

JOE MCGONEGAL: This is the MIT Alumni Books podcast. I'm Joe McGonegal, writer for the MIT Alumni Association. Contrary to common perception, the number of immigrants in the United States is not at an all time high. The percentage of the US population who are immigrants stands at 13%, a decline over previous years and at par with that of Germany or France. Many countries in the industrialized world, including Canada and Australia, have higher immigrant populations in this respect.

Meanwhile, immigrants comprise a quarter of our family doctors and nearly half of our research scientists, filing one quarter of all patents from the United States. They've founded 42% of the current Fortune 500 companies in this country. And estimates put the cost of immigrant buying power at over \$2 trillion.

Becoming American-- Why Immigration is Good for Our Nation's Future, published this spring by my guest, Fariborz Ghadar, Class of '68, aims to dispel many of the typical American misconceptions about immigration and offer compelling data in their place. Ghadar, who studied chemical, biomedical, and mechanical engineering at MIT, weaves into his arguments his own family's immigration narrative from Iran, along with other contemporary success stories of immigration from around the world. Ghadar is the founding director of the Center for Global Business studies at Penn State University, and a distinguished scholar and senior advisor at the Center for Strategic and International Studies in Washington. I spoke with Ghadar by Skype and asked him what compelled him to write this book now.

FARIBORZ GHADAR: I've been interested in international students and the role of immigrants in the US from MIT days. I mean, I was the president of the International Student Association at MIT. I was active in helping international students get assimilated. In those days, most of the people would get PhDs or masters and were international students who predominantly wanted to stay in the states.

Now, as a professor, I see that that's no longer the case. Many of the PhD candidates, in fact, have options to go back home and, in fact, do so. And at the same time, it's become more difficult for our students to stay here. Because the number of H-1B visas are somewhere around 85,000. Yet the demand for it is close to 10 times that. So that was sort of the genesis of the whole thing.

What triggered it was-- I do some work in the oil and gas industry. And I was in the Ohio-Pennsylvania area, where they're doing shale and gas fracking. And I was on a plane and a young man sat next to me. And I asked him, you know, what are you doing? And well, he's getting his PhD in oil and gas. Fracking

And I said, well, you must be in demand like crazy. And he said, yes, I will be, too. But I'm going to have to end up going to Australia. I said, well, why aren't you staying here?

He said, well, I can't get my H-1B visa. And I'm sitting here thinking this is an industry that's making us self-sufficient in gas. We're going to be a gas exporter. We may become an oil self-sufficient. It's been a boon to our economy in various states and is probably going to help our current account balancers.

And here's a critical person getting a PhD in this area, and our industry can't keep him here? And so that triggered it. And then I started doing some research and looked at the impact that immigrants have on the US economy and in the US.

MCGONEGAL: You start out by confronting some myths about immigration in this country. I think that section leads off with the misconception that immigration is a problem that needs to be solved, a mindset that you think Congress currently has. What's wrong with that perception?

FARIBORZ GHADAR: What's wrong with it is immigration and immigrants fill holes within our economy that are not being filled by Americans. In fact, immigration is complementary for our industry, our economy, and our society. And it is more so now than ever before.

If you look at the nature of immigrants in the US, they're really by bimodal. We've got people who come here and basically take care of your yard and paint your house. And people who come here and set up Google and do fantastic research in the IT, biotech, nanotech industries. So those are parts of the economic background that we are not really serving properly for the society, and they are complementary for our economic development.

And our political system has basically, with regard to immigration, come to a stall. I don't think it's going to happen. You can argue the statistics and the facts, show them what's going on. If people start getting scared and paranoid it's difficult to fight that. So it's going to take a while for reality to come back in.

MCGONEGAL: So rather than saying that it's a problem that needs to be solved, you would offer that it's a solution in and of itself that needs to be nurtured.

GHADAR: It's an opportunity that needs to be [INAUDIBLE]. If you look at economic development, I mean, Michael [INAUDIBLE] number of people do at, my colleagues at MIT do that, really you need to cluster development. And these clusters need a whole bunch of people that are really skilled to get together.

We put that in the auto industry after World War II in Detroit. We did that subsequently in Silicon Valley with the IT industry. You see that the percentage of immigrants in those clusters are very, very high. And then you look at the economic clusters that are going to develop in the future-- biotechnology clusters, nanotechnology clusters, et cetera-- you're going to need the best and the brightest from around the world. And if you don't bring them in, somebody else will bring them.

MCGONEGAL: Talk about what got in the way of getting this book published.

GHADAR: The first publisher I contacted, they got all excited right away. The case studies that I wanted to interview-- they were charming and helpful, you know. I mean, this is something they really wanted to talk about. Soohong Park was on the board of Samsung, and he gave me all the time I wanted.

[INAUDIBLE] who, you know, was head of venture company-- I mean, you would think these people would have so many other things to do. I'm sure they do. But they made time to help me.

And the most difficult person to nail down was Solomon, our painter. He was the most difficult one to locate, because he was so busy managing his painting companies. So I finally had to go to his site to interview him.

Basically says the guys who were really working very hard at the other extreme of the bimodal thing-- Solomon was painting one of the building's interior, doing a fantastic job. And he got into an argument with one of his employees. And on the spot, he fired him. And I said, Solomon, what happened?

And he said, he's my cousin. He should be doing better. You know, I gave him a chance. And if my cousin can't do a good job, he's out, too. So that tells you, yes, they all stick together. But boy, they better perform. Otherwise, the immigrants don't tolerate the other immigrants' incompetence.

MCGONEGAL: Are you tempted to write your memoirs at some point? I found myself, at the end of each of the chapters that talks about you or your daughters, wanting more of that.

GHADAR: [LAUGHS] It would be when I retire from academia. My next book that's coming out is an update on my *Global Tectonics*. That's what I'm working on now.

MCGONEGAL: How is your work at MIT in engineering alive in this book?

GHADAR: When I was at MIT, we did what was called the mathematical modeling of the choroidal blood oxygenator. I mean, but that's just to get a master's degree in. What it was, it was basically how would you oscillate the artificial heart and lung machine to maximize the amount of oxygen that goes through the feed sent to the blood?

So because of that, I was interested in the biomedical. And in fact, I even for a while there was going to do biomedical research. But then connecting our dog that we had to the artificial heart and lung machine that we were working on-- they would die all the time, and they would die at four in the morning. And you know, as a graduate student, those are the shifts that you get. So I would have take to take care of the dog. And that just became too much for me.

So I decided to go to business school. I decided I couldn't take the blood and the guts and the glory, you know, a warrior of research in biomedical. And I've always been interested in it. And when the genomics thing came in, it became really clear that this is going to be a big deal.

MCGONEGAL: You talk about STEM a lot in the book. You talk about if we want to have a conversation about how to promote STEM, that needs to be within the context of immigration.

GHADAR: Right. Also within the context of our educational system. I mean, if you really want these clusters, you have to actively go after experts in that field. So I contrast US policy with, say, Canadian policy.

In the US, we have depending on the category, let's say 85,000 H-1B visas. These are visas that are given to highly qualified people that industry wants. Industry basically fills those [INAUDIBLE] within the first few weeks of the year.

And so they have to wait another year to get somebody. It's so tedious to do that, that often industry doesn't want to do it. You have head hunting companies that hire these guys, and then dole them out.

Contrast that with Canada. Canada has a list of everybody who wants come into Canada. And some of their provinces basically get the lists available, and industry can cherry pick who they want. So Canada has identified the industries that they want to develop, and they basically give the industry the right to come and pick and choose and bring the people on the waiting lists on. So what you're doing is you're allowing industry and the government to basically cherry pick people in accordance with their economic developments.

MCGONEGAL: You talk about the possibility of an entrepreneur's visa.

GHADAR: Right. I mean, if you're talking about job creation, you're saying that the immigrant comes and takes your job. Well, then make it so that the immigrant has to come here and do all the jobs. And other countries have it. We have it, too, but it's very restricted and limited.

MCGONEGAL: Back to MIT for a moment-- what can MIT do to better advocate for immigration and for immigrants?

GHADAR: We could argue for more H-1B visas for the students that are there that want to stay. We could lobby for more than one year for training. Students who come here have one year. Why not give them two?

Why don't we assist them in this more rapid immigration strategy if they open up a company and the company is successful? So if you are an MIT foreign student and you stay here and you start a company, and you're beginning to grow very rapidly, why don't [INAUDIBLE] certain conditions give them citizenship quickly? These are the sort of small steps that MIT could argue for.

MCGONEGAL: Talk about what you're reading right now.

GHADAR: Well, I just finished reading *Capital*, the book written by the French economist. You have to read things that you don't even agree with just so you understand what's going on. I don't agree with him, but I think it's better to know what other people are saying, even if you disagree with them.

MCGONEGAL: Fariborz's new book, *Becoming American-- Why Immigration is Good for Our Nation's Future*, is now available at your favorite local bookstore. Professor Ghadar, thank you for joining me.

GHADAR: It was a pleasure, Joe. Thank you for having me.