Testimony of Vivek Wadhwa

To the U.S. House of Representatives

Full Judiciary Committee Hearing

"America's Immigration System: Opportunities for Legal Immigration and Enforcement of Laws against Illegal Immigration"

February 5, 2013

Chairman Bob Goodlatte and members of the Judiciary Committee, I want to thank you for the opportunity to submit my testimony and share my thoughts on the importance of immigration reform.

Being in Washington DC, it is very easy to be pessimistic. We worry about our competitiveness and wonder whether the future does indeed belong to China, as some people say. We fear that America will stop innovating and that its economy will stagnate; that we will be fighting for limited resources. We therefore debate whether there are shortages of engineers or a glut. In our dark moments, we try to raise trade barriers and keep foreigners out.

I am here to tell you that these fears are largely unfounded and that the future is ours to lose. America has a way of constantly reinventing itself and reaching new heights. This is what is happening now; America is in the midst of its next great rebound. Its scientists and entrepreneurs are setting the wheels in motion to solve humanity's grand challenges—in areas such as health, energy, food, education, water, and security. This will be the most innovative decade in human history—when we begin to go from worrying about shortages to worrying about how to share the abundance that we are create.

The decisions we make on immigration will either facilitate this rebound or trip up the entrepreneurs who are working to make it happen. Let me briefly explain the advances I am talking about so that you understand the increasing importance of a skilled workforce.

We have seen how computers are becoming more powerful year by year as prices drop. In the technology industry, this advance is known as Moore's Law. It's not just in computer hardware; the same exponential growth is happening in an assortment of other technologies.

Take the manufacturing industry. Advances in robotics, artificial intelligence, and 3D printing are dramatically reducing the costs of manufacturing and making it possible to create new types of products. These technologies are rapidly eroding China's cost advantage. It is very likely that, within a few years, we will reach the tipping point when it becomes cheaper to manufacture in the U.S. than in China. Note how fracking technology

has rejuvenated America's oil industry. We are about to see an even greater rejuvenation in American manufacturing.

Advances in digital medicine and genomics are also transforming the health-care industry.

Inexpensive sensor-based devices are allowing us to start monitoring our health so that we can prevent disease and dramatically reduce health-care costs. Entrepreneurs are building iPhone apps that act like medical assistants and detect disease; smart pills that we swallow in order to monitor our internals; and body sensors that monitor heart, brain, and body activity. These new devices empower the patient to monitor and improve their own health. I am a heart patient, and carry an AliveCor heart monitor that can perform an instant EKG if I ever need it, for example.

Advances in DNA sequencing are opening up new possibilities for advancing health care. Full human-genome sequencing cost billions of dollars a decade ago. It now costs thousands of dollars, and will come to cost less than a blood test. Scientists and engineers are discovering the correlations between disease, lifestyle, and genome. In the future it will be possible for doctors to prescribe the most patient-appropriate medicines based on a person's DNA.

This is just the tip of the iceberg. There are similar advances happening in other fields where technology can be applied. Google is developing an Artificial Intelligence–based self-driving car that can change the face of cities by eliminating the need for parking spots, eliminate highway fatalities and traffic congestion, and dramatically reduce fuel consumption. New education technologies are changing the way we can teach and bring knowledge to the masses. Advances in nanotechnology are allowing us to develop new types of lighter and stronger materials such as carbon nanotubes, ceramic-matrix nanocomposites, and new carbon fibers.

All of these advances are being made by entrepreneurs working hand in hand with engineers, scientists, physicians, and researchers. Foreign-born workers are leading the charge in all of these fields.

In the era of exponential technologies that we are entering, education and skill matter more than ever. Small teams of people can do what was once possible only for governments and large corporations—solving grand problems. Diversity in background, in field of knowledge, and in thinking are great assets. We need the world's best and brightest more than ever before. Yet, as the research of my team at Stanford, Duke, and UC-Berkeley has shown, our visa policies are doing the opposite: chasing away this talent.

Our earlier research had determined that from 1995 to 2005—the time of the Internet boom—52% of Silicon Valley's startups were founded by people born abroad—people like

me. When we updated our research recently, we found that this proportion had dropped to 44%. This was historically unprecedented.

Foreign students graduating from American colleges have difficulty in finding jobs because employers have difficulty in getting H1-B visas. Those graduates who are lucky enough to get a job and a visa and who decide to make the U.S. their permanent home find that it can take years—sometimes more than a decade—to get a green card. If they have ideas for building world-changing technologies and want to start a company, they are usually out of luck, because it is not usually possible for people on H1-B visas to work for the companies they might start.

The families of would-be immigrants are also held hostage to the visa-holder's immigration status. The spouses of H1-B workers are not allowed to work, and, depending on the state in which they live, they may not even be able to get a driver's license or open a bank account. They are forced to live as second-class citizens.

Not surprisingly, many are getting frustrated and returning home. We must stop this brain drain and do all we can to bring more engineers and scientists here. Contrary to what anti-immigrants groups say, these people expand the economy and create jobs for Americans.

In my book *The Immigrant Exodus*, I prescribed seven fixes to stem the tide and to attract the world's best and brightest to America:

1. Increase the numbers of green cards available to H-1B holders
2. Allow spouses of H-1B visa holders to work
3. Target immigration based on required skills
4. Allow H-1B Holders to change jobs without requiring sponsorship renewal
5. Extend the term of OPT for foreign students from one to four years
6. Institute the Startup Visa
7. Remove the country caps on green-card applications.

The bottom line is that Congress needs to double down and pass legislation which ensures that the supply of employment-based green cards matches the demands of a knowledge economy. Needless to say that at the same time, we need to improve U.S. education and ensure U.S. workers have the right skills and experience for the new era of technology and rapidly changing and competitive global economy.

As I concluded in my book, we need to do all this because a vibrant United States that opens its doors to skilled immigrants will provide a greater benefit to the rest of the world than a closed, shriveling United States because the rules by which the US practices the game of economic development, job formation and intellectual capital formation grow the global economic pie. And the ethos that drives America's entrepreneurs and inventors, and has

driven US policy until very recently, is critically important for the continued development of the global economy. Not only will these entrepreneurs better the U.S., but they will better humanity, they will solve our Grand Challenges.