WASHINGTON, July 8 (Reuters) - More than half a century of U.S. dominance in science and engineering may be slipping as America's share of graduates in these fields falls relative to Europe and developing nations such as China and India, a study released on Friday says.

The study, written by Richard Freeman at the National Bureau of Economic Research in Washington, warned that changes in the global science and engineering job market may require a long period of adjustment for U.S. workers.

Moves by international companies to move jobs in information technology, high-tech manufacturing and research and development to low-income developing countries were just "harbingers" of that longer-term adjustment, Freeman said.

Urgent action was needed to ensure that slippage in science and engineering education and research, a bulwark of the U.S. productivity boom and resurgence during the 1990s, did not undermine America's global economic leadership, he added.

The United States has had a substantial lead in science and technology since World War Two. With just 5 percent of the world's population, it employs almost a third of science and engineering researchers, accounts for 40 percent of research and development spending and publishes 35 percent of science and engineering research papers.

Many of the world's top high-tech firms are American, and government spending on defense-related technology ensures the U.S. military's technological dominance on battlefields.

But the roots of this lead may be eroding, Freeman said.

Numbers of science and engineering graduates from European and Asian universities are soaring while new degrees in the United States have stagnated -- cutting its overall share.

In 2000, the paper said, 17 percent of university bachelor degrees in the U.S. were in science and engineering compared with a world average of 27 percent and 52 percent in China.

The picture among doctorates -- key to advanced scientific research -- was more striking. In 2001, universities in the European Union granted 40 percent more science and engineering doctorates than the United States, with that figure expected to reach nearly 100 percent by about 2010, the study showed.

The study said deteriorating opportunities and comparative wages for young science and engineering graduates has discouraged U.S. students from entering these fields, but not those born in other countries.

These trends are challenging the so-called North-South global economic divide, the paper said, by undermining a perceived rich-country advantage in high technology.

"Research and technological activity and production are moving where the people are, even when they are located in the low-wage South," Freeman wrote, citing a study saying some 10-15 percent of all U.S. jobs were "off-shorable".