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American Competitiveness in a Post-American World

BY SCOTT ANDES AND DANIEL CASTRO | NOVEMBER 11, 2009

In his book *The Post-American World*, Fareed Zakaria makes a compelling case for how the global economic and political climate is shifting with "the rise of the rest." As developing nations, namely China and India, emerge as global economic players the traditional global power-sharing calculus has changed. Once the dominant international player, the United States is now forced to compete with other nations on an ever equalizing playing field. Much of this change is driven by information technology (IT)—by connecting the furthest corners of the world to global networks of information, IT has created a global economy where workers must compete internationally and a global society where ideas, culture and trends know no borders. The challenges that America faces as it confronts this new global economy have been enumerated before, perhaps most famously by Thomas Friedman in *The World if Flat.* In Friedman's terms, technology such as cell phones and broadband has helped "flatten" the world and created a more connected economy powered by outsourcing and global supply chains. The impact of globalization has important implications for long-term American competitiveness.

Yet Zakaria's story is not one of despair for America but of changing opportunities. The rise of the rest is not about America falling behind but rather falling in line with a changing reality in which no one country has an economic hegemony. Clearly however, if others have entered the economic race then to a certain degree America would need to run faster just to keep up. Indeed, much has been written about the six "dirty little secrets" Friedman's flat-Earth philosophy raises for American competiveness including its declining international standing in education, workforce capabilities, funding, ambition and infrastructure.[1]

However, Zakaria disagrees with these conclusions. He argues that while the United States no longer dominates the international economic landscape, it still is not really in direct competition with other nations because America's true economic power exists at different levels of the global supply chain. Whereas Chinese manufactures and Indian software technicians can take market share in the production phase of the supply chain, at the R&D back end and the branding and commercialization front end—where the money is—the United States has irrefutable market dominance, Zakaria claims.

In Zakaria's view, it is the innovation sectors of the U.S. economy that allow the United States to remain the global economic powerhouse in the knowledge-based economy. Asia cannot compete with the U.S. education system, Europe's

population is aging too quickly and northern Europe is simply too small to matter. And no other country comes close to the United States when it comes to tomorrow's big innovations like nanotechnology or biotechnology. He admits that America has problems that need to be addressed, such as having the second-highest corporate tax rate and an insufficient skilled immigration labor policy, but by-and-large these are simply problems with Washington, the U.S. economic structure and IT leadership is vibrant, dominant, and future proof.

But is this true? A closer look at the data reveals that the backbone of America's global IT dominance—its education system, its leadership in emerging technologies and its overall competitiveness—is in peril of falling behind both developed northern European and developing Asian countries.

MYTH 1: THE UNITED STATES HAS THE MOST COMPETITIVE ECONOMY IN THE WORLD

Zakaria cites the *World Economic Forum's Global Competitiveness Report* as evidence that the United States has clear competitive dominance. However, the WEF report has significant limitations. Most importantly, two-thirds of the indicators WEF uses to create its rankings are from their Executive Opinion Survey, which surveys corporate leaders on a variety of indicators. The advantage of opinion surveys is that they can gauge factors where hard data is not available. But surveys are limited by incomplete knowledge and respondent biases; therefore the risk of using opinion surveys is that they can often reflect a nation's reputation and not its actual position.

Consider, for example, corporate R&D. The WEF ranks the United States third for corporate investments in R&D when relying on its opinion survey, but in comparing 37 nations in corporate R&D spending as a percent of GDP, the United States ranks fifth[2] and ranks even worse, 17th, in terms of growth in corporate R&D investment. Hard data is usually more accurate than survey research, and using hard data the United States falls behind in several relevant indicators such as: 11th in broadband leadership, 36th in corporate tax, 32nd in foreign direct investment (FDI), 32nd in trade balance, 9th in higher education, and 5th in productivity.[3]

MYTH 2: THE UNITED STATES IS THE LEADER IN EMERGING TECHNOLOGIES

Zakaria asserts that the United States is the leader in emerging technologies, namely nanotechnologies and biotechnologies (or rather exclusively as these are his only examples). By way of evidence he explains the United States has more facilities, patents and publications on nanotechnologies than any other nation. But of course it does, since the United States has the largest GDP.

Zakaria's key argument, that the United States is better at commercializing its new innovations because 85 percent of global venture capital goes to U.S. firms, is misleading. In 2006, only five percent of nanotechnology was funded by venture capital, the rest being funded by governments and corporations.[4] Moreover, the United States no longer ranks first in venture capital as a share of GDP, but fifth among 37 nations. Venture capital is also increasingly moving downstream to later and larger deals. Since the mid-1990s U.S. venture capital investments have doubled but early and first stage capital is down 50 percent. Venture capitalists are cherry-picking the most attractive late stage deals, in effect under-investing in emerging technologies. Furthermore, while historically venture capital tends to stay inside the country of origin—especially for emerging technologies with unusually high risk factors—this trend is changing. More and more U.S. venture capital firms are investing globally.[5] Finally, venture capital is not the only, or event the main source of funds for these emerging technologies. In 2006, governments sponsored 52 percent of nanotechnology research, while corporations funded only 43 percent. These figures are striking because governments sponsor roughly one-third of total global R&D.[6] As the United States loses grounds in government funded R&D (currently ranked 4th, but 15th for progress from 1999-2006) its ability to innovate and market emerging technologies will only decline further.

Indeed, the concern over the United States' ability to be a world leader in emerging technologies is growing even within the United States. Greg Tassey, Senior Economist of the U.S. National Institute of Standards sums up these concerns by stating, "The growing global capability to innovate is casting doubt that past U.S. first-mover advantages will continue to be real-

ized in the future. As a result of global convergence, nanotechnology will be the first emerging technology for which multiple economies are competing on equal footing to be first movers."[7]

MYTH 3: AMERICANS RECEIVE THE BEST EDUCATION IN THE WORLD

Zakaria asserts that American universities rank among the best in the world. But here, as in the U.S.'s reputation for R&D leadership, the perception differs from reality. To be sure, the U.S. has some of the best research universities in the world, although many nations are working hard to overtake us. As the recent Spellings Commission report on the future of U.S. higher education notes, "There are also disturbing signs that many students who do earn degrees have not actually mastered the reading, writing and thinking skills we expect of college graduates. Over the past decade, literacy among college graduates has actually declined."[8] In fact, among recent graduates of four-year colleges, just 34, 38 and 40 percent were proficient in prose, document, and quantitative literacy, respectively.[9]

He also ignores the fact that the students graduating from these universities, particularly for graduate degrees in science, technology engineering and mathematics (STEM) fields, are increasingly foreign nationals. For example, 60 percent of the PhDs awarded in engineering at U.S. universities go to foreign students.[10] The emerging problem is not whether or not the United States is the best place to train future researchers, engineers and scientists but whether they will put their skills to use here or elsewhere upon graduation. With a weak HB-1 visa program, many IT firms are finding it increasingly difficult to attract highly-skilled, American-trained researchers and engineers. And many highly skilled, American-educated but foreign-born engineers and scientists are finding opportunities back home.

Zakaria also disputes the report put out by the National Academy of Sciences that shows India and China overtaking the United States in producing new scientists and suggest that "the United States actually trains more engineers per capita than either India or China does." Even accepting Zakaria's premise, this does not negate the fact that in terms of the overall number of scientists and engineers, when the number of scientists and researchers is pinned to total workforce, the United States comes in 4th behind Japan, Sweden, South Korea and Germany. More telling are the trends for scientists and researchers. The United States is ranked 29th of 34 in percent growth of scientific researchers in the last decade. Moreover, when looking at the percent of college educated population compared to the population of college aged citizens (25-34) the United States ranks ninth behind Russia, Canada, Japan, South Korea, Ireland, Spain, France, and Denmark. And the global trend is clear: in terms of progress made within the last decade in getting more college-aged citizens higher education degrees, the United States ranks 24th out of 26th. This is not simply a case of convergence as the laggards catch up to the leaders. With only 39 percent of the U.S. college-aged population having some form of tertiary degree, there is ample room for progress in the United States. Neither can convergence explain why countries like Canada and Japan, both with over 50 percent of their college-aged population holding a tertiary degree, have made substantially more progress in increasing its college educated population within the last decade than the United States.[11]

MYTH 4: NORTHERN EUROPE IS TOO SMALL TO COMPETE

Although ranked near the top of virtually every innovation and technology ranking, Zakaria mentions northern Europe only once in the book and he does so to explain how northern Europe is of no consequence to American economic leaderships. He writes:

> "The United States is currently ranked as the most competitive economy in the world by the World Economic Forum. These rankings have been produced every year since 1979, and the U.S. position has been fairly constant, slipping sometimes in recent years to small northern European countries like Sweden, Denmark, and Finland (whose collective population is twenty million, less than that of Texas)."[12]

Yet size isn't all that matters. In a growing global economy value is not as associated with size as it with being a first mover within technological frontiers. The Nordic countries have created national strategies to produce in high-value added industries and have created global market opportunities beyond their size through public

and private partnerships and rigorous investments in science and R&D. In reality northern Europe has become a global leader, leaving the United States behind in many indicators, such as in broadband speed and penetration rates and the number of scientific researchers.[13] The other problem with dismissing the innovative potential of small countries—simply because the United States is larger—is that when taken together, emerging innovative nations, such as the Nordic countries, Singapore, South Korea and several of the Baltic countries, may create a critical mass that can rival the United States in international competitiveness. It makes little difference whether or not global competition to the United States comes in the form of one big country or many small countries as the outcome is likely to be the same.

MYTH 5: THE U.S. IS READY TO COMPETE IN CLEAN ENERGY TECHNOLOGY

While not mentioned in his book, Zakaria argues elsewhere that a major threat to the United States is the lack of an industry for clean energy technology. Nations around the world are beginning to think about green IT as the next IT revolution. Indeed, over half of G-20 countries that have passed economic stimulus bills have incorporated provisions towards green technology.[14] In this regard, the major challengers to U.S. dominance may be China, Japan and South Korea, two of which (Japan and Korea) rank high in their capacity for global competitiveness and innovation, and all of which have created national priorities to develop their clean energy technology markets. Although the United States has the potential to be a green IT leader, U.S. leadership is by no means assured. Several nations have articulated national green technology strategies—with firm funding commitments. For example, South Korea plans to spend a total of KRW 107 trillion (USD 87.7 billion) in green investment as part of its "Green New Deal" program. This investment represents an annual financial commitment equal to 2 percent of South Korea's GDP.[15] For the United States to match this level of spending, it would need to commit over $280 billion to its green technology efforts.

CONCLUSION

Zakaria's basic premise is certainly true: IT-based globalization presents both challenges and opportunities for American competitiveness. But the optimistic vision he paints for America's future will not be realized unless policymakers address the internal challenges threatening its long-term competiveness and create robust national innovation policies to support internationally-based competitiveness.

ENDNOTES

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