I think you've got a different class of business leader now who has really seen that. We live in a risky world, and I think leaders are now better at balancing these risk/reward equations.

Useem: Just to build on that point, John Chambers at Cisco has been there for a long time; he's still there now, as you know. He said that one of the best things that happened to him, in retrospect, was going through the Internet bubble collapse that really devastated Cisco. He says everything he does today has been improved by this.

Immelt: John's kind of right. I don't look back on the financial crisis with great fondness. I wouldn't want to do it again. But I think good people take events like that and decide to improve. That's what John is saying.

Useem: Let me ask about decision-making. Earlier today you said that when you come to the office, your day is just one darned decision after another. Looking back at your 10 years of decisions, what's the biggest, toughest one you faced?

Immelt: Oh, cutting GE's dividend, by far. That was in March 2009. We hadn't cut the dividend since the 1930s. I said I wouldn't do it. But we just didn't know at that moment in time how long the crisis was going to last. In many ways the financial crisis is still going on. There's still ripple effects going on, and just deciding what actions to take back then was excruciating. We were trying to build a fortress with the attacks still coming. So little was known. We decided to mitigate risk with that dividend cut. But I said I wouldn't do it and I did it. I hated myself for it. I just can't tell you how awful it was. I could never describe it to you in terms of what it meant, how bad it was, how even today I wake up in the morning wanting to make up for it, wanting to do better for our investors.

If you do these jobs long enough, you're going to have one day when everybody in the world hates you. But if you can answer the call that day, you've earned the right to lead. If you crawl under your desk, your people are going to throw you out. Those were hard times. Those were hard calls. That was the one decision that I still think about today.

Useem: You've got to stay in the game.

Immelt: And our dividend is going to keep going up, guys. I've got to tell you.

Useem: You joined the company in 1982. Looking back at your time at GE, who would you single out as your most important mentor?

Immelt: The former CEO Jack Welch is obvious. But I'll leave that to the side because he was a great CEO, and I think in many ways a really great CEO touches everybody in the company. But I started my career by selling plastic in Detroit and my first boss was a sales manager, a guy named Pat Bayes and he was awesome. He really taught me how to see the company through the eyes of the marketplace and through customers. He taught me to have a healthy skepticism of headquarters, which I still have today. I think there's value in the CEO having a healthy skepticism of what corporate people do. He taught me in a constructive way how to be agnostic about corporates and see the company through the eyes of the customer. I still carry that with me to this day.

Later in my career, I was very fond of one of the GE vice chairmen, John Opie. I thought he was a great leader. He was a long-term GE guy. John was an incredibly detailed, disciplined guy. He would open up the analytics points of view to gain leadership insight that an HR person or a finance person wouldn't normally come up with. Opie was great at having these operational insights that don't get taught in business school. Those two men were very influential. John's still alive. Pat's dead. I still talk to John today.

Useem: Let's discuss a personal issue, then we'll turn to public policy. When you began at GE you had a few people working for you, but today you have about 300,000 people working for you. How has your own thinking about leadership changed in light of what you've been through?

Immelt: If you want to manage a company as big as GE, you've got to know the top 200 to 300 people really well. The only way I can run GE well is if I handpick the top couple of hundred people. They have to be a manifestation of the company, its values and my values. You need to have this unique ownership of the senior leadership of the company. I think we have that at GE.

The second thing, quite honestly I learned it from Jack and I thought he was marvelous at it and I try to emulate him, is just this ever presence of a CEO. If you work at GE, you can intersect with me almost any day because of e-mail, because of web chats, because I spend a lot of time on the road, and when I go on the road I'll do three to five employee meetings in a day. This notion of leadership access and informality is something that I learned from Jack. Ultimately, to run a big company you've got to have rigor in selecting great people and you have to have this sense of informality.

I would say I am less of a believer in general management today than I was in the past. I don't think anything today is general. In other words, there are principles of leadership that never go away — integrity, performance, teaching people. But the competition is so much tougher today, and so I really believe in leadership with specialism in certain domains. In a company like GE, you have to build careers that are both broad and deep. But our careers today are deep first and broad second. The company I joined 30 years ago was broad first, deep second. The company today is deep first, broad second. I think that's a secular shift.

For example, the guy who runs our aviation business is not only a good leader, but he also has a deep technical understanding about how to get another two points of fuel burn. You need people that are great in their specialist fields. That's a big change that's happened in my own thinking.

The other thing I'd like to say, given that I'm surrounded by teachers in this room: I think we don't develop enough good systems thinkers. We tend to develop people who are very good at finance or very good at marketing or very good in specific industries. The real challenges now are going to be driven by systems thinking. For example, how do you put together technology, public policy and a bunch of other things to drive real change? This is teachable, but not very frequently taught.

Useem: You've got a demanding, big day job, and yet you have found time to serve on the U.S. President's Council on Jobs and Competitiveness. Coming from business into public policy, what's your guidance for business people who ought to be thinking about direct engagement with policy?

Immelt: I can't say, "Stay away"? No, just kidding. I think I have a couple of points. Number one, business people fail when they don't see context. Business people frequently want to go to Washington and just say, "Here's what you should do." That's not helpful. That's why people in Washington, maybe rightly, sometimes don't like businesspeople. Instead, they should say, "Here's what I would do if I were you." It's key to develop a better understanding of context. That's important.

Secondly, a sense of timing is important. Business can be most useful in Washington not every day, but at certain points when change or advice is needed. I think there are just certain times when business maybe can be destructive instead of constructive. I think you need to have a sense of when coalitions are coming together.

Thirdly, there are areas where business can make a huge contribution but we aren't playing a robust enough role. For example, health care. Ultimately if we're going to bend the cost curve on health care, it is going to be a massive change. I actually think business has been a lousy consumer of health care for 30 or 40 years. We basically have done a terrible job of purchasing health care. So if business is in the game and government is in the game, I think you've got a chance of really driving change — and that's an area that isn't discussed much.

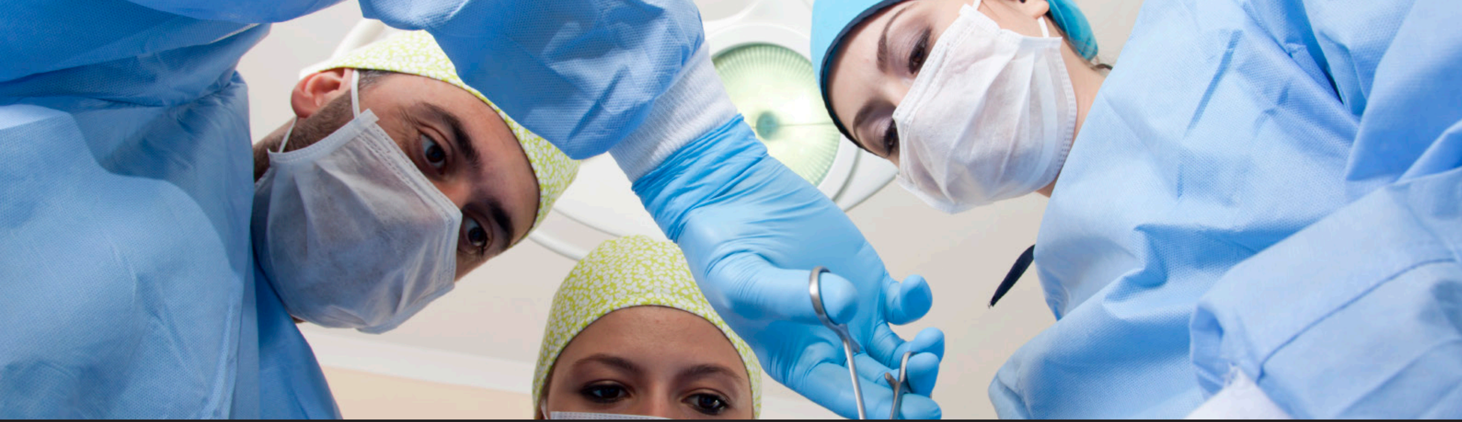
Ultimately, I'd say context and timing are important, and involvement in education, health care and a couple of other areas present real opportunities for businesses to do more in this public/private dialogue. Tax reform is obvious. Regulatory reform is obvious. Those things will either happen or won't happen. But meaningful health care competitiveness would be a great initiative to work on.

Useem: I have a final closing and personal question for you. You were on Kilimanjaro a couple years ago with your mid-20s daughter. What did you learn from your time on Kilimanjaro at 19,000 feet?

Immelt: My daughter was graduating from college and I wanted to spend some quality time with her. I said to her, "When you graduate from college, I'll do anything you want to do," expecting, she'd want to go to Hawaii or something like that. Instead she said, "Let's climb Kilimanjaro." I kept waiting for this idea to dissipate, but she stuck to her guns. To set the scene for you, we're a family that has never even gone camping. The closest I have come to nature had been a golf game. But four of us – myself, my daughter, her best friend and a GE security guy – all climbed the mountain. Of course, we took the fat cat special – we had 20 sherpas and stuff like that – but you still have to make it to 19,500 feet.

This was one of those instances where you had to give yourself enough time to really have the experience, reach the summit and come back down. It was awesome. It was such a great experience. One thing I learned technically is that coming down is harder than going up. The altitude didn't bother me. I'm a guy who does roughly an hour on the treadmill every day. Getting to the summit wasn't nearly as hard as I thought it was going to be. But then you start coming down and I must have fallen on my butt five times in the first 10 minutes. The guides have this expression in Swahili that's "puli, puli," which means, "slowly, slowly."

Ultimately, you can take this lesson and see that if you want to change, if you want to drive stuff that's meaningful in life, it takes persistence. I see all these books for new CEOs about what to do in the first 100 days on the job. It's nonsense. As a CEO, you are running a marathon. Don't let the organization backslide. Set new goals. Every day has to be better than the day before. This notion of "puli, puli" has to do with resilience, persistence, and sticking with your vision and your goals. That helps you when you're at 17,000 feet on the way up and it helps you when you're running a company. Essentially anything you want to do that is meaningful in life must be done over time. If you want to change big institutions, you've got to have incredible persistence and constancy of purpose. That's what I learned.



The Future of Health Care: The Prognosis is Optimistic

There's cause for optimism about the future of health care, according to panelists who discussed the topic at the Wharton Economic Summit 2013, held in New York City on March 7. While each panelist agreed on the enormity of the challenges posed by rising health care costs, increased demand and the need to rein in spending while still being patient-centric, all believed that the outlook for health care would be better by the end of the decade.

Moderator Ezekiel Emanuel, professor of health care management at Wharton, laid out just how large the challenge is by putting in context the $2.87 trillion spent in the U.S. on health care in 2012: That figure is larger than the entire French economy and is just behind the German economy. The long-term health of a country is inextricably tied to the status of health care and what a country does to control inflation and health care spending, argued Emanuel. "If we don't control health care inflation and health care spending, deficits will go on forever, and we will probably torpedo the economy," he said.

There are numerous paradoxes to health care, which were pointed out by panelist Uwe Reinhardt, professor of economics and public affairs at Princeton University. One is that it is among the highest-value sectors, yet it is also riddled with waste. According to Reinhardt, economists contend that what is spent on health care yields benefits far in excess of the expenditures. But the same economists estimate waste at between 27% and 50%. "If you have a very nonlinear input/output function where input is health care and output is the benefits we derive from it, it can very easily be true that on average we get our money's worth, but the increments buy less and less value," he said.

Another paradox is how health care is an engine of the U.S. economy, responsible for approximately 18% of the 27 million jobs that were added between 1990 and 2008. Yet it has also become what Reinhardt called the "Pac-man of the economy — chewing up everything ... eating up American workers' paychecks."

It has also been eating up the budgets of state governments, with many of them taking money away from education. "The gross value added by the American health care system is enormous and stunning. But if you subtract from it the opportunity costs of not educating our kids, etc ... then that is dubious," he said. "We have to address the waste."

> "The long-term health of a country is inextricably tied to the status of health care and what a country does to control inflation and health care spending."
>
> – Ezekiel Emanuel, professor of health care management at Wharton

Creating Incentives

Gary Gottlieb, president and CEO of Partners HealthCare, provided a broad perspective on how providers can influence health care costs. Partners is the parent company of multiple hospitals in the Boston area as well as a half-dozen community hospitals, a network of some

6,000 physicians, an in-home service provider and an insurance company.

Partners has taken a multi-pronged approach: It has reopened its contracts with commercial payers, taken lower increases in rates than were promised and moved fee for service payments to its primary care doctors. "We want everybody to essentially have some skin in the game and be able to redesign care and make it more effective and efficient, so we're holding the risk at the institutional level and creating incentives," Gottlieb said. "Some of those incentives are around the way that we use resources, but others are around quality of care, patient communications, a set of strategic components to use IT and other elements of telemedicine, and other components that we see as greater efficiencies."

Alex Gorsky, CEO of Johnson & Johnson, spoke about the challenges posed by the demographics, the need for continued innovation in understanding and managing various diseases, and how to apply innovation going forward.

He noted that since 1950, the average American's life span has been extended by approximately two decades. "The good news is we're living longer lives ... and the challenge is that we're living longer lives and there's a heck of a lot more of us," he said. More good news from Gorsky: the ability to control such conditions as cholesterol and cardiovascular disease, and that AIDS is no longer a death sentence but a chronic disease.

The outlook for other widespread diseases, such as Alzheimer's and Type 2 diabetes, is less encouraging, he admitted. "While we're making some progress, we have got a tremendous amount of work to do. Hence, we need to continue to innovate to understand [these diseases] because likely one of the biggest dents that we can make in health care costs would be a vaccine for Alzheimer's or a way of treating it better." That would improve not only the patient's quality of life, but increase the productivity of caregivers.

There is great potential for innovation in targeted, personalized therapies, Gorsky believes. "This is where innovation is going to change pretty dramatically. …How do we bend these diagnostics to predict who's going to respond, and who's not going to respond?" Doing so would increase efficacy rates and make treatment both more efficient and effective.

Simplicity is also something the industry must strive for, he stated. "How can we take a knee, or hip, or shoulder replacement or procedure and rather than somebody having to be out for two to three weeks, how can we get them up and moving even faster?"

Finally, the industry must find innovative ways to help people change to healthier behaviors to prevent disease and stay well longer. "It's going to be incumbent upon all of us to figure it out," he said. "It's going to take a lot of new kinds of partnering."

Pressure to Reorganize

Bob Kocher, a partner at Venrock, says from the investing perspective, the outlook for health care is promising. "We're very excited about health care because we think it will continue to change even faster than it has in the last couple of years." The change will be driven by three factors: public policy, such as the affordable care act; increased demand; and cost pressure.

"My job is to make health care better sooner, and it's through objective imagination, speed, urgency, disruption — to nudge, to prod and to help people actually think about how to reorganize the market," Kocher said. He noted that in every part of health care that Venrock studies, they find markets that are extremely asymmetric. "In every city in the country, for every procedure that you can get, prices will vary by more than 100% within a small circle." Kocher added that there is often little correlation between price and value, and consumers usually have no way of judging value. Giving patients more information and transparency about value will help drive better choices, he believes.

Demand, the second element of change, is being driven by demographics and disease: There are more people in the age group that consumes the most health care — seniors — and more of them need treatment or management for diseases.

Cost pressure may be the biggest factor driving change. Kocher pointed out that the $20,000 a year spent on health care by the average American family is the most expensive thing they will buy – and there is no participant in the health care ecosystem that can absorb higher costs. "In a world where states can't pay more, the federal government can't pay more and an employer actually can't pay more … that's going to put a lot of pressure on the system to reorganize itself and actually meet that demand in ways that make more value."

According to Kocher, reigning in the administrative area is essential for lowering costs and boosting productivity. "For every doctor, there are 15 people behind them in the health care system — six of them who have critical roles, and the other nine are administrators."

The final area for improvement, Kocher noted, is in clinical optimization. "I think that we'll actually get more benefit from redesigning how we use the therapies we have today instead of buying new ones over the next decade," he said. "Care has gotten really complicated. We treat everything as if it was cancer. And while that seems great at first … nobody is managing the outcome that matters or the risk."

Innovation is 'Critical'

Reinhardt asked Gorsky about his belief in the need for continued innovation in light of Kocher's statement about better use of current therapies. One doesn't rule out the other, according to Mr. Gorsky.

"I would agree that's absolutely an essential part — making sure that the current things that we have in place are used the right way," he said. "We can do a better job of having a checklist approach, a best practices approach in many of these areas, and let's go there first before necessarily looking to the more expensive, perhaps marginally better alternative." Yet that approach is not sufficient, he believes. "I think — for a lot of the reasons that I mentioned — that if we don't continue to innovate in these other areas, the cost curve is going to continue to go up. … Innovation may look different than we traditionally thought about it, but it's going to be critical for our success."

Another area where new thinking is needed is personalized medicine, according to Gottlieb, responding to Kocher's questions about its cost-effectiveness. While it is not a panacea, Gottlieb described it as an "opportunity; one of a number of opportunities. It is an important area to pursue. It's an opportunity to think about medicine in a different way, and the way we've been thinking about it is severely inefficient."

Gorsky spoke of the potential dangers of over-managing outcomes and relying on impersonal data in response to a question from the moderator. Emanuel asked Gorsky his opinion of the Patient Center Outcome Research Institute (PCORI), which does comparative effectiveness research on various interventions.

"At the end of the day, we realize that it's in everyone's best interest to make sure that we're getting the best treatments to the people who are going to be needing them," said Gorsky. "It's the unintended consequences that we have to be very leery of. Someone made the comment earlier that we're all for a decrease in health care cost until it gets to our mother. We have to be very thoughtful and very deliberate that … we remain patient centric … in everything that we're doing."

Why Innovation Is Tough to Define — and Even Tougher to Cultivate

Innovation: It's something everyone is in favor of, everyone likes the idea of, yet no one really understands it, according to Wharton legal studies and business ethics professor Kevin Werbach. Werbach moderated a panel on the topic at the recent Wharton Economic Summit 2013 held in New York City, during which he challenged the participants to define innovation, talk about its relationship to entrepreneurship, and explain what is needed to nurture it. He noted that innovation is essential for companies to grow, and that it is transformative.

In response to a question about whether innovation is necessarily related to new technology and big breakthroughs, Lady Barbara Judge, chairman of the United Kingdom's Pension Protection Fund, defined innovation as either "using something new, or something known, but in a different way, different time or a different place."

> "Innovation is using something new, or something known, but in a different way, different time or a different place."
>
> — Lady Barbara Judge, chairman of the United Kingdom's Pension Protection Fund

To illustrate the latter, she spoke of two men who are bringing car sharing, a concept popularized most notably by the Nasdaq-traded company Zipcar, to India in the guise of a company called Zoom. "It is not new technology but somebody saw it, used it, did it in a different place, in a different time and it's really very innovative," she said of the fledgling firm.

George Damis Yancopoulos, president of Regeneron Laboratories and chief scientific officer of Regeneron Pharmaceutical, defined innovation as "an approach ... that addresses a major imminent want or need that people have, [something] they know they want or need or that they will want or need once we provide it." He pointed out that innovation isn't always easy to spot. "A lot of things get hyped as innovation but ultimately ... they're not really that innovative because they're not all that useful."

Yancopoulos put his definition of innovation in the context of the industry in which he works — biotechnology — reminding the audience and fellow panelists that at the turn of the millennium, the sequencing of the genome was being hailed as a great innovation. "A lot of people thought that was going to change everything," he said. "The problem was that [for] the people who really knew about the challenges in providing new treatments for diseases, it was just an incremental step."

He cited his company's discovery of a new kind of medicine to address disease mediators as a genuine example of innovation. The medicine was first tested on an "orphan disease," one that afflicts only a few hundred people. Yancopoulos noted that the medicine was innovative because it addressed the needs of those patients, giving them enormous relief, yet it was only seen as an innovation when the approach was applied to a more common ailment, macular degeneration, which robs elderly people of their vision.

"It's now in the history books as the third-biggest drug launch in biotech history. It's transformative for the company," he said of the later use of the medicine. "The interesting thing is that it's gotten lots of hype, it's gotten a lot of credit and there's very little recognition of where the true innovation actually occurred. We got very little credit for it at the time."

The Key Ingredients

Key ingredients for innovation also include entrepreneurship and execution, pointed out John Rogers, executive vice president of Goldman Sachs. "There's probably an oversupply of innovation," said Rogers. "It's the execution that makes a difference."

With that distinction in mind, Goldman Sachs made changes to its foundation five years ago to focus more on program-driven initiatives like 10,000 Women, which offers a business education to females in underserved places of the world. The program's curriculum and business model provides women with mentorship and teaches critical business skills such as planning and negotiating. The program now successfully operates in 22 countries. "As innovative as the program is, it's no substitute for the entrepreneurship of the women themselves," Rogers noted. "Goldman Sachs had nothing to do with the innate skills or the capabilities of those women."

Looking at innovation on a larger level and the critical role of entrepreneurship, Ted Dintersmith, a partner in Charles River Ventures, put forth the supposition that the single biggest factor that has improved the world over the past two millennia is the U.S. innovation ecosystem. He pointed out that in the 50 or so years it has been in existence, some $500 billion has been invested, approximately half the amount of the stimulus package or one-third of the cost of the war in Iraq. He added that 11% of the private sector workforce in the U.S. and 21% of the U.S. GDP are a result of venture-backed startups. "The single biggest source of global competitiveness, improving productivity, improving quality of life is due to what entrepreneurs are doing every day," said Dintersmith.

Government has a key role to play, according to Jay Schnitzer, former director of the Defense Sciences Office, and must become more innovative and more supportive of it. Schnitzer added that while there may be no formal department of innovation or innovation czar in the United States, DARPA — the Defense Advanced Research Projects Agency — is actually an innovation engine for the federal government. "In fact, I would argue that DARPA's product is innovation," said Schnitzer of the agency, the arm of the U.S. Department of Defense charged with the development of new technologies for use by the military.

He called for adapting the DARPA model across other government agencies. "The aspect of letting the best and the brightest do what they do best, [while] getting out of the way, and providing adequate resources for them to do so.... Why can't other parts of government work that way?" he asked. DARPA's approach is "built on fulfillments, milestones and metrics," Schnitzer noted. "It's not built on entitlements or equality."

The government also has a role to play in enabling innovation in the private sector, with both policy and regulation. "It's going to be really important, particularly in the health sector, to have good public policy.... Likewise with the regulatory agencies," said Schnitzer. "Even though patient safety has to come first, there has to be some intelligent, reasonable approach to how you identify, measure and then mediate the risk."

Education's Role

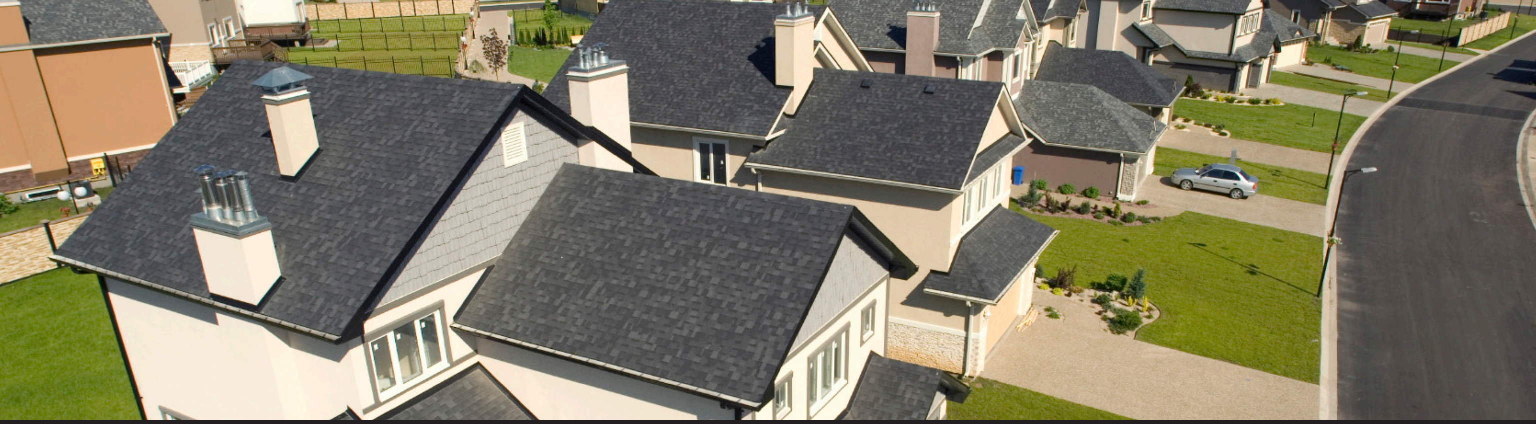
Education is also critical for innovation and entrepreneurship, the panelists agreed, adding that greater emphasis is needed on areas that the U.S. school system doesn't currently focus on, and a more enlightened approach to teaching children about failure. Judge said that the United States can no longer afford to ignore the need to educate engineers. "We don't have enough engineers across the country," she noted, adding that there is too much attention given in the U.S. to training future financiers. "We don't need these financial engineers. We need real engineers if we're going to build things." She also noted that there is a need to encourage women to become engineers. "If we don't educate women [in this area], we are missing a bet."

According to Dintersmith, the approach to education taken in this country does little to advance innovation. "What are we doing to make sure that our truly innovative, entrepreneurial people make it through the education process and come out confident in their position to start companies and do great things?" he asked. "The [Steve Jobs-types] of the world are incredibly rare, and the education system can't create one ... but it can destroy one. Today's schools largely crush the innovation out of kids."

Based on the experiences of 10,000 Women and another Goldman Sachs-sponsored program, 10,000 Small Businesses, Rogers agreed that entrepreneurship is not a learned skill, but he believes that schools have a role to play in fostering it. "I know that we can't just teach it," he said. "We can give skills that help to enhance it, to help move to the next stage, but the determination and the absolute pervasive optimism about possibilities are innate." It's critical that schools learn how to channel natural, innovative entrepreneurs into places where they can execute and create, he added.

A characteristic that innovators and entrepreneurs share, Dintersmith noted, is their lack of fear, and their understanding of the importance of failure. "Success is key, but it's quite possibly the case that you can't succeed unless you understand failure and every aspect of it and you're comfortable with it."

The danger is that schools don't allow, or encourage children to fail. "How many kids in school are being given the message that it's OK to try things that are different and then fail because you're going to recover versus how many are told: `Don't take a course you might not do well in; you've got to have a high grade point average?'" he asked.



Housing Has Bounced Back, but Capitol Hill Holds the Key to a Sustained Recovery

The U.S. residential real estate industry is showing signs of a recovery. Demand for homes is growing stronger, driven by historically low interest rates and government subsidies. Job growth would, of course, accelerate that rebound. However, for a sustained recovery, housing supply must increase with both new construction and regulatory reforms that could bring to market homes that are "under water," or those whose market prices are lower than their outstanding loans. Those were the main highlights from a panel discussion on real estate industry trends at the Wharton Economic Summit 2013, held in March in New York City.

A crucial element of the legislative reforms is to find ways to shield the federal government from home financing losses, the panelists said. The government ended up becoming the country's biggest home financier after the 2008 housing collapse, when it bailed out secondary mortgage finance agencies Fannie Mae and Freddie Mac at an estimated taxpayer cost of up to $360 billion. Bipartisan political consensus holds the key to the reforms, panelists stressed.

The panel included Jeff Blau, CEO of Related Companies, a New York City-based real estate development firm; Jonathan D. Gray, global head of real estate at New York City-based financial advisory firm Blackstone; Jim Millstein, chairman and CEO of New York City-based financial advisory firm Millstein & Co.; and Richard A. Smith, chairman, CEO and president of Realogy Holdings Corp., a New Jersey-based real estate franchising and services company. Joseph Gyourko, Wharton professor of real estate, moderated the discussion.

Unexpected Recovery

"The metrics certainly indicate a much stronger interest in residential housing than it seemed in the previous six years," said Smith. His firm Realogy operates in all 50 U.S. states and 102 countries and has a 26% market share of the U.S. housing market in sales volume. The recovery has gathered pace since the first quarter of 2012 and is "completely unexpected," he added.

> "We feel very strongly that this is a strong recovery and it is sustainable."
>
> –Richard A. Smith, chairman, CEO and president of Realogy Holdings Corp.

Consequently, home prices have strengthened and the overhang of unsold homes is bottoming out, but something "much more dramatic" is occurring, according to Smith. "We literally have markets where we have no supply, no inventory," he said, citing New York City as an example of this phenomenon. He saw that across the country – a week's supply of homes in San Francisco, no inventory to sell in Miami and an outpouring of open houses "in every market" where Realogy operates. "We feel very strongly that this is a strong recovery and it is sustainable." In Phoenix, home prices are up 25% and they have risen in the "very high double-digit percentages" in Southern California, added Blackstone's Gray.

Smith said the housing recovery is occurring despite impediments. He cited two issues relating to the 2010 Dodd–Frank Wall Street Reform and Consumer Protection Act. One is a decision on what constitutes a "qualified residential mortgage," or QRM, because that would set the criteria for the down payment for home loans that underwriters require. A related second issue is whether a decision about QRM could encourage developers to resume homebuilding.

Increased housing inventory is critical for a sustained recovery, Smith argued. A resolution to the QRM issue could release some of the 10.8 million homes that are under water, he explained. "If we do not have the increase in inventory, then we will still have a recovery, [but] that will be anemic."

Since 2009, underwriters have been wary of risk and are lending only to "the highest possible standard" of borrower creditworthiness, Smith noted. He called for a speedy resolution of the matter and hoped the new debt-to-income criteria would be less onerous than people fear they might be. He clarified that he did not expect underwriting standards to become more lax. He only wanted to get back to the "pre-bubble" days, when underwriters required credit scores about 100 basis points lower than current expectations of about 750, he said. (Credit rating agencies award scores from 300 to 850.)

Demand and Supply

The supply-and-demand equation matters more than employment, interest rates or government policies, according to Blackstone's Gray. In each of the last 30 to 40 years, the U.S. housing industry has added 600,000 dwelling units or 60% for every million people that joined the population, but that has fallen to 30% in the last four years, he said.

Homebuilders are staying away because existing homes are trading below their physical replacement cost, Gray noted. However, he was confident that over time, home prices would catch up with replacement costs, making a sustained recovery possible.

Blau of the Related Companies steered the discussion to focus on the broader economy. "It's not the housing market that drives the economy; it's the other way around," he pointed out. Offering a developer's perspective, he added that he would place bets on select urban markets, especially those with job growth such as those occurring in the technology and energy industries.

Gyourko said that with the U.S. government backing nine out of 10 home mortgages, the housing industry is not in equilibrium. "None of us thinks that the housing market should be run by the United States government on the debt side," he added, triggering a debate on policy reform.

Millstein provided a historical perspective: The Great Depression of 1929 and the impaired real estate loans had damaged bank balance sheets, paving the way for Fannie Mae in 1938 and Freddie Mac in 1970 to provide banks and thrifts a secondary mortgage market.

"Fast forward, we have the same thing, effectively, in the last decade, where we had a huge bubble in real estate, a huge bubble in real estate financing," Gray said. Indebtedness on residential housing stock more than doubled from $4.5 trillion at the turn of the century to $11 trillion by 2007. As the market collapsed, the government brought Fannie Mae and Freddie Mac under conservatorship. Effectively, 90% of every mortgage is with the two agencies or discounted by federal home loan banks.

However, over time, successive federal administrations have used Fannie Mae and Freddie Mac for unrelated purposes such as funding payroll tax cuts, Gray pointed out. Five bills now in Congress also seek to do the same, he added. "We are at risk as a country of turning them into cookie jars to pay for other things," he warned.

Gray called for a "sensible transition from the government dominating [the housing mortgage] market to one that's more balanced." Part of that effort would be to protect the government against the risks of delinquencies if a downturn occurs, but with private capital taking the first hit. He suggested the creation of an agency like the Federal Deposit Insurance Corporation that protects bank depositors.

Not everybody should benefit from the reinsurance program, Gyourko said. He strongly felt the program should cover only deserving families and that it ought to be "means-tested" to filter out those with the means to avoid dipping into a government subsidy.

Renting Distressed Homes

Not all investors are waiting for the reforms to play out. Gyourko noted that some private equity investors have discovered a new business model in the housing industry, of buying in bulk single family homes, fixing them up and renting them out — and possibly selling them in the long run. But billionaire investor Samuel Zell (founder of Equity Office Properties Trust, which Blackstone bought in 2007 for $39 billion) felt it was not a scalable business, he added.

Gray recalled Zell voicing that disapproval, but clarified that the key question was how to make it work. Blackstone focused exclusively on post-foreclosed homes. Next, it partnered with the largest, independent multifamily operator in the country to build a portfolio it called "invitation homes." Today, it operates in 11 markets and has 1,000 employees. Tenants in such rental single-family homes stay longer than they do in apartment complexes, where the tenant churn could be 50% annually, he said. Gray, however, acknowledged that his business model "is still a work in progress ... [and] there are lots of questions about operations," notably controlling costs.

Another developing trend Smith noticed is that of "generational housing," where immigrant families have several generations living under one roof. "The Hispanic segment as a group, as an example, represents about 62% of the growth of household creation," he said. "So, to meet that need, builders are actually building larger properties that would accommodate Mom, Dad, aunts, uncles, etc." Gray said his colleagues believe that in places like Southern California and Phoenix, "there are a lot of people who are living in the shadows, who, if they have a path to citizenship will be very happy to be able to go out and buy a home." Opportunities abound outside of the U.S. housing industry, too, such as "the huge amount of distress" the global credit crisis created, he noted.

The View from Europe

In the U.S., troubled real estate loans outside of housing have been substantially contained, but not so with European commercial real estate, he noted. He offered the example of Dublin's largest hotel trading recently for 20% of the price it fetched in 2007. Such opportunities exist all across Spain, Italy, Germany, the U.K. and France, he added.

In India and China, real estate developers have seen access to debt and equity capital contract by some 80%, opening windows for opportunistic investors. New office construction has fallen 75% in Beijing and 60% in Bangalore, Gray said. "You've got to like places like Europe and India that nobody likes," he said. Blau is also active globally, and in the last decade, his company opened offices in Shanghai, Sao Paulo and Abu Dhabi. He found it "tough" doing business in China and started to sign deals in Brazil, but the United Arab Emirates offers some compelling "micro opportunistic" deals.

Gyourko asked how New York City compared with the new growth centers around the world. Blau's response: The city continues to be a safe haven for investors, and it has diversified its tenant profile beyond predominantly financial services to include technology firms. His company recently broke ground on Hudson Yards, a mixed-use development project of 15 million square feet in the city.

In the end, the aspirations of Americans will overcome the market math, Smith noted. "Look, nothing's changed," he said. "Home ownership has dropped because it was forced; it wasn't voluntary." While a section of the U.S. population will prefer renting its homes, the vast majority of Americans — about 65% — want to own single family homes, he said. "American values are such that you need to be a homeowner, and that's going to continue."

The Natural Gas Boom: Cheap Energy, but at What Cost?

The outlook for the U.S. energy market has improved dramatically in the last several years, with the country importing 90% less light sweet crude than it did a decade ago and cheap natural gas being produced in abundance. The change is due almost exclusively to advances in hydraulic fracturing, or fracking, the controversial practice of using water under high pressure to extract hydrocarbons from the earth.

Almost 90% of the wells being dug in the U.S. today are fracked, and the "shale revolution" has brought jobs and economic vitality to areas rich with shale. While some producers bemoan the low cost of natural gas, low-cost fuel has benefits for many other industries, and could help spur a manufacturing revival in the U.S. Yet fracking remains controversial because of concerns about the environment, particularly the possibility of water supplies being contaminated below ground.

"In Pennsylvania there are 100,000 jobs [that would otherwise not be there]. The oil and refining businesses are hiring people, generating jobs, paying taxes. This is a windfall for the U.S."

– William Klesse, CEO and chairman of Valero Energy Corp.

Participants on the energy panel at the recent Wharton's Economic Summit 2013 in New York City agreed that the industry needs to strike a delicate balance between reaping the benefits of fracking while safeguarding the environment and addressing the needs and concerns of the communities affected by fracking.

The shale revolution's impact on the energy industry amounts to what William Klesse, CEO and chairman of Valero Energy Corp., calls a "huge opportunity for the U.S. in all the energy manufacturing businesses." He believes it already has had more impact on the industry than anything else in recent memory, including price controls and embargos.

Janet Clark, executive vice president and chief financial officer of Marathon Oil Corp., framed the issue not as a matter of "to frack or not to frack," but "how to do it responsibly in terms of impact on the community as well as impact on the environment, both air emissions as well as broad quality."

There are states that have opted not to frack, either banning it outright or putting a moratorium on it, pointed out Ann Harrison, a Wharton management professor, who moderated the panel. Klesse stated that communities have the right to know about the risks but must weigh them against the benefits. "New York [which has put a moratorium on fracking] is making a huge mistake," he said. "In Pennsylvania there are 100,000 jobs [that would otherwise not be there]. The oil and refining businesses are hiring people, generating jobs, paying taxes. This is a windfall for the U.S."

John Deutch, an MIT professor and former head of the CIA, pointed out that for all the concern about drinking water contamination, the real environmental risk is not below ground but on the ground and above it. "There's no question that unconventional oil and gas production involves very serious environmental impacts on air quality, water quality, community and land use," he said. "When 16 wells are being drilled simultaneously [there] are legitimate questions that have to be addressed, especially if the country is going to have the benefits of hundreds of thousands of these wells in operation across all of the U.S."

He said the regulatory structure for private lands was inadequate, with mixed federal and state responsibility. "It's simply not going all that well," he said. "I am a great advocate of seeing the industry do more and stepping out ahead of this problem, and trying to convince the public that the right balance is being struck." He recommended a three-pronged approach: measuring the environmental impact; reporting those measurements publicly; and making the commitment to reduce those impacts over time.

Clark spoke of some of the actions Marathon has been taking. "We, as an industry, have to do what we can to lessen the negative impact on the community," she said. "We do try to do a lot of things — making donations to the local hospitals so that they can expand, and being a good community partner in terms of lots of not-for-profit opportunities." Like Klesse, she stressed the economic benefits, talking about how towns have been completely revitalized. "There is no question this boom is driving great economic growth at a time where our country could really use a bit of a jumpstart," she said.

Evidence of Degradation

Harrison asked about actual evidence on possible health or environmental effects, raising the possibility that there may be none at all.

There are at least one or two documented cases of fracking fluid finding its way into the water, according to Deutch, who chairs a group for the Department of Energy that is looking at environmental impacts. He said a much greater problem is poor well completion. "There are many such instances of those bad completions," he said. "That's where the attention needs to move, towards the companies that are doing it." Clark added that cases of water contamination from oil and gas drilling, regardless of whether there is fracking, are typically related to well design.

The potential benefits of the shale revolution go beyond economics. Harrison quoted a report from McKinsey noting that fracturing technology has the potential to make the U.S. a net exporter of not only natural gas, but also crude, by 2025. "The U.S. can become completely energy independent if this technology is used more extensively," she said.

Anas Alhajji, chief economist at NGP Energy Capital Management, said people must be careful not to confuse being a net exporter with being energy independent. It's possible that North America could become energy independent, but that goal will be hard to meet because the quality of the crude doesn't match the current refining abilities. To become energy independent, new infrastructure is needed that will support the refinement of the crude being produced into a higher quality, and regulations restricting natural gas exports should be amended.

Alhajji said that in the next year or two, there will be such a surplus of natural gas and crude oil that "we won't know what to do with it. We have to remember that we cannot export crude oil by law." Manufacturers, who of course can export what they are able to produce with cheap labor, will be the primary beneficiaries of cheap gas prices unless the laws change. "We are going to have serious problems, and we are hoping that the administration will allow crude oil exports, at least to Mexico, because that's going to relieve some of the pressure on the market," he said.

The role of the government in the shale revolution has been overstated, he believes. "This did not result from government policy to start thinking about energy independence," he said. This revolution was caused by independent small- and mid-sized companies, and everyone else came in late to the game." Government's role in the shale revolution going forward was discussed, with agreement on the need for free trade and less time-consuming permit procedures.

A Delay for Green Energy?

The notion that the shale gas revolution will delay the shift to a green energy future, which

Deutch has written about, was dismissed by several other panelists. Clark pointed out that natural gas, which has a lower carbon footprint, is displacing coal in the electrical power industry. "I see that as a positive," she said. "Natural gas can be an important transportation fuel, but that's going to take a little bit longer because of the infrastructure that's required and the consumer acceptance of it." She said a number of companies and municipalities that have central facilities for refueling are moving in that direction, displacing the more carbon-intensive oil and diesel.

Renewable energy sources, specifically solar and wind, are already benefiting from gas in several ways, according to Alhajji. Both solar and wind are intermittent fuel sources, and gas can be used as backup power when necessary.

The idea of moving entirely away from all fossil-fuel consumption is not practical, according to Clark. "How much additional cost can our economy absorb today to subsidize carbon-free fuels?" she asked. "We won't leave the hydrocarbon age because we ran out of oil and gas; we'll leave it when we have a better fuel that is scalable, that's secure and that is economically affordable."

"There is no question that climate change and global warming are issues, but you cannot ruin the economy to address them," Kleese said. "We're in these businesses and we are driven by economics. I can tell you that in my opinion all of these alternatives are not economic against natural gas."

Deutch cautioned people to consider the long-term effect of delaying green energy and said he stood by his previous statement. "As we all get excited and congratulate ourselves about natural gas you have to remember there is a climate issue out there that is going to hit this world," he said. "Not during our lifetime, but we have to worry about how we're going to deal with that, or how our children and grandchildren are going to deal with that."

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