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SCIENCE & TECHNOLOGY

JAPAN'S OVERLOOKED ENGINE OF GROWTH

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While all around everyone laments the decline of Japan, Japanese scientists, engineers, technology planners, and patent managers are working hard to reinforce Japan's technology edge. Last year, Japan won two Nobel prizes in the sciences and again dominated (as it has for the past 10 years) in the number of patents filed in the US. Japanese politicians, including Koizumi, are emphasizing the role of science in revitalizing Japan's economy.

During the "lost decade" Japanese investment in R&D from 1991-2001, both public and private, increased 1.2 fold from 13.8 trillion yen to 16.3 trillion yen. By last year, R&D expenditures made up 3.3% of Japanese GDP. This was the in the world (by comparison, the US was 2.68%). Receipts from technology transfers during this decade increased from 70 billion yen in 1991 to 1.25 trillion yen in 2001. The ratio of receipts for technology transfer to payments was about even in 1991 while in 2001 it ballooned to 2.27 (2.39 in 2000).

Japanese officials are also scattered throughout international agencies such as the World Bank, WIPO, and OECD in key positions studying the elements of innovation. The **OECD** is leading the international effort to conform international scientific indicators in order to obtain better comparative data on innovation. A recent Washington presentation by Mr. Takayuki Matsuo, OECD Director for Science, Technology and Industry (DSTI) who presented findings on "**Knowledge/innovation-driven Growth**" provides an interesting overview of this effort: For his slides see link [warning 79 page pdf file]: <http://www.oecdwash.org> .

The **World Bank** last week (Jan 16 in Tokyo) issued **Innovative East Asia: The Future of Growth**. It is the main report to emerge from the **East Asia Prospects Study**, which began

with a 1999 proposal by Japan [and funded by Japan] for the World Bank to examine the future directions of economic change in East Asia. The Bank assembled a team to work closely with a select international panel of Asian scholars to define a study and ascertain the directions of change and suggest policies for East Asian economies that would sustain their past growth momentum within a changing environment. The study is a follow-up to the earlier *East Asian Miracle* Project of the early 1990s, but designed to be on a larger scale, and a forward-looking perspective. The first volume of the study, which was launched in October 2002, *Can East Asia Compete?*, provided an overview of the issues relevant to charting a strategic course for the future.

See:

<http://lnweb18.worldbank.org/eap/eap.nsf/General/2CA1FB3E274DD0F485256CAE007D17AF?OpenDocument>

The keynote speech at the **World Bank Symposium, Innovative East Asia: The Future of Growth**, held in Tokyo, January 16, 2003 presenting the above report was by Haruhiko Kuroda, Former Vice Minister of Finance for International Affairs who is now Prime Minister Koizumi's special economics adviser. In his speech, Mr. Kuroda outlined the challenges presented by two emerging economies, China and India, and stressed the significance of innovation as well as regional market integration as a means to address these challenges. See: http://www.worldbank.or.jp/02event/01seminar/pdf_ss/ss10_kuroda_eng.pdf

For those who want to examine Japan's statistics for themselves, see below. Nearly all the data is in Japanese, which might explain why specialists are overlooking this area of Japanese economic development.

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<http://www8.cao.go.jp/cstp/kihonkeikaku/honbun.html> (j);
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“2001 Survey of R&D (Outline & Summary)” MPMHAPT Statistics Bureau, 2002.
<http://www.stat.go.jp/english/data/kagaku/index.htm> (e)

“Prospects of S&T in the 21st Century,” National Institute of Science & Technology Policy, Dec. 2000. <http://www.nistep.go.jp/achiev/ftx/jpn/mat075j/idx075j.html> (j)