

Diasporas and Brain Drain: Challenges and Promises for Development

November 18, 2005

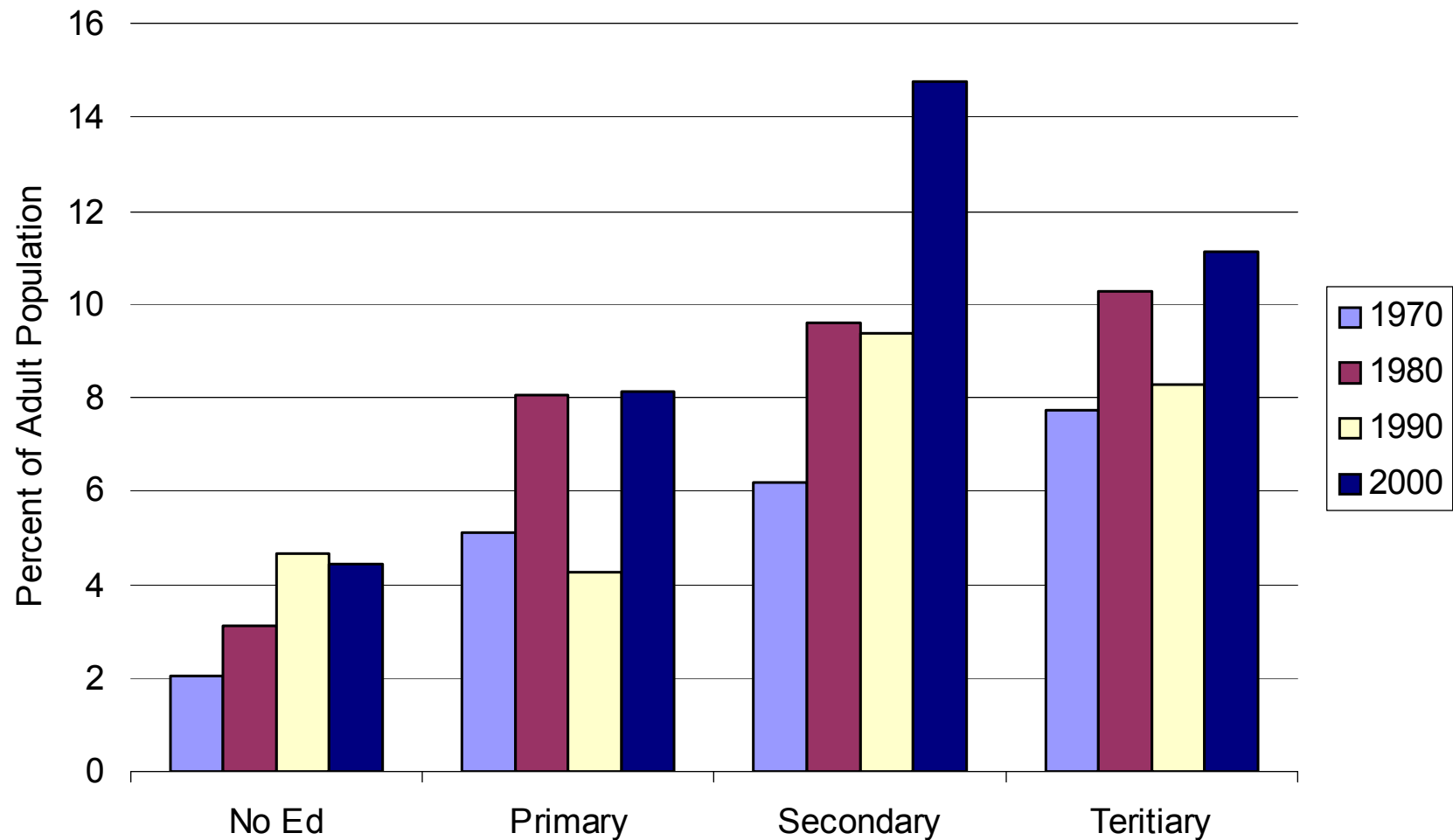
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Science, Technology and Innovation in Colombia.”
Harvard Colombian Society and MIT Colombian Student
Association.

The Measure of Brain Drain

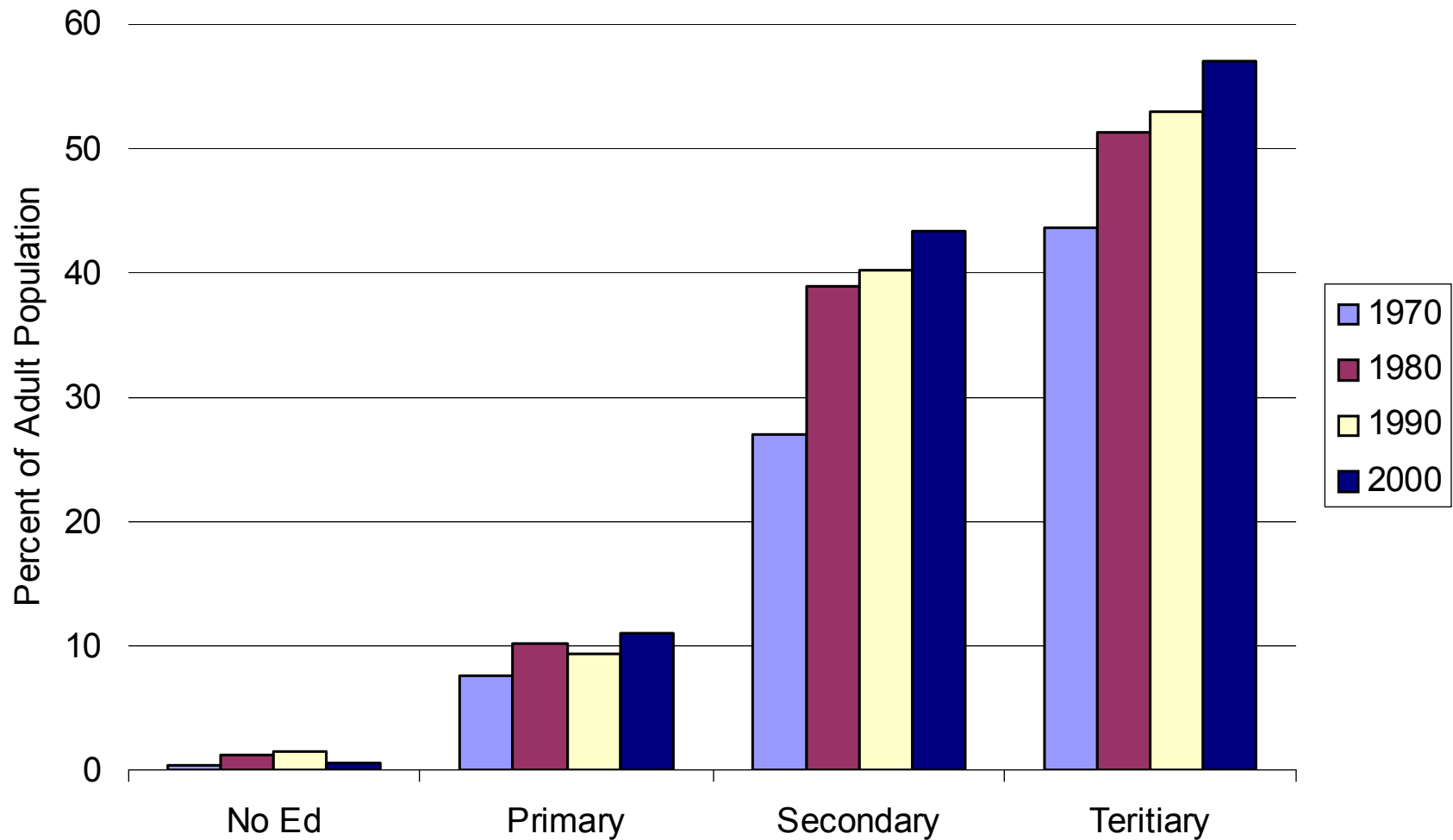
- Demographic: percent of persons born in Colombia living in USA (abroad).
- Economic and Social: other metrics
- Compared to other countries in the hemisphere, Colombia has low demographic “brain drain”

Mexico: Cumulative Loss by Education Class



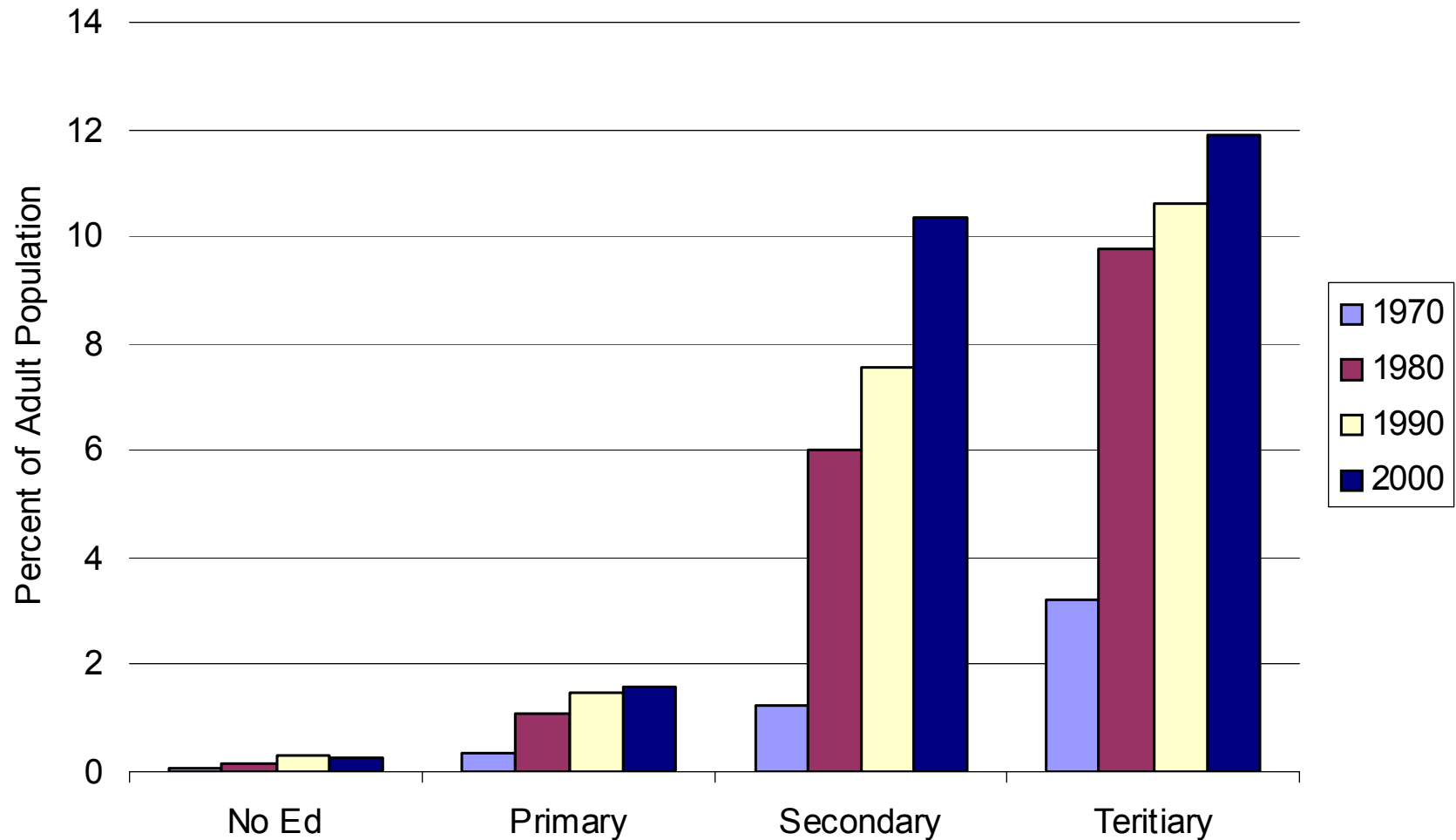
Source: Lowell, US Census microdata, Barro and Lee

Caribbean: Cumulative Loss by Education Class



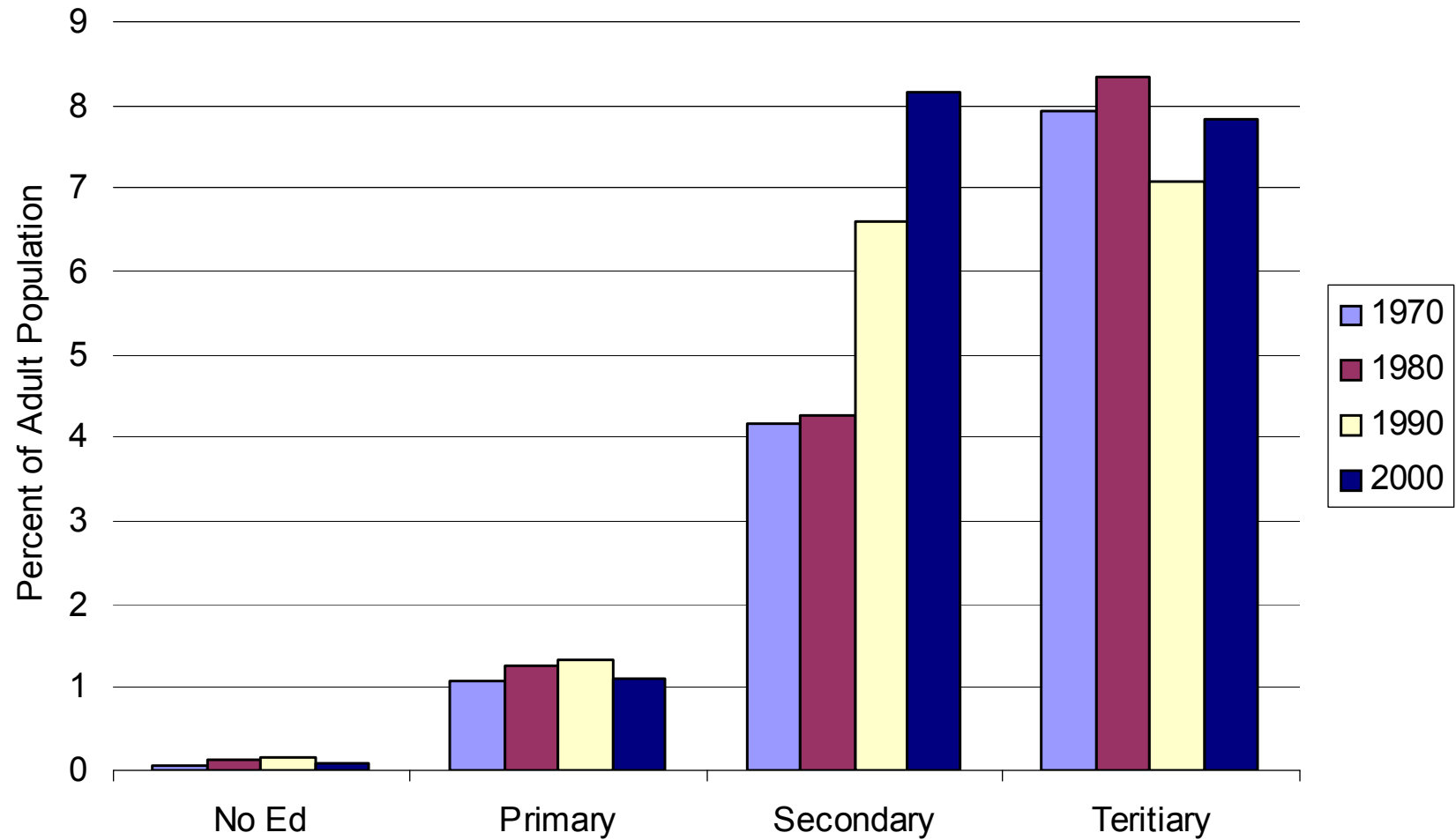
Source: Lowell, US Census microdata, Barro and Lee

South America: Cumulative Loss by Education Class



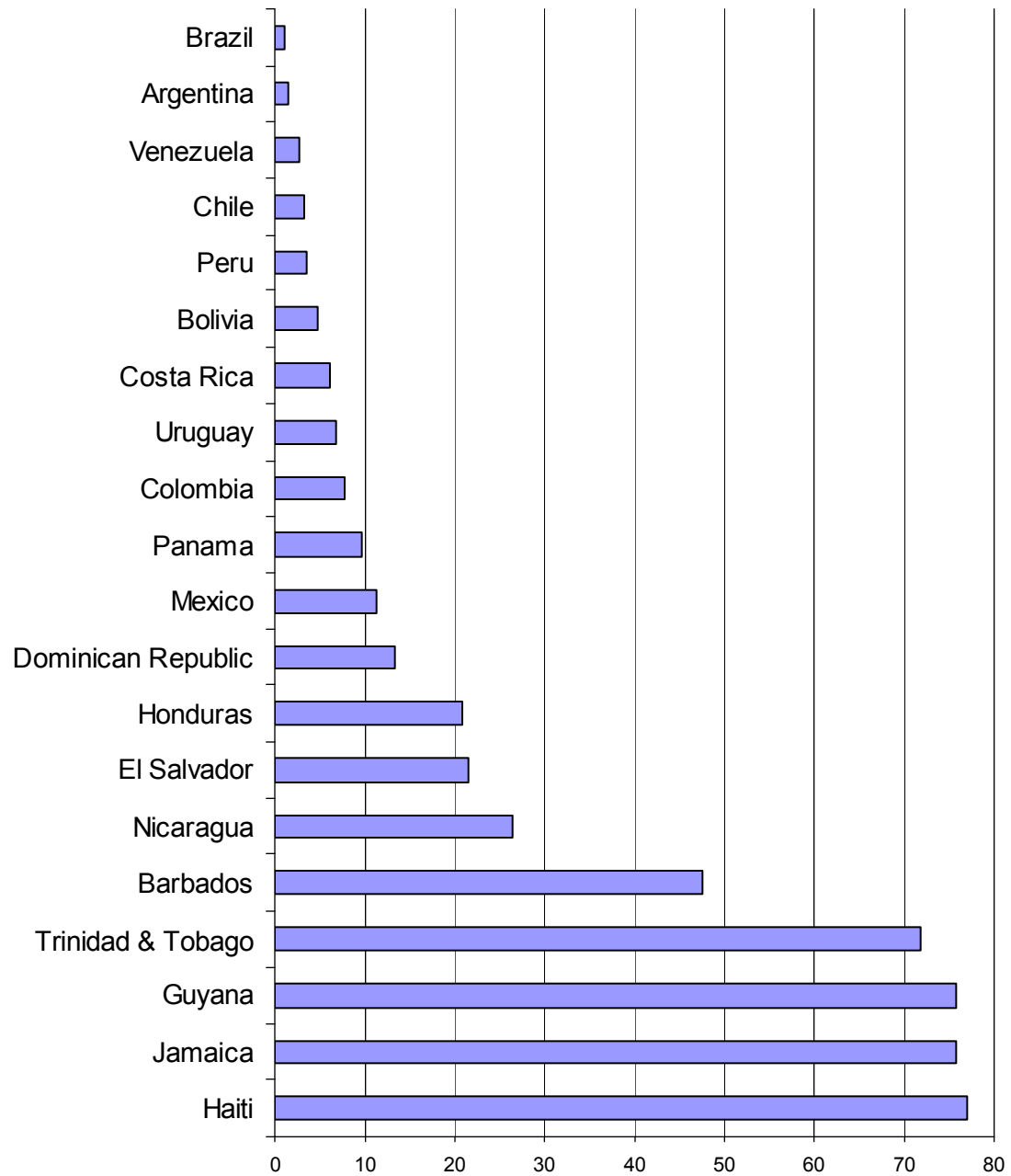
Source: Lowell, US Census microdata, Barro and Lee

Colombia: Cumulative Loss by Education Class



Source: Lowell, US Census microdata, Barro and Lee

Cumulative Loss of Tertiary Educated Adults, 2000



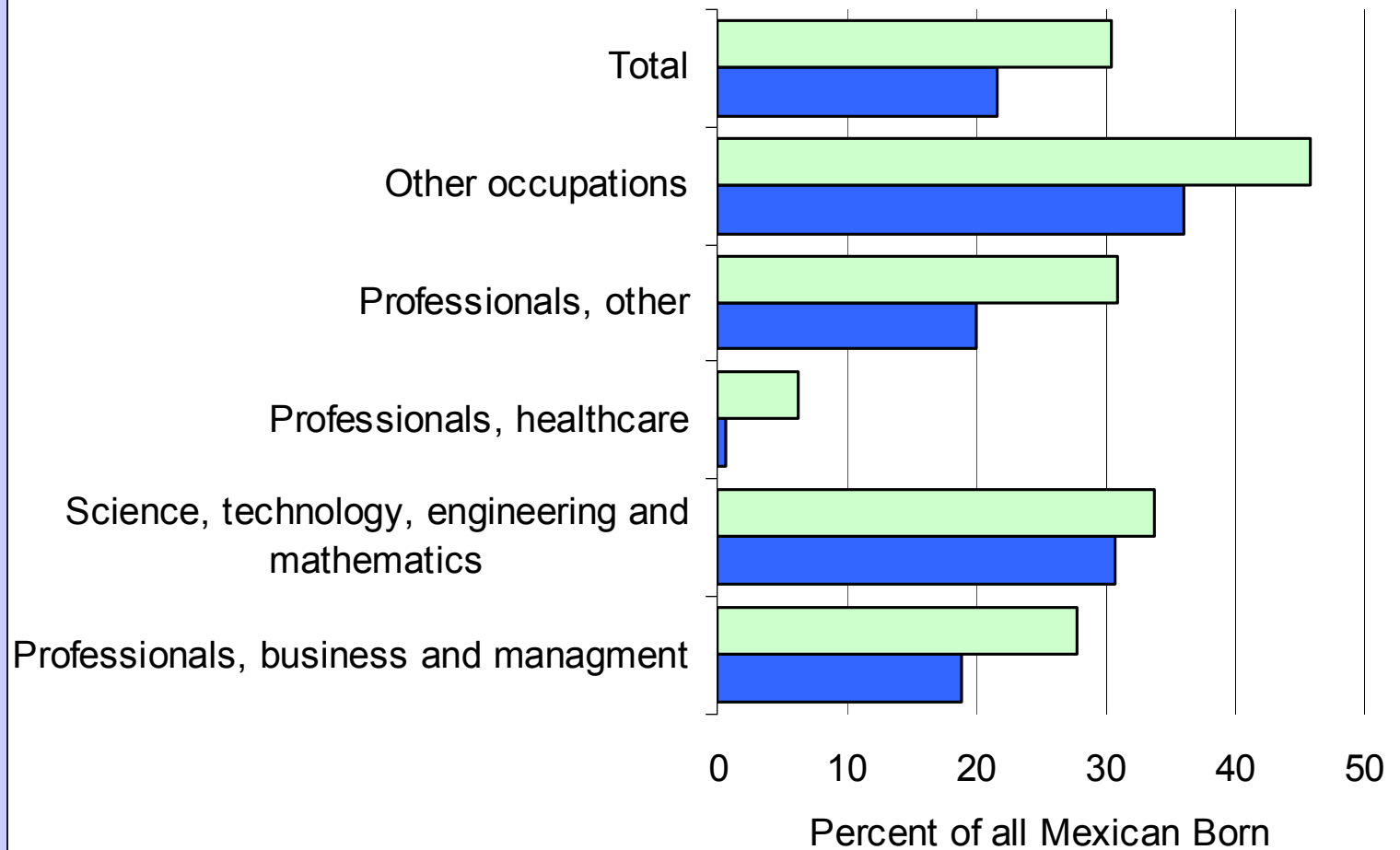
Source: Low ell, US Census microdata, Barro and Lee

Beneath the aggregate numbers

- Example of Mexico and larger losses at higher levels of graduate education.
- True for Colombia and S&T?
- Specific occupations/sectors may be hard hit, as many as one-seventh of Colombia's nurses may be in the USA
- Volatile immigration & return 1994-2004

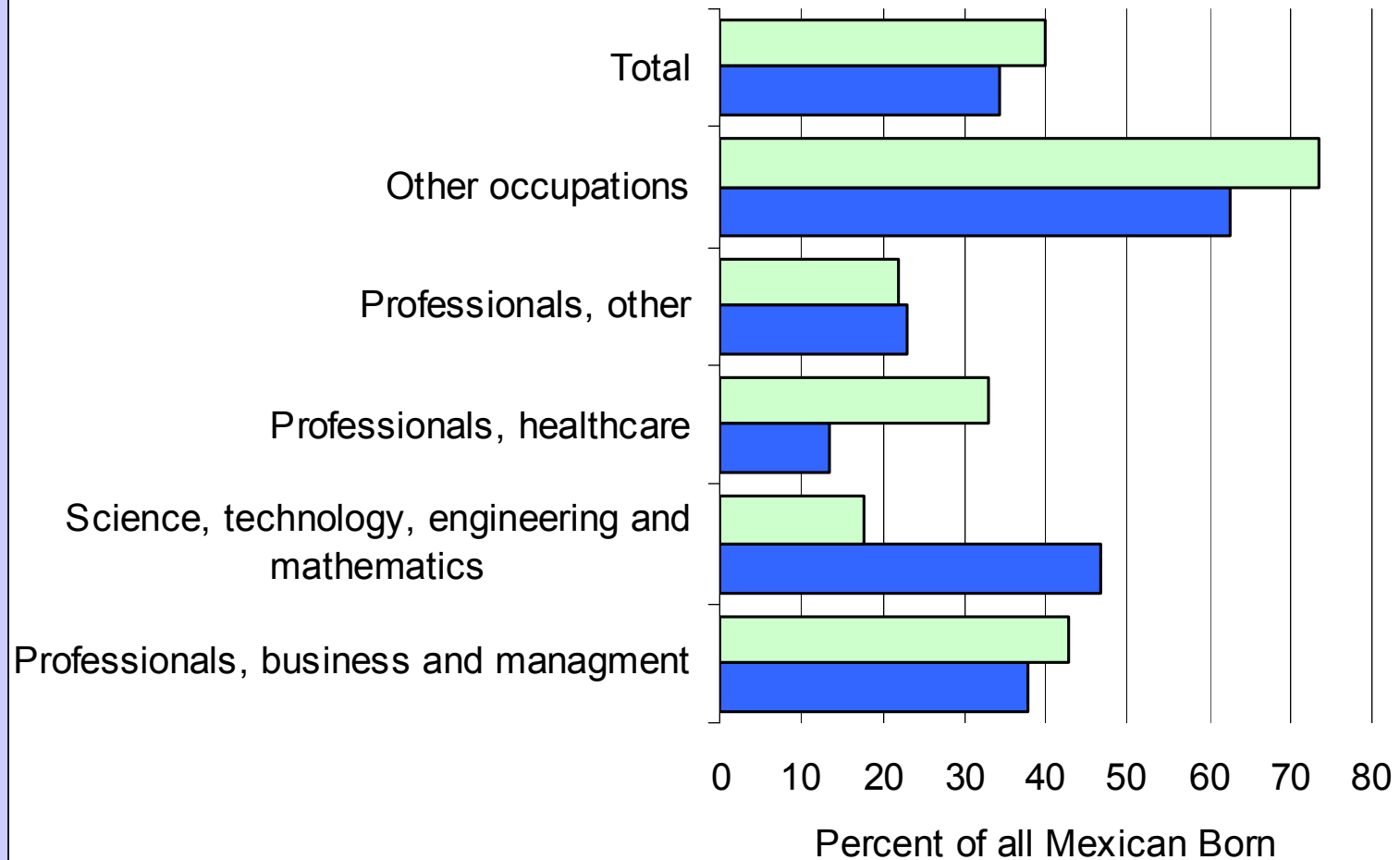
Mexican Born Professionals with Master Degrees in the United States, 2000

■ Males ■ Females

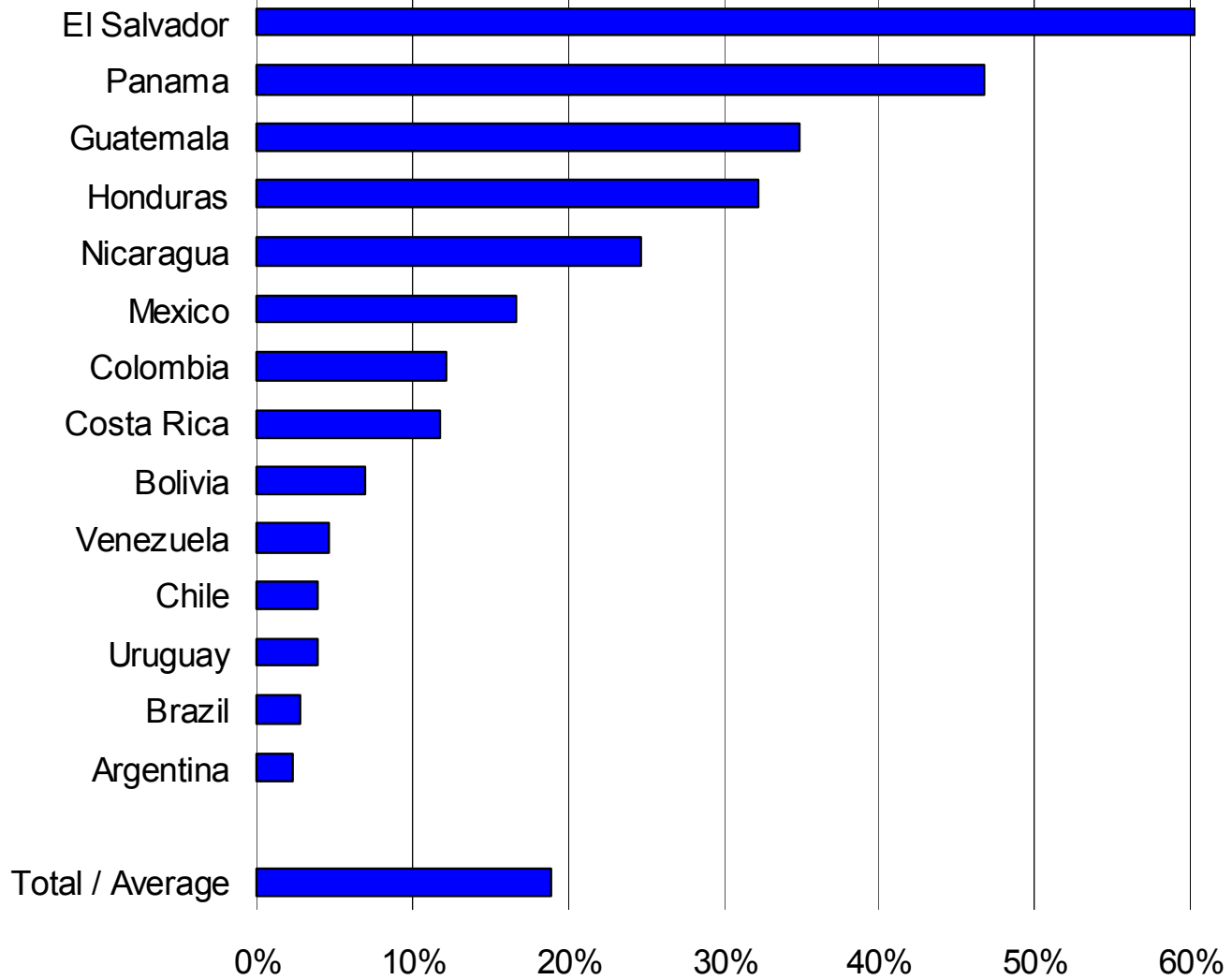


Mexican Born Professionals with Doctorate Degrees in the United States, 2000

■ Males ■ Females



Latin American Born Nurses Resident in the United States, ca. 2000



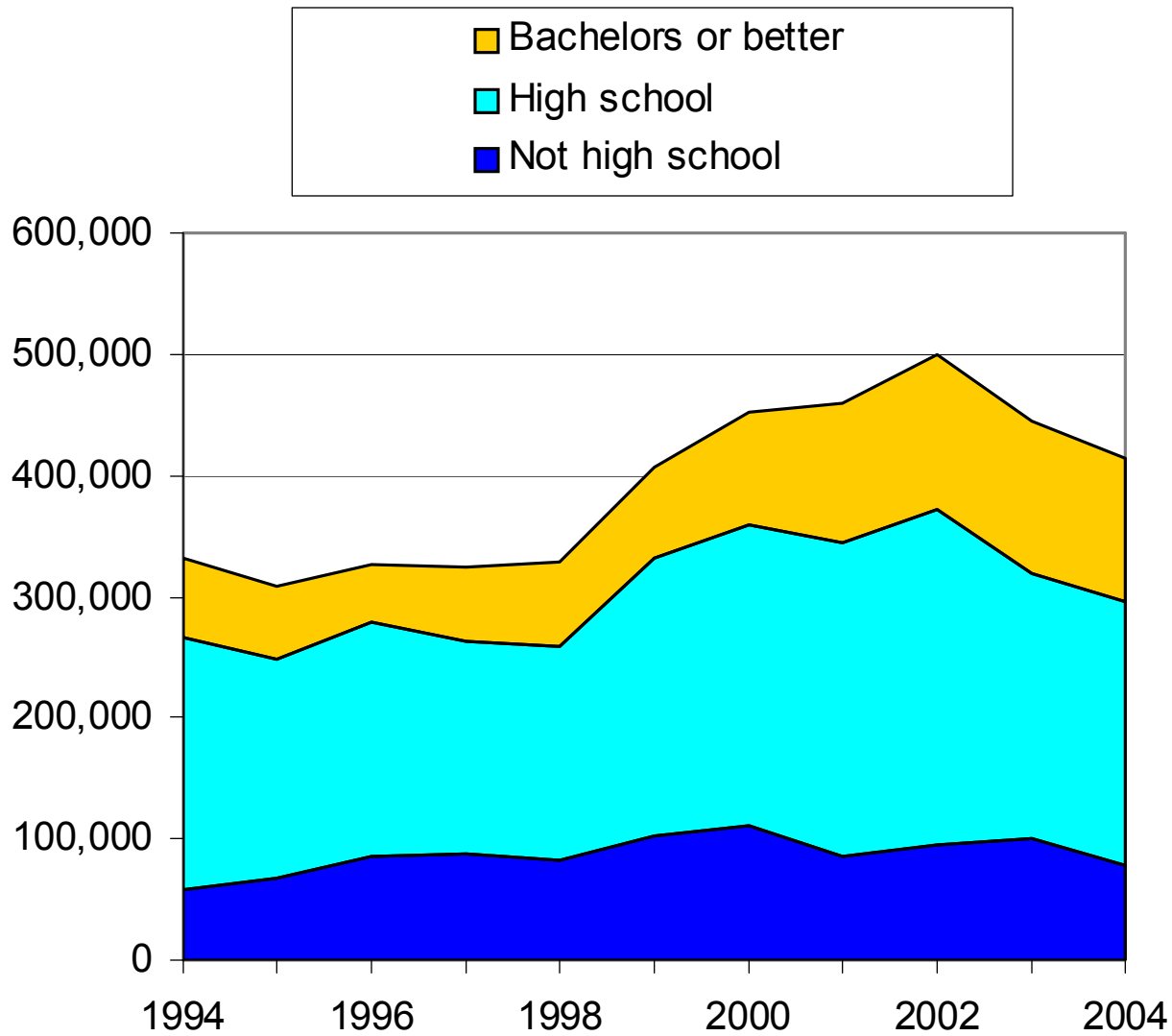
Source: ISIM and PAHO

Leading S&E Occupations

Colombian born workers	Number
Computer Software Engineers	1,411
Engineering Technicians, Except Drafters	1,401
Computer Scientists and Systems Analysts	1,253
Computer Programmers	1,035
Network Systems and Data Communication Ar	798
Civil Engineers	761
Architects, Except Naval	715
Computer Support Specialists	591
MiscLife, Physical, & Soc Sci Technicians, Incl	520
Miscellaneous Engineers, Including Agricultura	506
Electrical and Electronics Engineers	489
Drafters	475
Mechanical Engineers	434
Physical Scientists, All Other	366

* Four percent of Colombians in USA are S&E workers

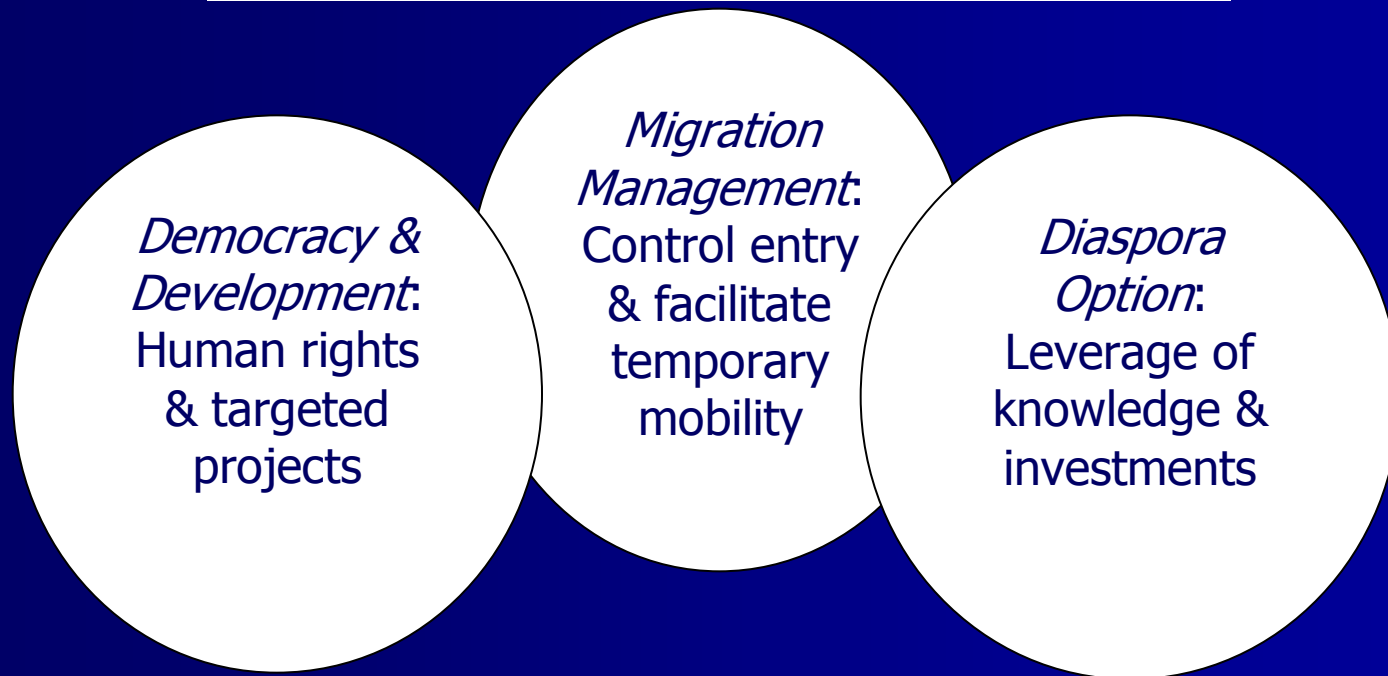
Colombians in the United States Ages 16+



Source: Low ell, tabulations NBER MORG/CPS microdata

Policies that Optimize Skilled Migration

Figure 4. Policies for Skilled Migration



Diaspora Feedbacks

- Lots of promise, little research
- Return Migration
- Financial Transfers
- Entrepreneurial Investment
- Hometown Associations
- Immigration And Trade
- Professional Diaspora Networks

RETURN MIGRATION

- Return is widely perceived as being beneficial.
- Return is more likely given physical security, improved investment and employment climates and/or policies that foster strong R&D environments and infrastructure.
- Note China's industrial parks aimed at attracting entrepreneurs.

FINANCIAL TRANSFERS

- Remittances may not be as significant for highly skilled persons.
- Other financial instruments:
- Foreign currency accounts and bonds (with high interest rates).
- Special duty and tax breaks on equipment and investments.
- Export processing zones.
- Preferential access to capital goods and raw materials
- Remittance backed bonds.

ENTREPRENEURIAL INVESTMENT

- Expatriates have specialized knowledge.
- But they may lack capital and managerial expertise.
- One of the best known cases is that of Indians in America's high-tech Silicon Valley.
- Regardless, solid data do not exist on the extent of diaspora business investment, but it is reasonable that expatriates avoid high-risk emerging markets.

HOMETOWN ASSOCIATIONS

- Hometown associations (HTA) consist of members from the same town or state.
- The HTAs are best known for sending “collective remittances.”

IMMIGRATION AND TRADE

- Diasporas have a substantial impact on trade, nostalgic trade is a first-order creation.
- Trade stimulation occurs thru leader/reputation builder, middleman, or enforcer.
- Research by the OECD found a long-term increase in exports and imports.
- Note Indian diaspora in the United States and role in subcontracting or outsourcing.

PROFESSIONAL DIASPORA NETWORKS

- Networks and the transfer of knowledge are often cited as very important.
- But research on e-diasporas finds high inactivity rates on online materials (only 1 Colombian network: Colombian Network of Researchers and Engineers Abroad (Red Caldas))
- Identifying diaspora leaders is central challenge.
- Keeping the networks active and productive is another challenge.
- Procuring funding.

