



A current picture of brain drain from Africa: Scope and effect

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Access to Success: Fostering trust and exchange between
Europe and Africa

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Outline

- Why African brain drain matters?
- How big is the brain drain from Africa?
- Women international migration: The hidden dimension of the African brain drain
- Medical brain drain: Emigration of health personnel from Africa
- Impact of the brain drain on the source countries



Why African brain drain matters?

- Education and human capital are drivers of economic growth: Strong consensus that better endowed nations in human capital grew more rapidly
- Deficiency in human capital major reason why poor countries remain poor, Stark (2004)
- Public expenditures on education 4.5% of GNP and 17.5% of total government expenditures, 2007
- Many African countries have relatively low levels of human capital, measured by education levels, literacy rates, innovation indicators and health personnel



Why African brain drain matters?

- UNESCO (2010): In 2007, 20% or 153 million of the world adults illiterates live in Sub-Saharan Africa
- Sub-Saharan Africa more than one in three adults is illiterate (38%), LAC (9%), Central Asia (1%), N. America & W. Europe (0.6%)
- 12 African countries have illiteracy rates >50% - In 4 countries more than 70% of the adult population is illiterate
- In 11 countries of Sub-Saharan Africa 50% or more of the population aged 17 to 22 years have fewer than 4 years of education



Why African brain drain matters?

Other indicators reveal that the African countries are lagged far behind others nations in terms of human capital

R&D Researchers, 2007

	Researchers (thousands)	% of World researchers	Researchers per million inhabitants
World	7 ,094	100.0%	1,063
North America	1,572	22.2%	4,654
European Union	1,340	18.9%	2,728
Africa	163	2.3%	169
Asia	2,940	41.4%	742
Japan	710	10.0%	5,548
China	1,423	20.1%	1,071
France	211	3.0%	3,442
Germany	284	4.0%	3,442
UK	175	2.5%	2,888
USA	1,425	20.1%	4,707

Source: UNESCO (2010)



Why African brain drain matters?

- WHO (2009): In Sub-Saharan Africa (population 817 millions - 12% of the world population): 126,873 doctors (1.5% of the world physicians)
- France (62 millions): 207,277 physicians, Italy (59 millions): 215,000 physicians
- In Africa personnel medical density is far below WHO recommendations: In 27 African countries <2 physicians per 10,000 population (world average 13, France 34, Italy 37, Germany 34, USA 26)



How big is the brain drain from Africa?

- Sustained efforts will be needed to narrow the deficit of the African countries in terms of human capital: African nations face a substantial brain drain
- Until recently nobody was able to present a full and realistic picture of magnitude of skilled migration from Africa: Magnitude of African brain drain was unknown
- No idea about the global cost of the flight of human capital on source countries
- Original data sets: Docquier, Lowell and Marfouk (2007, 2009), OCDE (2007)



How big is the brain drain from Africa?

Highly skilled emigration from Africa to the OECD (persons aged 25+), situation in 2000

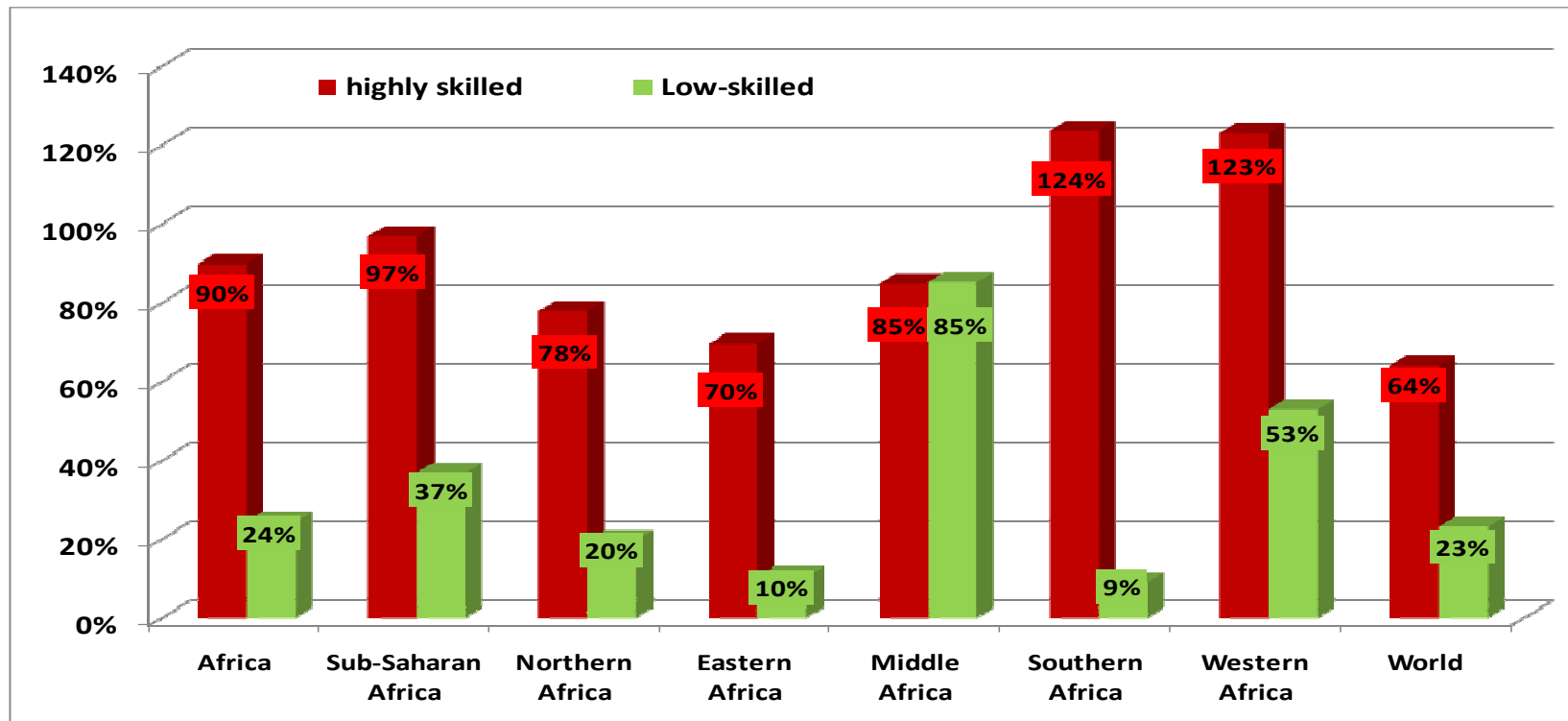
Origin	Highly skilled emigrants		Proportion of highly skilled (in %)	
	Absolute numbers (in thousands)	In % of the Total	Among emigrants	In region of origin labor force
Africa	1,407	100%	32%	4%
Sub-Saharan Africa	960	68%	44%	3%
Northern Africa	465	33%	20%	7%
Eastern Africa	348	25%	43%	2%
Middle Africa	96	7%	37%	2%
Southern Africa	177	13%	65%	10%
Western Africa	320	23%	40%	10%

Note: According to the international countries classification, Sudan is included in Northern Africa and Sub-Saharan Africa

Source: Docquier, Lowell and Marfouk and author's calculations

How big is the brain drain from Africa?

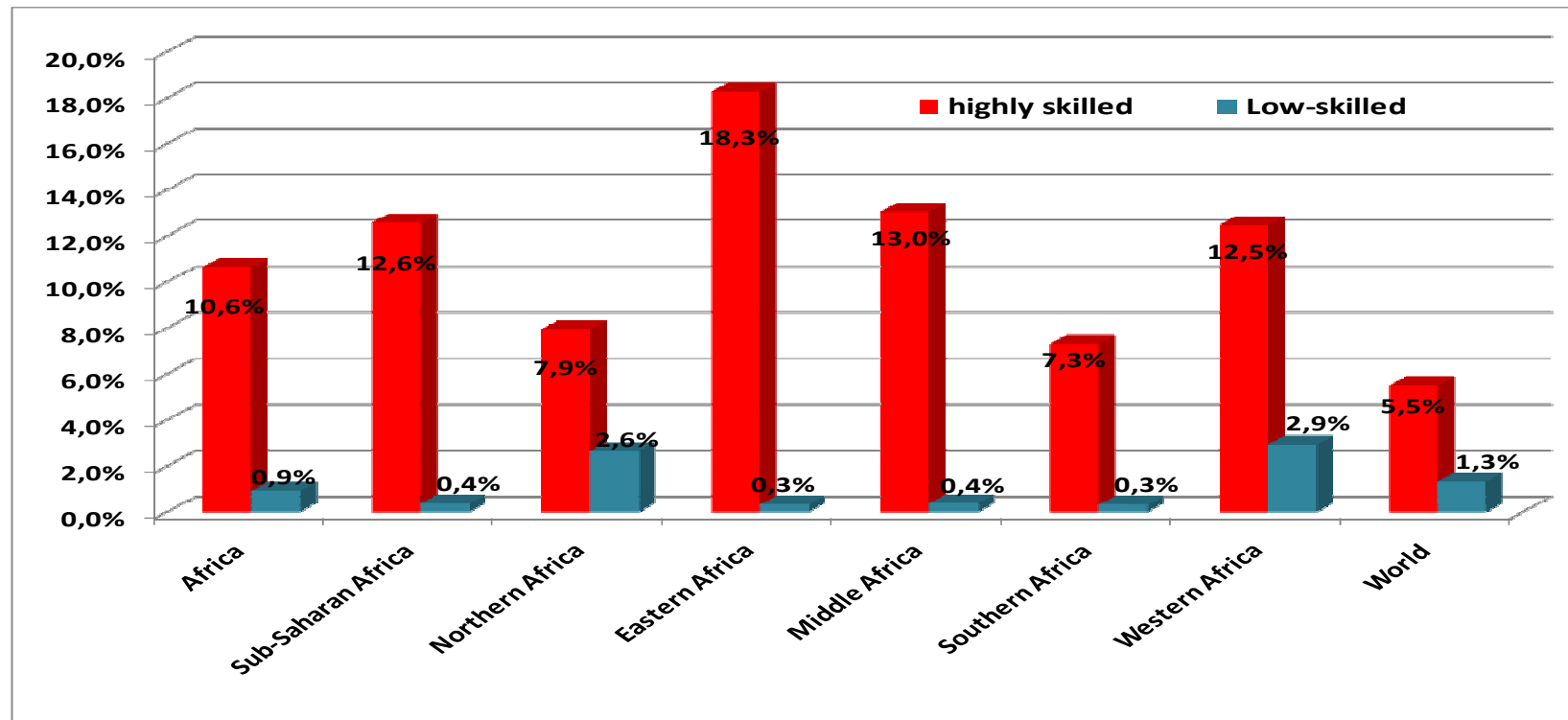
Migration by region of origin and skill level, variation 1990-2000, in %



Source: Docquier, Lowell and Marfouk and author's calculations

How big is the brain drain from Africa?

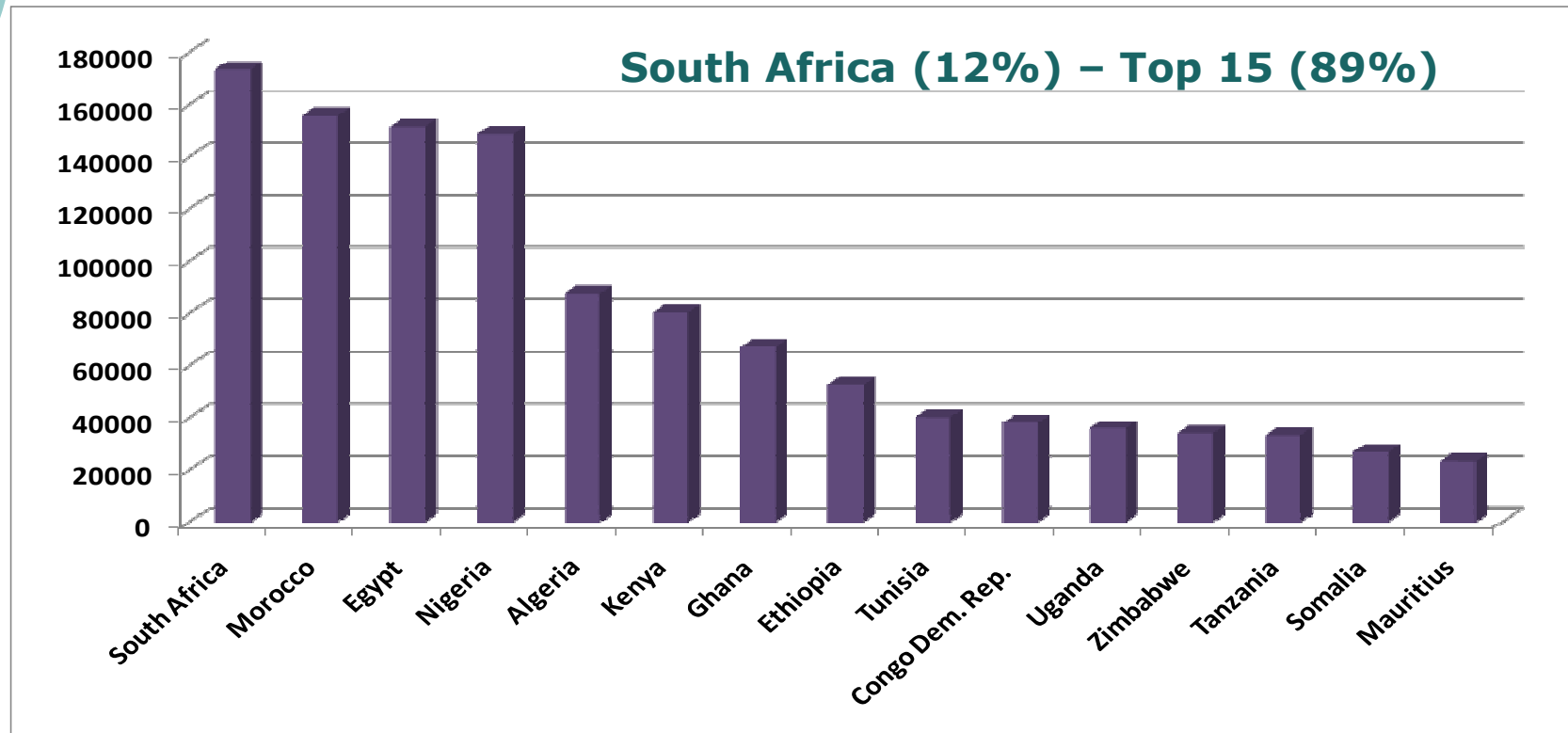
High-skilled and low-skilled workers emigration rates, by regions of origin, in %, situation in 2000



Source: Docquier, Lowell and Marfouk and author's calculations

How big is the brain drain from Africa?

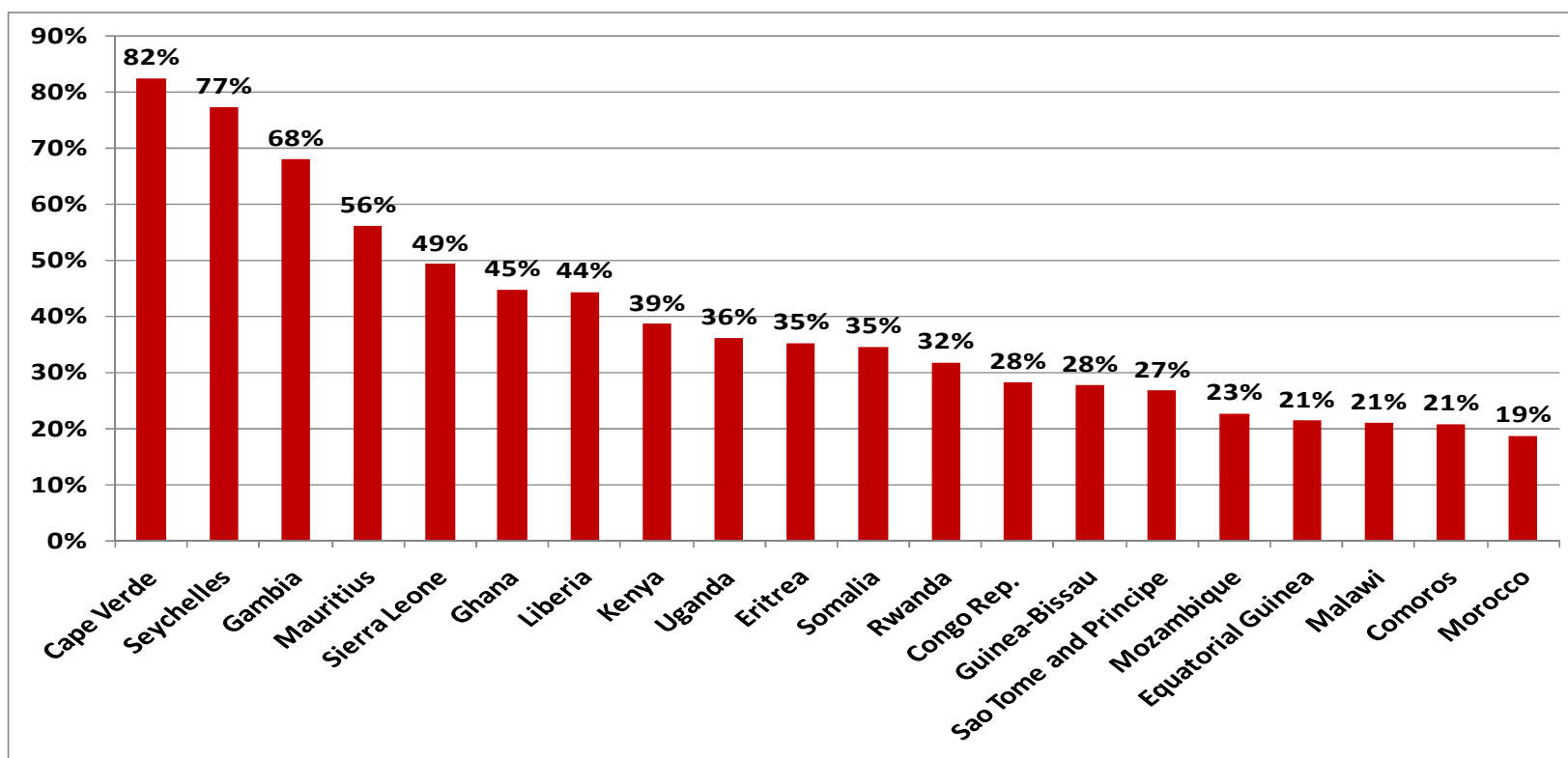
**Highly skilled migrants by countries of origin (Top 15),
in absolute numbers, situation in 2000**



Source: Docquier, Lowell and Marfouk and author's calculations

How big is the brain drain from Africa?

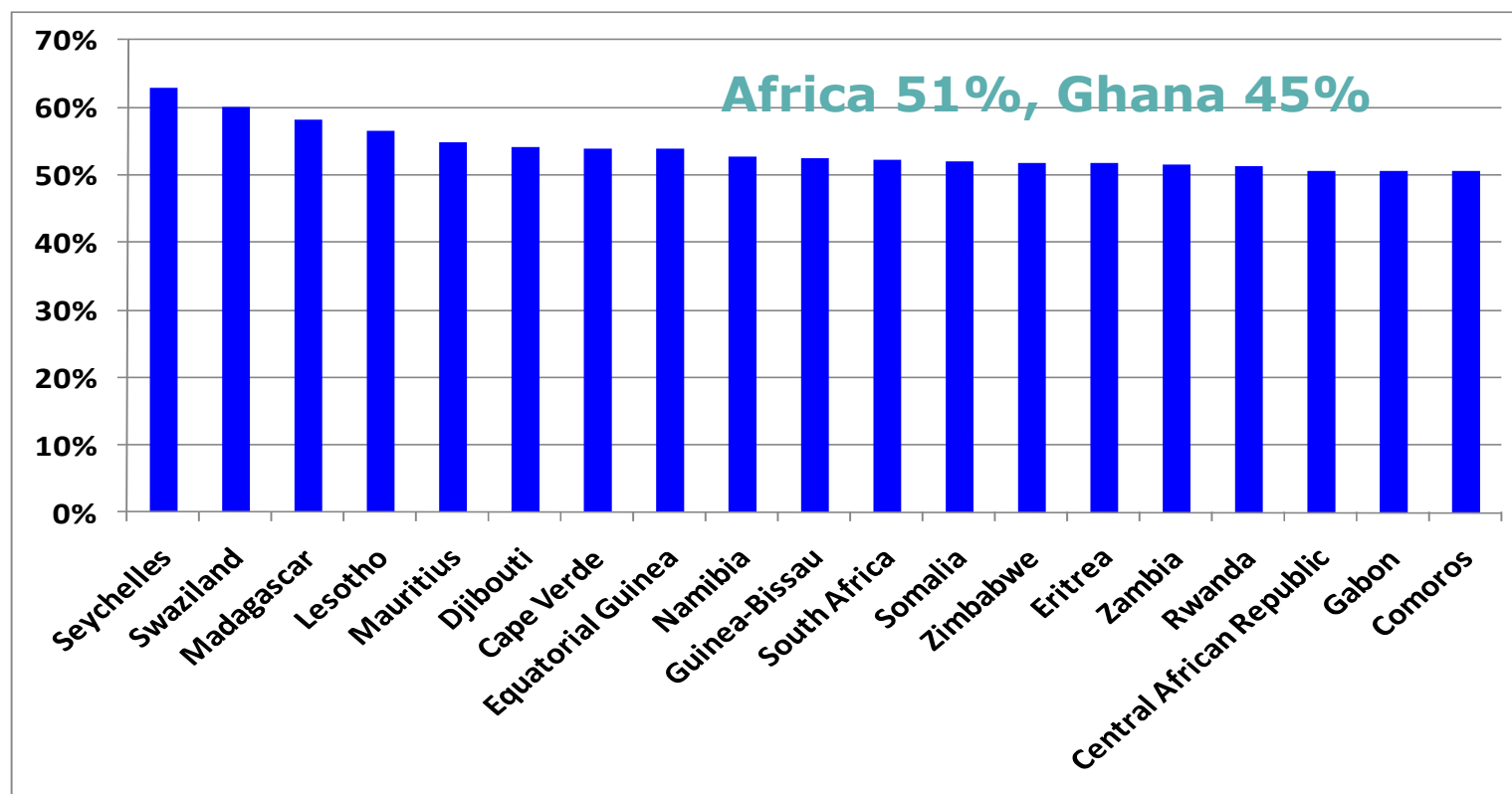
highly skilled workers emigration rates (Top 20), in %, situation in 2000



Source: Docquier, Lowell and Marfouk and author's calculations

Women international migration: The hidden dimension of the African brain drain

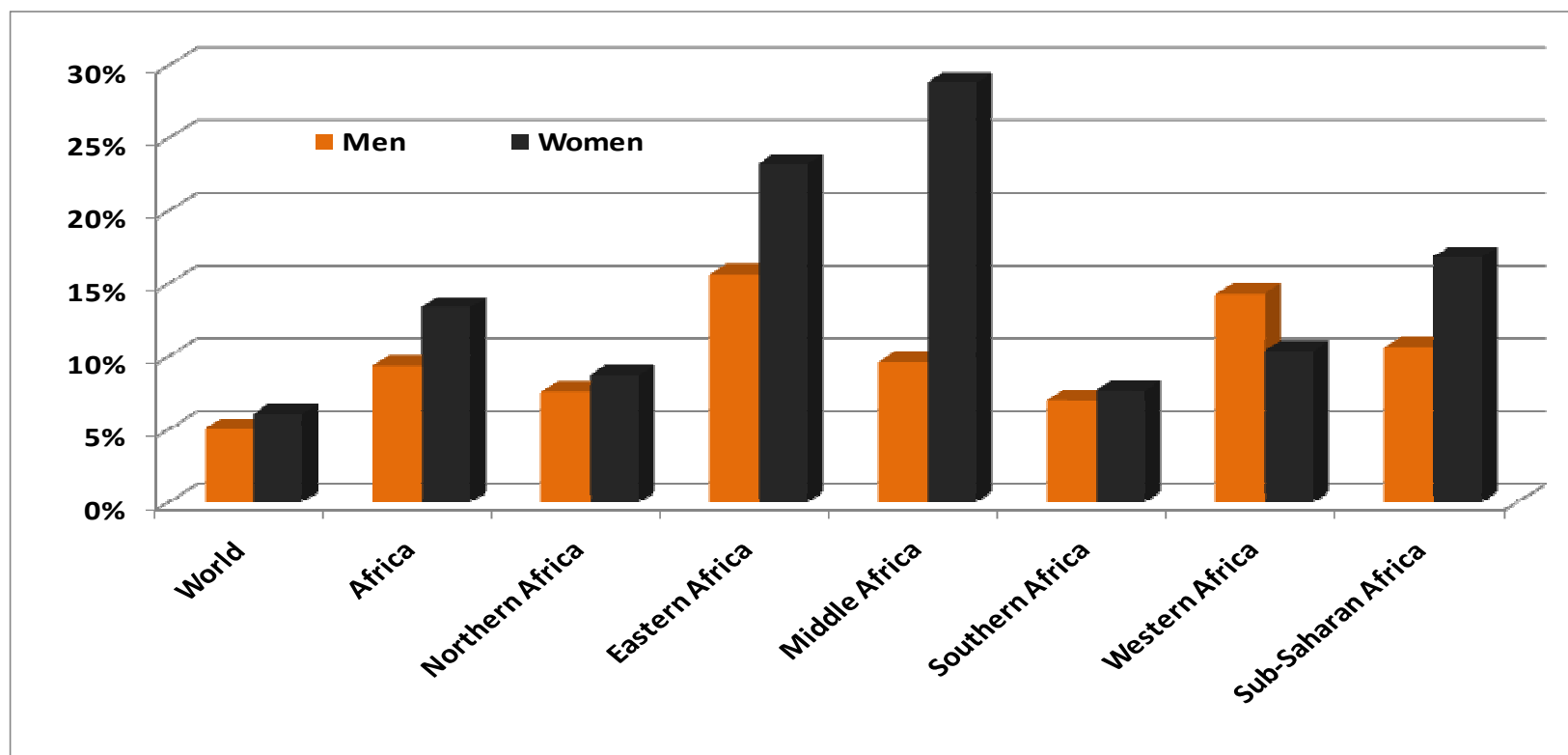
**Proportion of women in total migration (>50%),
situation 2000**



Source: Docquier, Lowell and Marfouk and author's calculations

Women international migration: The hidden dimension of the African brain drain

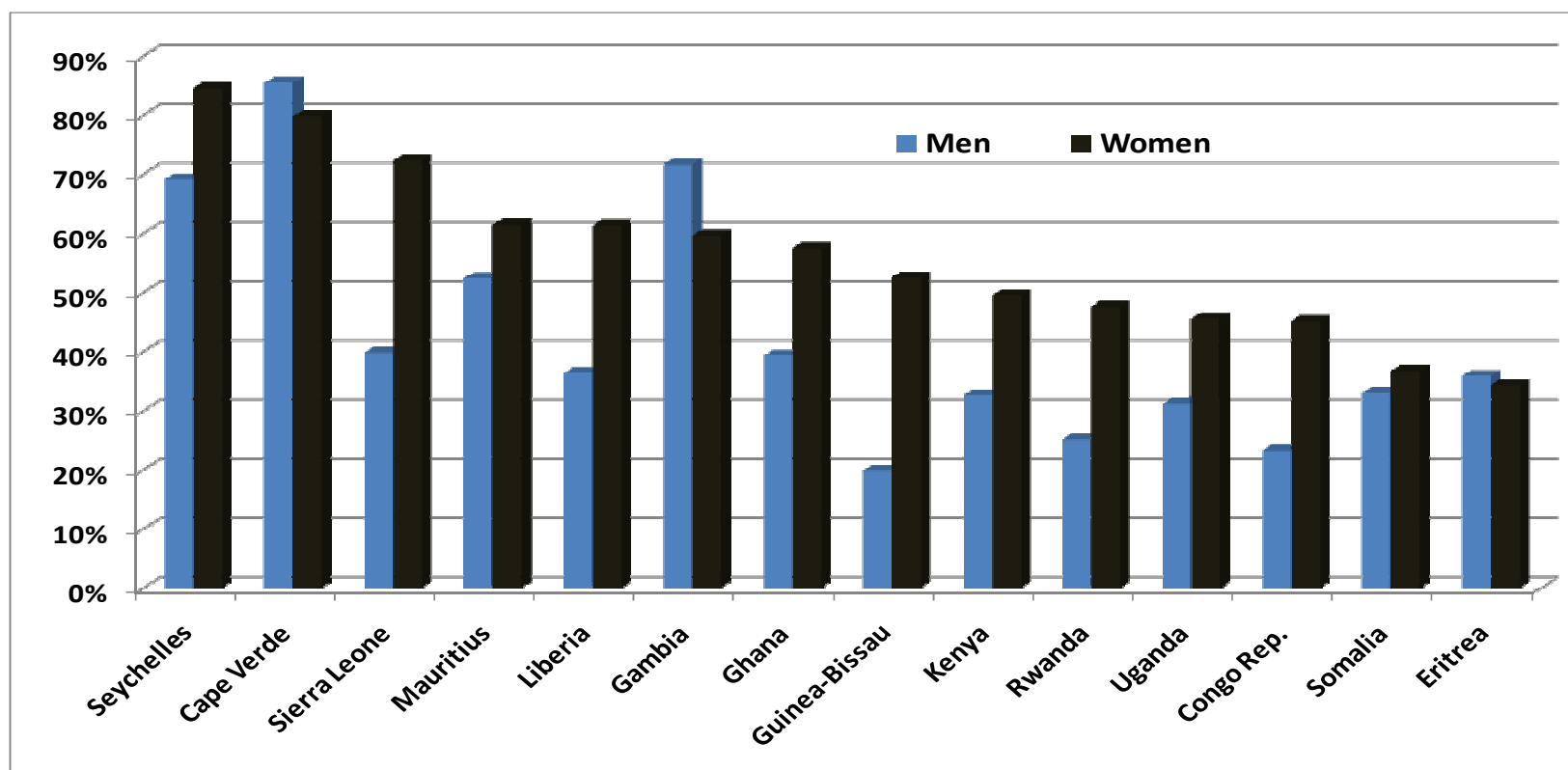
High-skilled workers emigration rates by gender (in %), situation in 2000



Source: Docquier, Lowell and Marfouk and author's calculations

Women international migration: The hidden dimension of the African brain drain

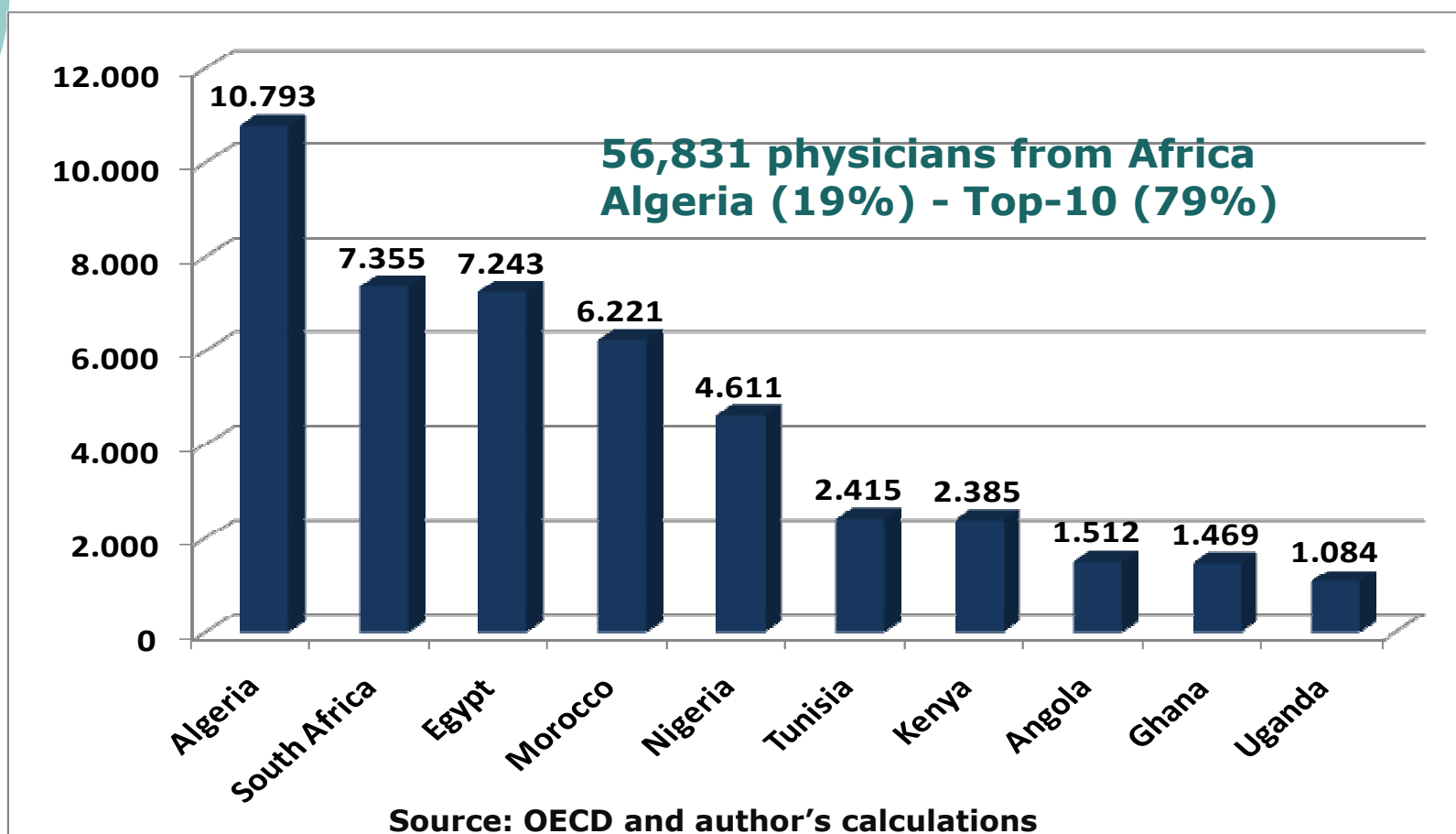
Men' and Women's highly skilled emigration rates, in %, situation in 2000



Source: Docquier, Lowell and Marfouk and author's calculations

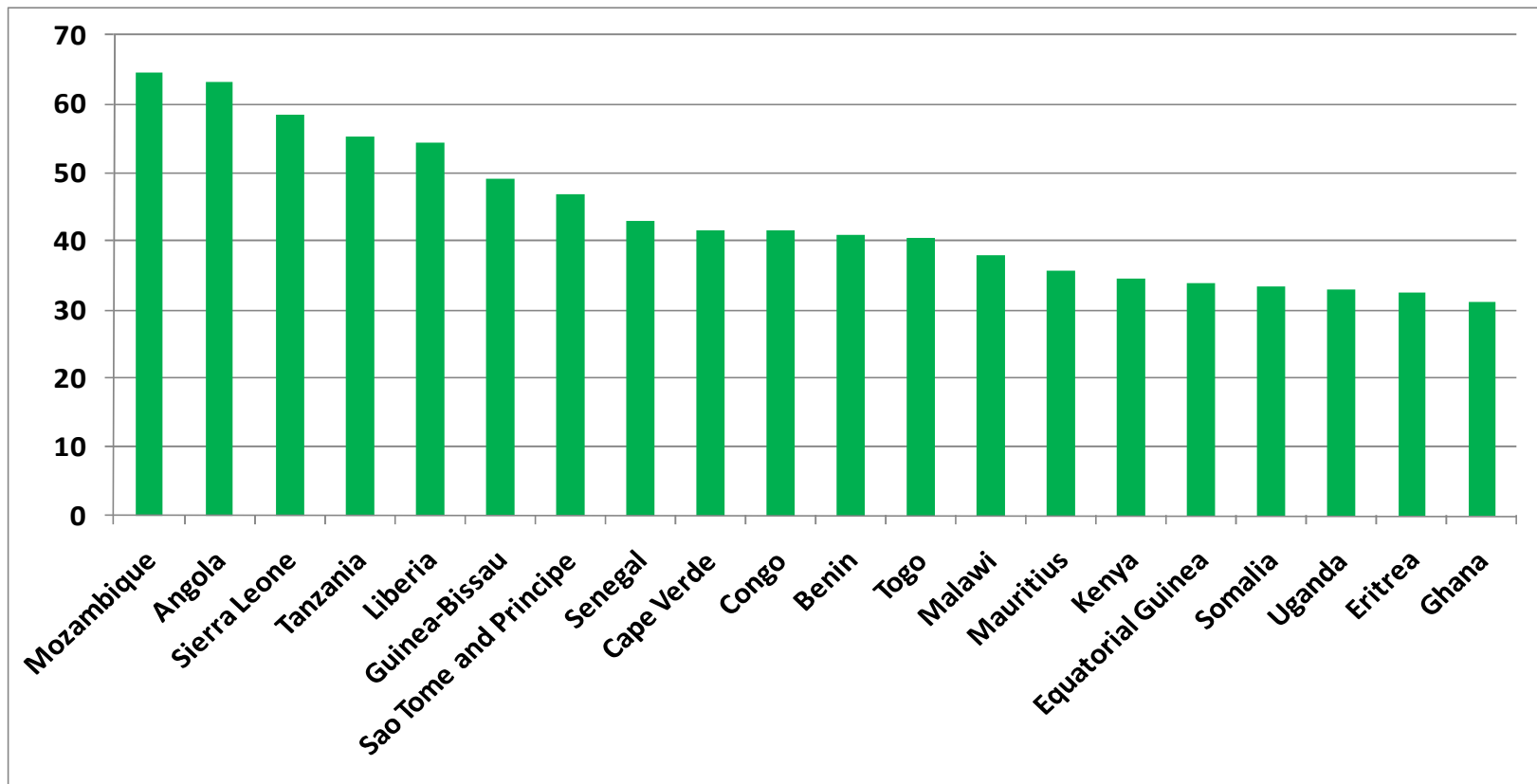
Medical brain drain: Emigration of health personnel from Africa

**Number of physicians working in the OECD countries
(Top 10), situation in 2000**



Medical brain drain: Emigration of health personnel from Africa

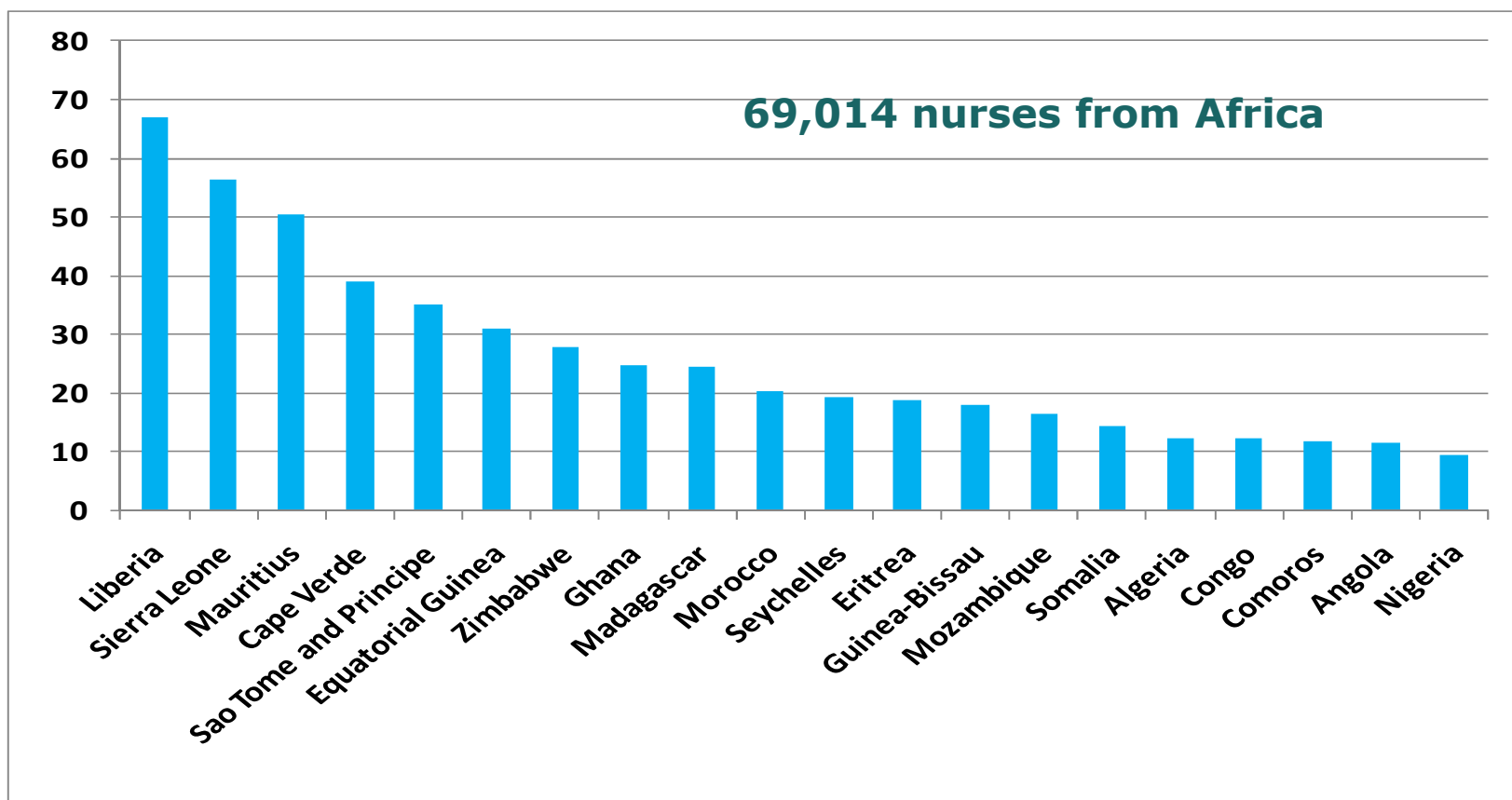
Physicians expatriation rate (in%), Top 20, situation in 2000



Source: OECD and author's calculations

Medical brain drain: Emigration of health personnel from Africa

Nurses expatriation rate (in%), Top 20, situation in 2000



Source: OECD and author's calculations



Impact of the brain drain on the source countries

- Bhagwati et Hamada (1974), Usher (1977), Miyagiwa (1991), Blomqvist (1986), Haque & Kim (1995), Wong & Yip (1999), Desai, Kapur, McHale & Rogers(2009)
- Loss of investment of public spending on education of emigrants
- Highly skilled migrants are net fiscal contributors and their departure represent a fiscal lost
- Brain Drain is blamed for depriving source countries of one of their scarcest resource: human capital



Impact brain drain on the source countries

- Human capital source of economic growth: emigration highly skilled workers will negatively affect the source countries economic performance and growth prospect
- Decrease in human capital seriously affects the country capacity of innovation & the adoption of modern technologies
- Flight of human capital increase inequality at international level (rich countries becoming richer at the expenses of poor countries)
- Different taxation schemes that could compensate origin countries: Example though a tax on brains «Bhagwati tax»

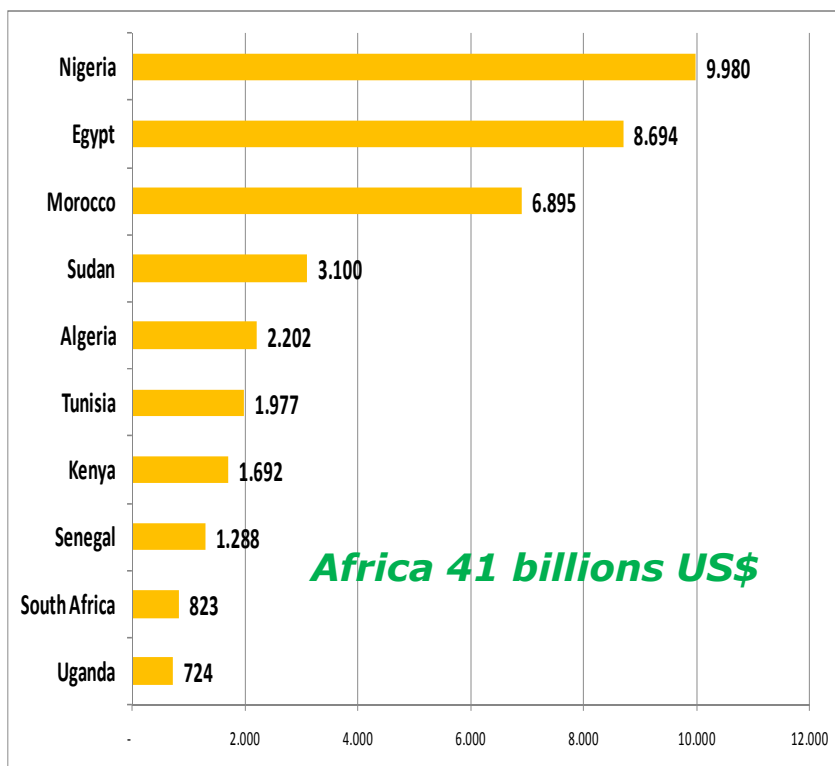


Impact brain drain on the source countries

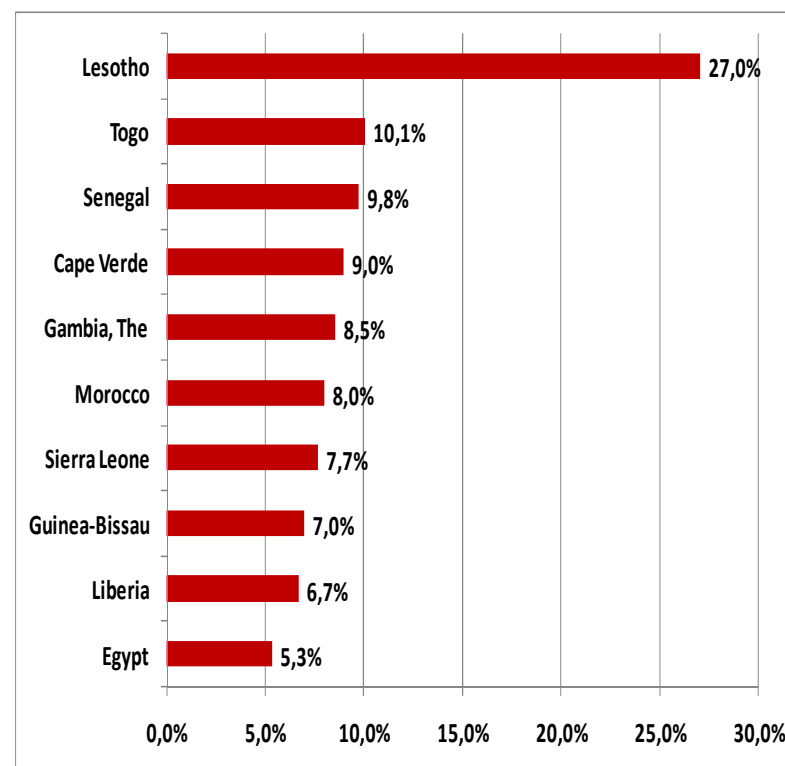
- Stark et al. (1997, 1998), Mountford (1997), Vidal (1998) et Beine, Docquier and Rapoport (2001, 2008),...
- Range of feedback effects on source countries: Remittances, tourism revenue, return migration with additional skills acquired abroad, creation of business networks: Trade, FDI
- Faini (2007) and Nimii et al (2008): volume of remittances decreases with the proportion of highly skilled individuals among the emigrants
- Negative impact of the brain drain cannot be counter balanced by higher remittances

Impact brain drain on the source countries

Recorded remittances inflows (US\$ millions), Top 10, 2008



Recorded remittances inflows in % of GDP, Top 10, 2008



Source: World Bank and author's calculations



Conclusions

- Human capital is still underdeveloped Africa
- At the same time, many highly educated African go abroad: 12 African countries lost at least 30% of their well educated labor force
- Women's skilled migration rates are higher than those of men (Men: 11 countries high skilled emigration rate > 30%, Women 20 countries)
- A large skilled Diaspora poses costs and benefits for the region
- Even with remittance income, skilled emigration could be a substantive loss, because human capital is critical in sustaining long term growth



Conclusions

- African medical “brain drain” appears to be serious
- migration of over 56,000 doctors and 69,000 nurses from Africa to the OECD countries has a significantly negative effect on the doctor to population ratio of the continent
- Health personnel migration from Africa to developed countries amplify the health workforce imbalances that may be detrimental to Africa health systems
- Further empirical research is needed before drawing definitive conclusions on the impact of the brain drain on the source countries