

Measurement and Indicator Development – Globalisation of R&D

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The creative imperative. . .

We are entering a new era, not just for business but for the whole world. It is one in which this ‘creative imperative’ will come to dominate our lives, at home, at work, and at leisure, and in which the assumptions, tools, and frameworks which leaders from business, government and civil society have employed to make decisions over the past decade are no longer valid.



Klaus Schwab (22-01-06)

Five policy themes of globalization. . .

1. Changing economic landscape
2. Growing future jobs
3. New mindsets and changing attitudes
4. Regional identities and struggles
5. Emergence of China and India

Some of the key EU policy priorities identified. . .

- Promote greater coherency between innovation policies
- Improve regulatory environment
- Increase the average research investment level to 30% by 2010
- Improving R&D capacity for innovation capability

Improving R&D capacity for innovation capability. . .

- It is people that develop and apply knowledge:
 - Indicators on stocks – domestic and through mobility
 - Indicators on activities (application of skills)
 - Indicators on linkage between knowledge base and output.

Forecasting S&E personnel supply & demand in a globalizing labour market inexact science at best but. . .

- Globalization means countries are sources, transit countries or destination countries for skilled workers. Multinational corporations are recruiting in a competitive global labour market and need to be able to understand and use the rules efficiently. (Dr. Chubin, NSB, U.S.)
- Recent predictions for the US – S&E occupation growth will rise faster than overall growth with one estimate at 70% faster than overall growth.
- Europe needs to increase its supply of researchers from 500,000 to 800,000 FTEs by 2010 (Gago report).

Some country policies are proactive with dedicated programmes . . .

- Germany – Green Card system
- U.S. – H-1B visa for highly skilled workers

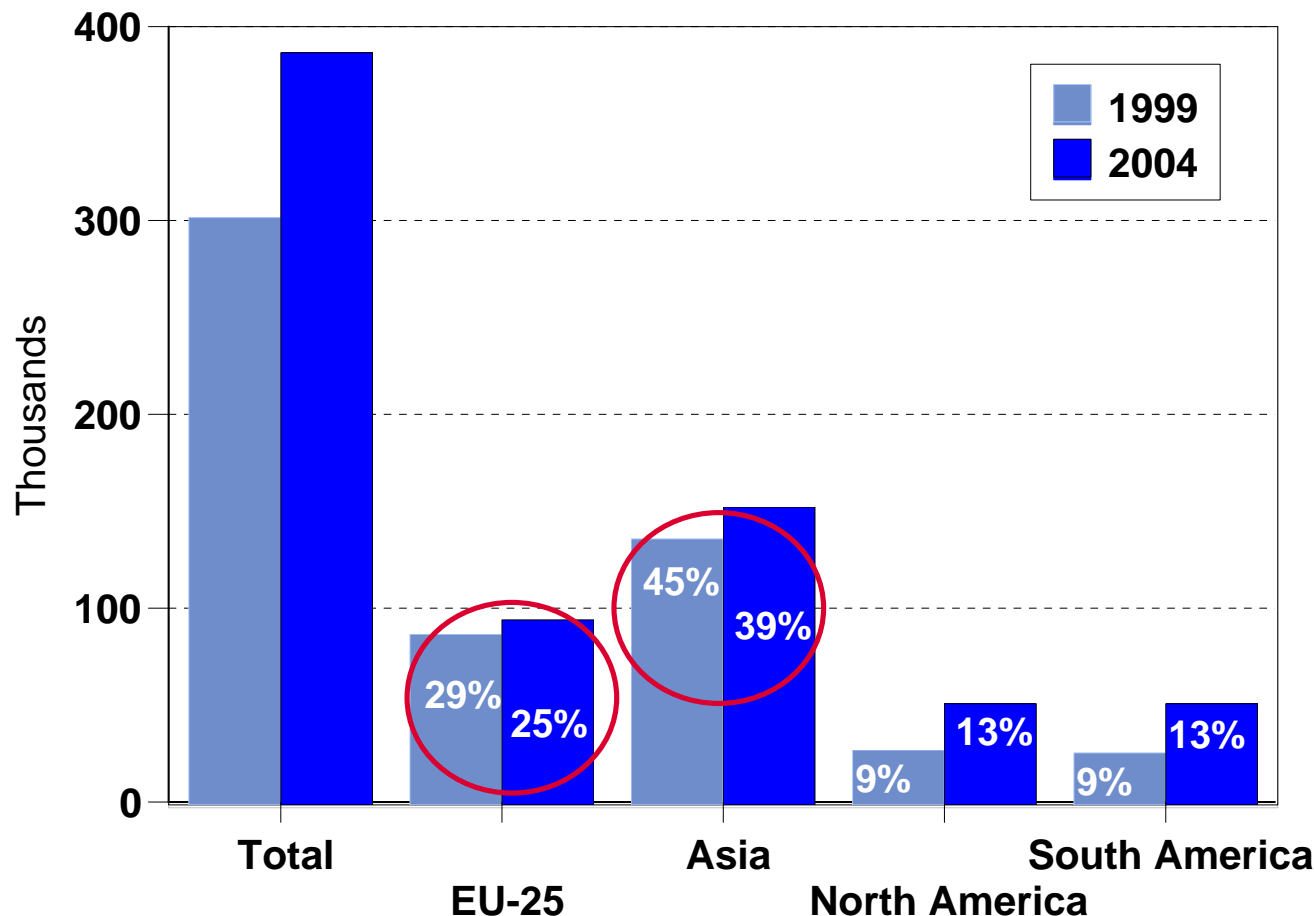
Some country policies ‘tinker’ with existing policies . . .

- Netherlands – fast-tracking of IT specialists
- Ireland: fast-tracking for designated sectors where skill shortages critical (e.g. IT, nursing)

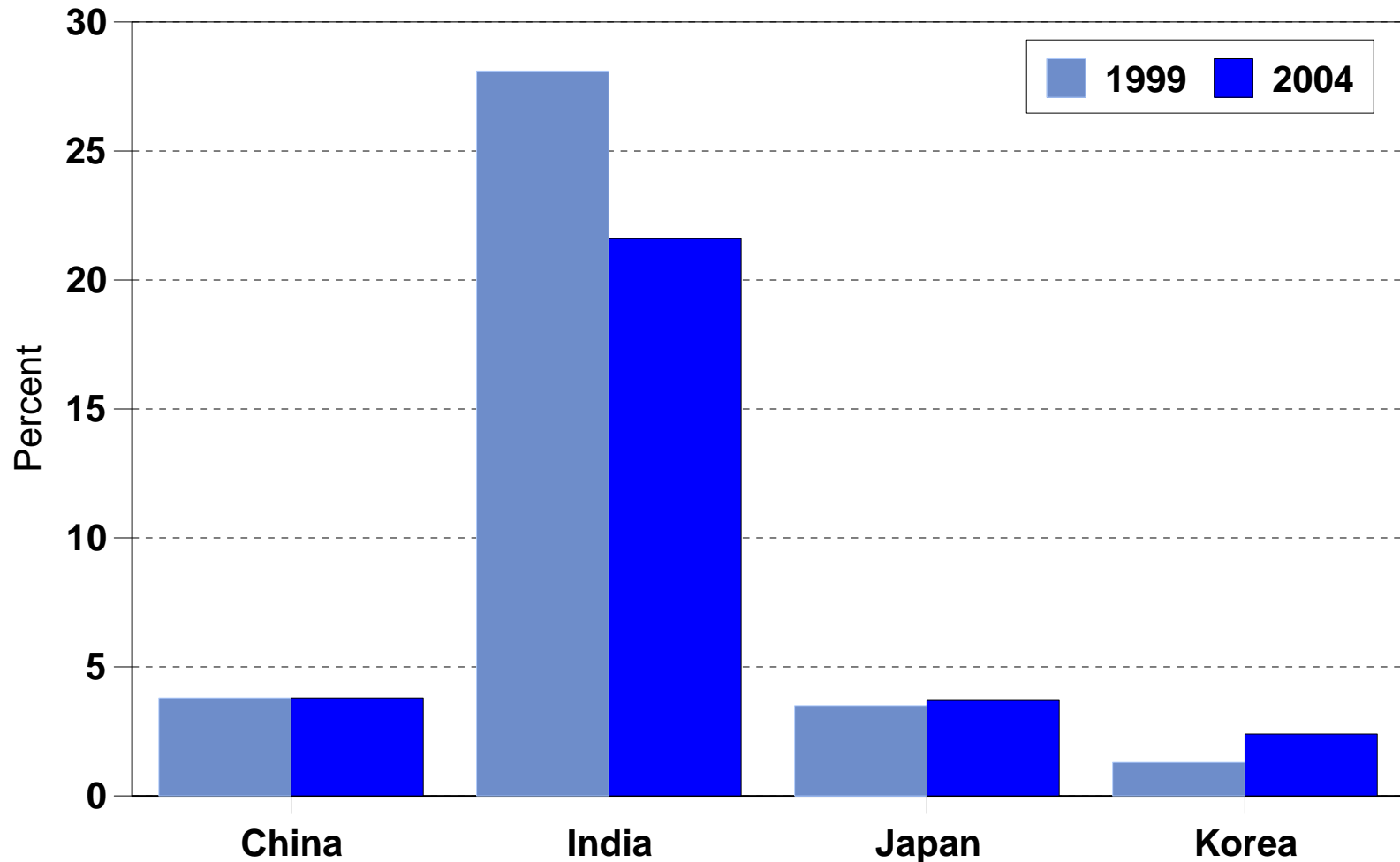
Globalization of R&D and shifts in source countries for S&E workers — in the U.S.

numbers are increasing in absolute terms but source country representation is shifting.

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Globalization of R&D and a changing role for Asian lead source countries — in the U.S. there is a shift among some of the leading Asian source countries.



Recent research identifies top reasons for moving abroad cited by European researchers . . .

1. Broader scope in position and activities
2. Better access to leading edge technologies
3. Better career advancement opportunities
4. Better access to R&D funding
5. Better wages

How might globalization of R&D influence these factors of international mobility?

Multinational companies and their key role in global R&D. . .

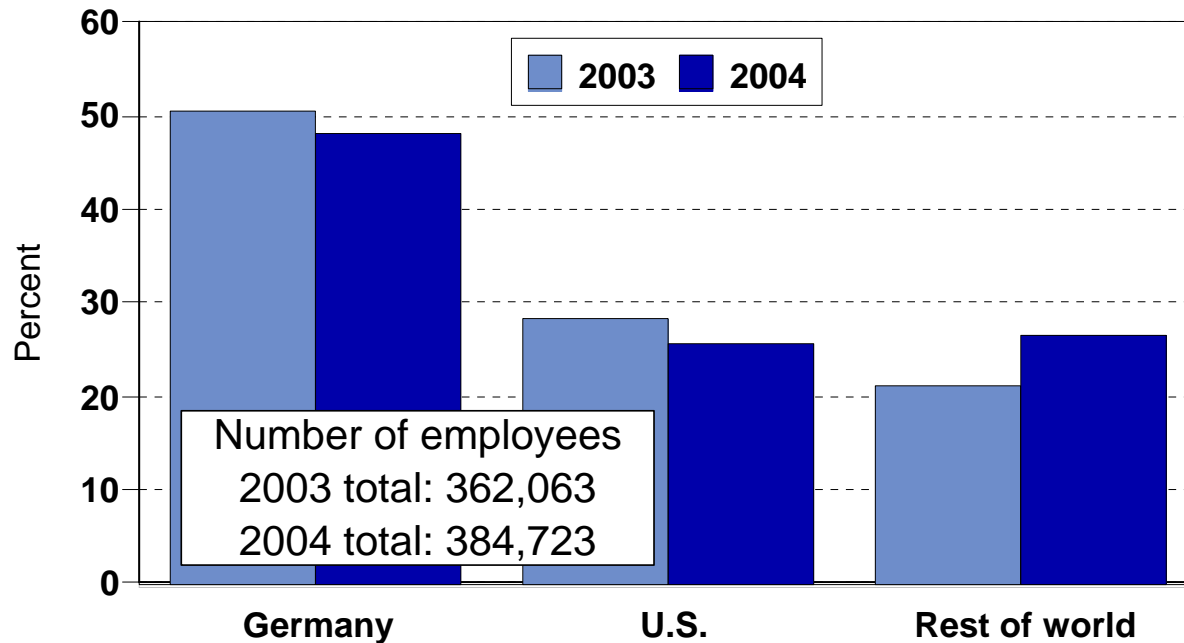
- Multinationals account for 46% of global R&D expenditures and 69% of global business R&D.
- Four of the top ten multinationals (as measured by R&D expenditures) are “based” in the EU – for now: Daimler Chrysler (Germany), Siemens (Germany), Volkswagen (Germany) and Nokia (Finland) .

Multinational companies and employment



Manufacturing facilities in 17 countries and owned by European, U.S. and other international investors.

Employment distribution, 2003 and 2004.



Globalization of R&D and movement of company work force — employee deployment. . .

