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**Remarks to the CSIS Forum on Intellectual Property Rights:
Implications for Economic Development**

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Knowledge and ideas have always been the vital force in economic development. The natural resources available today in United States or the world – the arable land, usable energy sources and minerals, animal life, and so forth -- have existed for decades or centuries, as have all the constituent elements to build the most advanced supercomputer or biologic treatment. But successive waves of intellectual and practical innovation, generations of ideas building one upon another, enable us all to use the world's resources productively and produce technologies and ways of operating that can change a nation's prospects.

Economists have long known that economic innovations are more powerful in determining how fast a country's productivity and output grow, than increases in capital investment or improvements in the skills of workers. The current value of the intellectual property which embodies those ideas -- from computer software and musical recordings to patented pharmaceuticals and information technologies -- is enormous. With a colleague, Kevin Hassett of AEI, we estimated the value of the total stock of intellectual property in the American economy: It came to between \$5 trillion and \$5.5 trillion in 2005, equivalent to about 45 percent of U.S. GDP and greater than the GDP of any other nation in the world.

While new technologies and ways of doing business usually are first developed in advanced economies, their transfers to other societies have been a key factor in the rapid modernization of the world's most successful developing nations, most notably the Asian Tigers and China. For example, from 1960 to 2000, economic output and *per capita* incomes grew more than three times faster in South Korea, with relatively few natural resources, than in Brazil, with all its abundant resources. Much of the difference can be traced to Korea's openness to technological and other innovations developed elsewhere and imported to Korea through foreign direct investment or licensing agreements, as well as to Korea's much greater commitment to broad-based public education, which prepared its workers for using new technologies and ways of doing business.

More broadly, a World Bank study of patenting and growth in 92 countries over the same period, 1960 to 2000, found that a 20 percent increase in the annual number of patents granted, wherever the technologies originated, was associated with an increase of 3.8 percent in output, an unusually powerful finding. And patents are granted in significant numbers in places that generally try to protect intellectual property.

Everyone has an interest in innovation, wherever they happen to originate, because most of the benefits are enjoyed by those who use them. There is no doubt that

the benefits to workers and corporations around the world from using Windows exceed Microsoft's profits, or that HIV medications provide much greater economic benefits to those who use them and their societies than the profits earned by the research-intensive firms that develop and patent them

But why do we need these protections at all? Part of the explanation lies in how people respond to normal economic incentives. While a few souls are true altruists, most people will expend the effort and expense to develop something that benefits others only if doing so also benefits themselves. Moreover, as corporations have come to dominate the increasingly costly development of innovations, the prospect of future gains as an essential incentive has become conclusive.

The rest of the explanation lies in the economic nature of ideas, which make the prospect of earning returns from them profoundly dependent on property rights and legal protections. The ideas that animate economic innovations are what economists call "non-rival goods." Unlike "rival" goods such as a piece of equipment or real estate, an idea cannot be physically possessed, so its use by those who develop it does not preclude others from using it at the same time. Unlike physical things, an idea also can be duplicated at almost no cost. As a result, the returns from innovations cannot be secure without legal protections for the new ideas that animate them. And this explains why in a recent survey, American R&D executives said that 60 percent of the projects that ultimately produced new discoveries would never have happened without patent protections.

The economic importance of intellectual property presents the United States with some real challenges. As knowledge expands rapidly and discovery in many areas becomes easier, the period of time that a firm has to offer its innovation with little direct competition from substitutes is contracting. Accordingly, American firms try to recapture their development costs more quickly by expanding their worldwide market. Since 72 percent of worldwide GDP and demand are located outside the United States, the potential increase in sales from globalization during an innovation's initial period of high revenues is immense – so long as the developer's intellectual property rights are respected outside the United States.

Developing countries face different concerns. They have less economically-valuable intellectual property and so are significant importers of innovative technologies and expertise. This prospect has tempted many of them to ignore foreign intellectual property rights, especially because while a patent is in force, its owner can charge prices substantially greater than their marginal costs to produce the good. So, weaker intellectual property rights could significantly reduce the cost of a given patented product. It is also sometimes claimed that the market for many innovative products in low or middle-income countries is too small to affect global investment in R&D, and so developing countries can ignore the intellectual property rights of foreign companies at little cost to the rest of the world. The question is, are developing countries better off if they ignore intellectual property rights?

Over the last 20 years or so, economists have looked at these issues in a number of ways. They found, for example, that intellectual property protections in developing societies, especially countries with low *per capita* incomes, directly encourage technology transfers from more advanced economies, through both direct imports and foreign direct investments. They further found that technology transfers to developing nations expand as those nations strengthen their patent protections. Moreover, the advanced technologies and products which multinational companies transfer to the developing markets that protect intellectual property rights often diffuse to domestic firms, increasing the rate at which those firms and their countries develop their own intellectual property.

In another study, researchers examined whether innovating firms are sensitive to intellectual-property rights only in the place where they develop their innovations, or whether the strength of their patents in other countries matters too. Once again, the economic logic linking the development of new technologies and strong intellectual-property rights in foreign markets is clear. The prospect of a larger market for an innovator to earn returns directly stimulates R&D, by expanding the potential customer base against which an innovating corporation can amortize that R&D spending and by raising the potential rate of return on the R&D. Recent research supports this logic: One recent study found that strong intellectual-property protections in developing nations directly stimulated the pace of innovation in more advanced economies.

Opponents of intellectual property protections have claimed recently that regardless of all that, innovations benefit primarily those who develop them and not the people in developing countries. This is an important issue, too, since innovative activity is so concentrated in a few rich, advanced countries that can afford substantial R&D and that encourage firms to commercialize and export their products and processes. In fact, two major studies of 95 countries from 1960 to 1988, and 80 countries from 1975 to 1994, found that intellectual-property rights had a significant effect on growth in all cases, with large effects occurring in the high-income countries where the innovations were developed -- and even greater effect in low-income countries where strong patent protections encouraged the importation and inward foreign direct investment of innovations.

There is also substantial evidence that multinational firms often shift some R&D activity to countries which respect intellectual property rights, creating positive feedback effects in those developing countries. These findings establish a clear virtuous circle. Countries that respect intellectual property rights encourage foreign multinationals to transfer state-of-the-art technologies to those countries. Once that country's businesses and citizens become familiar with the new technologies, domestic firms both adopt them and often increase the rate at which they develop their own intellectual property. These developments lead to higher growth by domestic firms, which makes the country an even more attractive locale for further investment by foreign multinational companies.

These dynamics are fully appreciated in many developing nations, even as in many others, lack of respect for intellectual property rights or lax enforcement is still the

rule. Part of the problem lies with the American government, which often neglects these issues or treats them as a small subset of interest group politics. The issue should not be whether one company or another complains loudly. What's important here is that if the U.S. Government took intellectual property issues as seriously as they deserve, the pace of innovation in the United States would accelerate and the diffusion of new technologies to the world's developing nations would increase, promoting faster and broader global growth and modernization.

We are fortunate today to have representatives from three nations deeply involved in the international debate over intellectual property protections. We will be honored to hear from, in turn, Mr. Anoop Mishra, the economic minister at the embassy of India, Mr. Carlos Alfredo Lazary Teixeira, the minister-counselor for economic affairs with the embassy of Brazil, and Dr. Yang Guohua, the counselor for intellectual property at the embassy of China. Following their remarks, I will pose some questions and then we will open the floor to your questions.