

U.S. Continues Leadership In Innovation



In the December newsletter article, I discussed the **four key sources of U.S. competitiveness** and how those can be leveraged for future prosperity. **Those sources are entrepreneurship, education, energy, and innovation.** This month let's focus on one area in more detail – innovation.

American companies lead the world in innovation. They hold 8 out of the top 10 and 16 out of the top 25 positions in a recent survey ranking the world's most innovative companies. R&D spending or patent rates (traditional metrics of innovation) capture only part of what makes a firm innovative. Even productivity metrics typically revolve around a more efficient use of resources for generating the same level of output. They imply that cost and efficiency advantages in labor and capital automatically translate into more market share. Real growth depends on innovation – on creating new markets and new value. This is reflected in the fact that almost 50 percent of current corporate sales are accounted for by products that are less than three years old. The drivers of value creation are increasingly intangible – ideas, relationships, design, branding, and the ability to connect with customers in new and meaningful ways.

The availability of talent, increasing global science and technology capabilities, and the rapid growth of emerging markets are all leading companies to globalize their R&D activities. While the rise of emerging markets as R&D centers has the potential to transform global competition, the impact so far has been relatively small. The United States still receives significantly more foreign investment in R&D than China. In fact, the United States receives more R&D investment from foreign companies than American companies invest overseas. The United States also has a positive trade balance in royalties and technology licensing. Corporate R&D remains the least internationalized activity of multinationals; production, IT, finance and back office operations are significantly more globalized. **Research intensive activities often represent the core value generators of a company** and companies are reluctant to move them off shore, particularly to countries where protections for intellectual property may be weak.

Industry has been the primary driver of growth in U.S. R&D investment. Since 1986 total corporate R&D more than doubled in real terms, while total federal spending has grown by only 13 percent. Industry now funds and performs the vast majority of U.S. R&D. As industry's investment has risen significantly, the federal government's share of total U.S. R&D investment has fallen from more than 60 percent in 1965 to less than 30 percent in 2002. Within overall R&D spending **there has been a shift in emphasis from basic and applied research to development.** All of the net increase in corporate R&D investment has been focused on developing new and improved goods, services, and processes.

There is a trend for large multinational companies to explore the opportunities provided by investing in foreign R&D centers. However, the statistics clearly show that most companies are focusing their R&D investment on innovative developments and that innovation comes from the U.S. If your company needs help developing innovative new thermal system products please call [Innovative Thermal Solutions](http://www.innovativethermal.com) at (517) 424-7107.