

Trends, policies and impacts of international mobility of the highly skilled on developing countries

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Two objectives for ResIST

- Analyze how global policy contexts for key S&T processes affect the distribution and redistribution of knowledge resources as well as the scope for alternative framings
- Identify the features of effective policies and programs to build S&T human capital and institutional capacity in disadvantaged populations and places

- **What are the effects of international mobility on highly qualified personnel from developing countries as regards to their national development projects?**
- **What policies can developing countries adopt in order to take advantage of the opportunities stemming from mobility or to limit its negative impact?**

- A. The “brain drain” approach**
- B. Recent transformations**
- C. Alternative views**
- D. Policy options**

A. The *brain drain* approach

1. Predominant forms of mobility and migration of HRST

- Permanent migration of professionals
- Mobility of university students that ends up as permanent migration

2. Impact

- Short term: the developed countries gains are the underdeveloped countries losses
- Medium term: widening the scientific and technological gap between sending and destination countries

A. The *brain drain* approach

3. Policy alternatives

Developed countries:

- Universities and firms recruit foreign born skilled personnel, with little influence of specific migratory policies

Underdeveloped countries:

- Restriction of mobility
- Repatriation (sporadic)
- Compensation (proposed)

4. Theoretical approach

- Neoclassical economic approach, debate between the “cosmopolitans” and the “nationalists”

B. Recent transformations

1. Change in the magnitude of skilled migration
2. Diversification of the types of mobility
3. Increase in its importance for scientific and technological capabilities of developed countries
4. Association with globalization processes
5. Political consideration of HRST migrations and new public policies

1. Change in the magnitude of skilled migration

- Increase in the number of skilled migrants
- Increase in the proportion of skilled migrants in the migratory flows
- Increase in the number of skilled migrants in certain categories that are important for scientific and technological policies

Increase in quantity

- **66% increase in the number of people born abroad with a degree in higher education in OECD countries between 1990 and 2000**

Number of graduates in higher education born abroad in OECD countries, population 15 years old or more, census of 2000

Australia	1465733
Canada	2033490
Germany	1372254
France	1011424
Great Britain	1374370
United States	8204473
Others	2796361
Total	18258105

Source: OECD database on expatriates

2. Diversification of the types of mobility

- More people from more countries to more countries
- Length of stay
- Purposes of mobility
- Variety of professions
- Different means of access: qualified migrants enter with specific visas, but also for family reunification or as refugees

Typology

Categories	Main drivers
Managers and executives: accidental tourists	Corporate policies regarding overseas activities
Engineers and technicians: economy-class passengers	“Pulled” and “pushed” by economic factors
Academics and scientists: pilgrims	Professional development and working conditions
Entrepreneurs: explorers	Setting up business activities
Students: passengers	Migrate to learn and learn to migrate

Adapted from Mahroum, 1999

3. Importance for developed countries

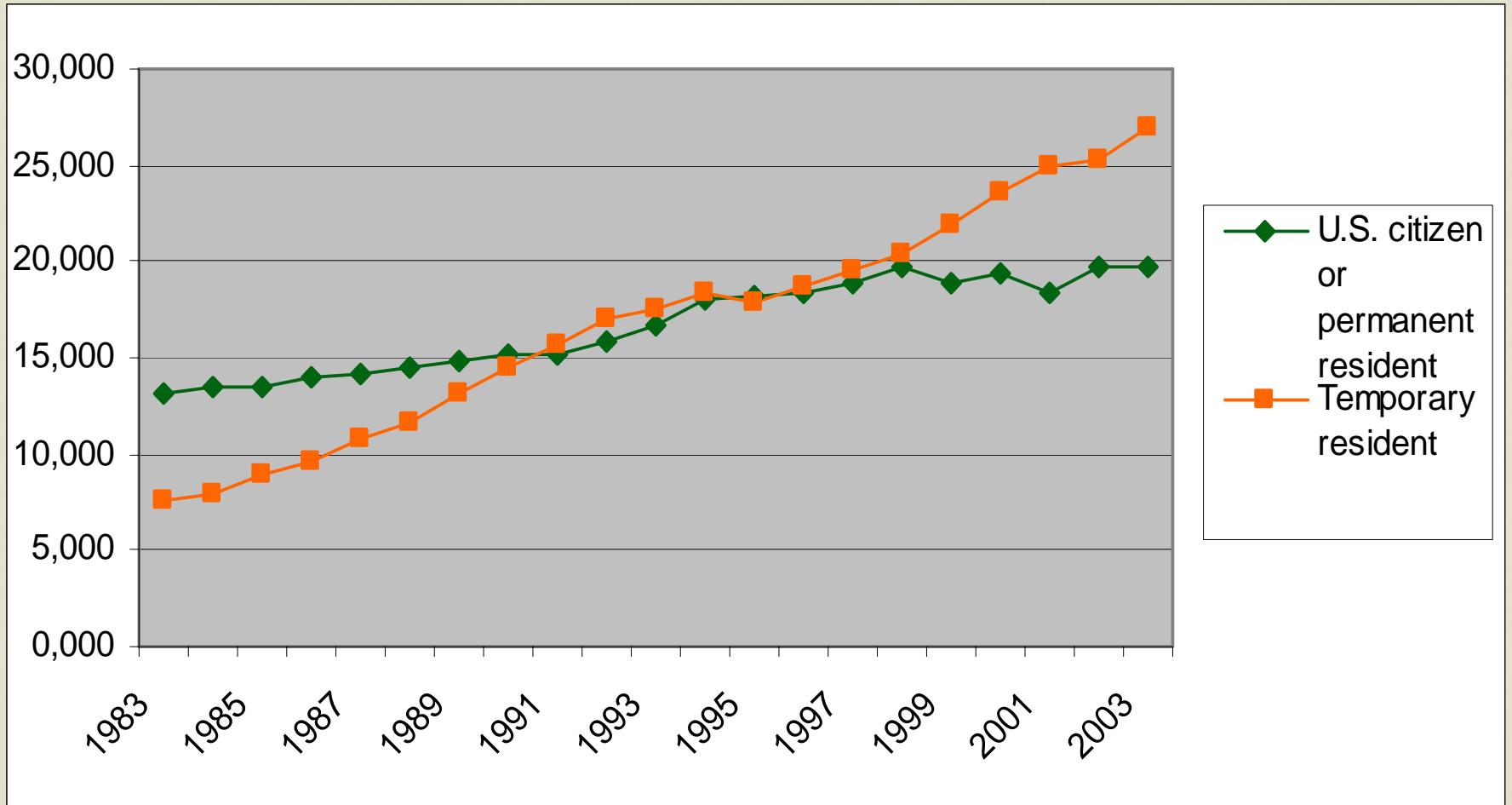
- United States

Close to 40% of the doctorate holders in science and engineering were born abroad.

- European Union

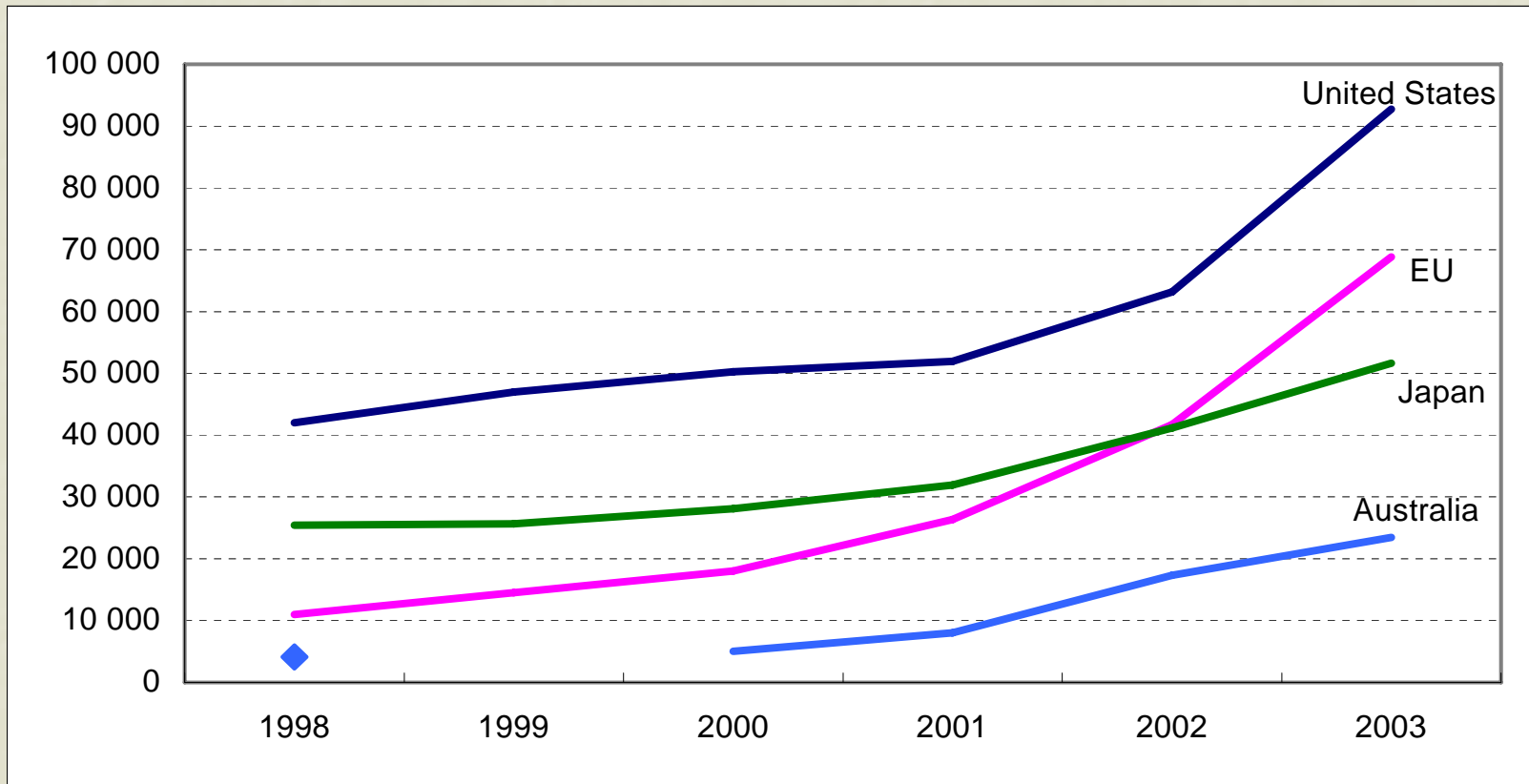
To meet the objectives of the Lisbon summit and the goals of that of Barcelona, the EU countries need to incorporate approximately 700,000 new scientists and engineers. This objective is difficult and can only be reached by an enormous flow of foreigners.

USA: Postdoctorates



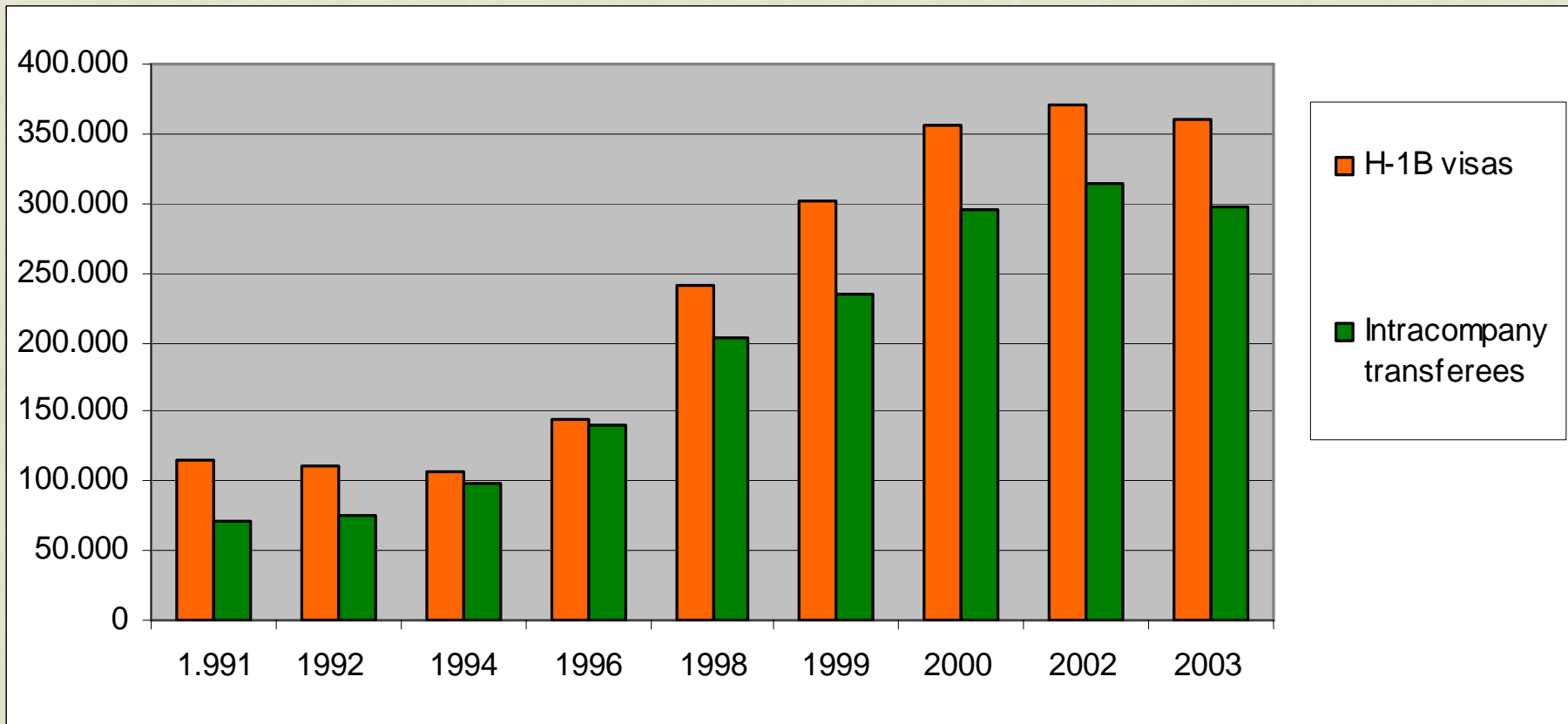
Source: S&E Indicators, 2006

Enrolment of Chinese students in OECD countries



Source: Schaaper and Wyckoff, 2006

4. Association with globalization processes



Source: INS

5. Political consideration of RHCT migrations and new migration policies

- "To maintain excellence and overall leadership in science and engineering (S&E) research, the United States must be able to recruit the most talented people worldwide for positions in academe, industry, and government."

U.S. National Academies (2005)

- "There's competition among the industrialized countries for the best minds. That's why we have to direct our immigration law more strongly toward our own economic interests."

Otto Schily, Germany's Interior Minister (2001)

Policies

- Intensification of international recruitment: tendencies toward a greater selectivity of immigration policies
- Decline in restrictive policies
- Encourage retention
- Importance of selective repatriation policies
- Disappearance of the policies of repatriation or compensation from the agenda
- Growth of the policies of linking through networks

C. Alternative views

- Appearance of new ways of referring to the phenomenon: mobility, brain circulation or competition, brain gain, ethnic networks, or dispersion of qualified personnel
- New phenomena: magnitude of remittances, impact of certain dispersions on the sending countries (India, China)

Diasporas

- Successful experiences with ethnic networks: Indian and Chinese dispersions.
- Relevant conditions
 - Scale of Chinese and Indian qualified personnel (20,000 Chinese scientists and engineers and 20,000 Indians in Silicon Valley)
 - Concentration in regions y disciplines (Silicon Valley, engineering y computer science)
 - Strong double membership (professional organizations of the Diaspora as well ones of the U.S.)
 - Growing demand in the countries of origin
 - Financial capability (capital risk)
 - Strong organizations of communities living in the United States

Optimistic view of these changes

- In the short term: there can be gains for the sending and destination countries (remittances)
- In the medium term: mobility and migration of the highly skilled can contribute to the diminishing of the gap between developed and developing countries (return and diasporas)

Therefore....

- There have been changes in the last twenty years that make it possible to sustain the existence of a new situation in the magnitude, forms, and dynamics of qualified mobility.
- As to the consequences of qualified mobility and migration, there have been experiences that question the validity of the *brain drain* approach.

Nevertheless....

- International recruitment of skilled personnel continues to be a priority for developed countries (with no concern for the impact on the capabilities of the countries of origin).
- The concern for the loss of skilled personnel is recurrent not only in underdeveloped countries but also in developed ones with negative balances of qualified migrant personnel that experience a significant loss or fear losing their positions
- The phenomena on which an optimistic view is based are not easy to generalize.

The message from developed countries

“Give us your best and brightest”

- A convincing example: attraction of foreign university students
 - 2004: almost 2 million foreign born students in OECD countries: two thirds come from developing countries
 - Between 1998 and 2004 the number of foreign students in OECD countries increased 70%
 - According to OECD estimates, for the year 2004 foreign students spent a total of over 40,000 million de U.S. dollars
 - United States: the stay rates of permanence of foreign-born doctorate holders increased

D. Policy options for developing countries

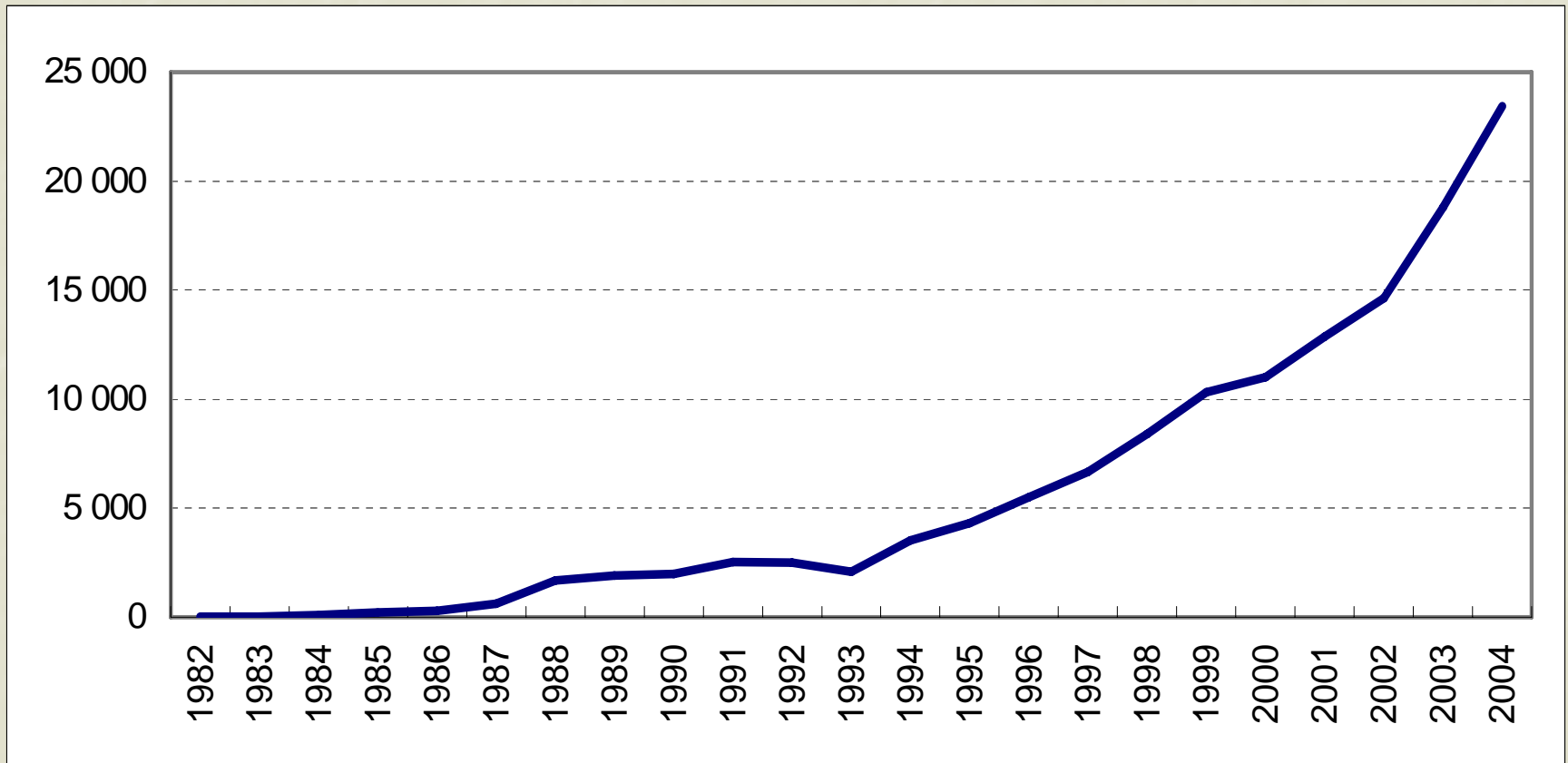
Main negative consequences of skilled migration

- Undermining of innovative capacities
- Loss of leadership for institution building
- Loss of investments in human capital and fiscal incomes
- Shortages of skilled personnel in critical fields (health, IT)

The impacts change according to the characteristics of the sending countries

- Two extremes: Haiti y China
- Haiti: 81% of university graduates born in Haiti live in OECD countries (2000)
- China: big numbers of highly skilled emigrants. At the same time: enormous growth in earned doctorate degrees in Chinese universities

Earned doctoral degrees in China, 1982-2004



Source: Schaaper and Wyckoff, 2006

Intermediate developing countries

- Countries with economies and societies with enough scale to attain knowledge-based development patterns, but with a weak base of human capital
- Their main problem is the qualifications and skills of the emigrants more than the number of skilled emigrants as a percentage of the national stock of higher education graduates
- Latin America: Brazil, Mexico, Argentina, Colombia, Venezuela, Chile, Peru

Example: Argentina

	Higher education graduates (ISCED 5 and 6)	Doctorate holders in S&E
Argentine-born graduates living in OECD countries as a percentage of Argentine-born graduates living in Argentina	5%	50%

¿Which are the policy options for these countries regarding international mobility of the highly skilled?

- Laissez-faire
- Self-reliance
- Managing international mobility

Laissez-faire

- Passive adaptation to globalization forces
- Causes:
 - Ideological preference for neoliberal approaches to public policy
 - Reduced political and bureaucratic resources to carry out other options
- Potential impact of an intensification of global competition for HRST: increased brain drain, specialization in export of professionals in specific areas

Self-reliance

- Nationalist backlash against globalization (identified as “Americanization”)
- Attempts to stop emigration flows, negative propaganda on studies in the US
- Potential impacts:
 - Loss of international quality references for local S&T production
 - Increase of emigration and reduction of mobility

Managing international mobility

- Strong efforts to build national capacities in S&T, trying to profit from opportunities y limit threats of globalization
- Key issues: labor market for highly skilled personnel, quality of universities and research centers, specific policies to attract skilled personnel
- Many of the actions oriented to increase the national stock of HRST and strengthen the national innovation system also enlarge the pool in which developed countries can poach

Is there any place for international cooperation?

- Some proposals of compensation measures with no political support
- The national interest of host countries is to recruit foreign born professionals without considering the negative impact on sending countries
- For governments of many developed countries, the trade off between emigration and remittances is an acceptable deal

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