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Ernst explores competition between United States, Asia

By Linda Froschauer, CSSP Board member

We have been aware of the issue surrounding
global competitiveness for decades. A couple years ago we
CSSP presidents had the advantage of hearing about the heightened
awareness of the USA's
changing predominance through sharing Rising Above the Gathering Storm.
Arden Bement and others joined us for the December 2006 meeting when we
were given the opportunity to discuss the major initiatives outlined in
the prepublication document. Rising Above the Gathering Storm and
Friedman's The World is Flat have both brought the competitiveness
issue to the forefront.

Dieter Ernst, senior fellow from the East-West Center
in Honolulu,
spoke at the most recent CSSP meeting. His topic, "The New
Geography of Innovation: Global Networks, Asia's Rise and America's Challenge," added to our
perspective of the role of the United States in this new
global economy. He discussed several questions surrounding the issue.

Can U.S. universities keep
global talent? Foreign students are critical in our Ph.D. programs with
our universities increasingly more dependent on the global talent pool.
U.S.
universities have a rising share of temporary residents in science and
engineering and the doctorate degrees awarded by our universities has
increased from 21% in 1985 to 36% in 2005. The major increases have
been in engineering, math, computer science, physics and economics
while lower in biosciences, medical and psychology. Asia dominates this
Ph.D. supply with the top four countries of origin accounting for 52%
of the population - China,
India, Korea, Taiwan. China will produce more science and
engineering doctorates than the United States by 2010.

How robust is U.S. leadership?

Optimists say our country has maintained
its share of the GDP, its lead in purchasing power and productivity and
remains robustly competitive.

But the question lies in whether the R&D is still the engine of growth. The current view is that this may well be the worst financial crisis since the 1930s and that this crisis may reduce the funding for R&D. The United States share of global R&D funds in 1986 was 46% and was reduced to 37% by 2003. Science publications in this country declined from 38% in 1986 to 30% by 2003. These two indicators, along with declines in the number of researchers, bachelors degrees in S&E, doctorate degrees in S&E, corporate funding for basic research and applied research all indicate a dark cloud.

What's new in global innovation networks? Global innovation networks reflect a shift in corporate strategy to open and integrated innovation. U.S. firms are key drivers in the changing economics. China and India have increased the influence of Asia's role in these economies, but the United States, Europe and Japan retain their dominance.

There is a difference in the way these enterprises function. Global firms outsource stages of their innovation to specialized Asian suppliers while Asian firms construct their own networks. Thus, firms complement their in-house R&D with outsourcing and licensing. Innovation may become fragmented and is dispersed across boundaries.

Information and communication technology (ICT) standards are controlled by 50 global corporation that determined what the 250 ICT corporations do and how they do it.

Of these 50 major players, 25 are from the United States, 12 from Europe and eight are from Japan. Only five companies are from emerging countries and all of these are from Asia.

He concluded with the next important question ... what needs to be done?