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Research Report

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FERDI Policy Brief, No. B105

Provided in Cooperation with:

Fondation pour les études et recherches sur le développement international (FERDI),
Clermont-Ferrand

Suggested Citation: Mountford, Andrew; Rapoport, Hillel (2014) : Migration Policy, African Population Growth and Global Inequality, FERDI Policy Brief, No. B105, Fondation pour les études et recherches sur le développement international (FERDI), Clermont-Ferrand

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Migration Policy, African Population Growth and Global Inequality*

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According to recent UN projections more than 50 percent of the growth in world population over the next half century will be due to population growth in Africa. Given this, any policy that influences African demography will have a significant impact on the world distribution of income. In this note we discuss the potential for migration policies to affect fertility and education decisions, and hence, population growth in Africa. We present the results of different scenarios for more or less restrictive/selective migration policies and derive their implications for the future of world inequality.

LA FERDI EST UNE FONDATION RECONNUE D'UTILITÉ PUBLIQUE. ELLE MET EN ŒUVRE AVEC L'IDDRI L'INITIATIVE POUR LE DÉVELOPPEMENT ET LA GOUVERNANCE MONDIALE (IDGM). ELLE COORDONNE LE LABEX IDGM+ QUI L'ASSOCIE AU CERDI ET À L'IDDRI. CETTE PUBLICATION A BÉNÉFICIÉ D'UNE AIDE DE L'ÉTAT FRANÇAIS GÉRÉE PAR L'ANR AU TITRE DU PROGRAMME « INVESTISSEMENTS D'AVENIR » PORTANT LA RÉFÉRENCE « ANR-10-LABX-14-01 »



* We thank participants and the organizers of the international conference on "International labor mobility and inequality across Nations" in Clermont-Ferrand (France), January 2014. We also thank Blandine Vachon for excellent research assistance. All remaining errors are our own. Corresponding author: Andrew Mountford, Dept. Economics, Royal Holloway College, University of London, Egham, Surrey TW20 OEX, UK. Email addresses: a.mountford@rhul.ac.uk, hillel.rapoport@psemail.eu.

“In the next 10 years, there will be more than 100 million more school-aged children in Africa. By the year 2050, more than a quarter of the world workforce will be African. And in the next three generations, more than 40 percent of the entire world youth will live in Africa. This is not just a challenge. This is an extraordinary opportunity, not just for Africans but for the world.” (Secretary of State John Kerry, May 25th 2013, African Union 50th Anniversary Summit)

In his address to the African Union on the occasion of its 50th anniversary, US Secretary of State John Kerry was referring to the recently released United Nations Population Division forecasts for the next century. The UN is now projecting that the world population will keep growing throughout the rest of the century, and will reach nearly 11 billion by the year 2100. These figures differ markedly from their previous projections released four years ago, which showed a smaller increase. In any event, such projections necessarily rely on a number of assumptions that are by nature disputable and that have been widely criticized recently. For example, Deutsche Bank economist Sanjeev Sanyal suggested that the population growth forecast for Africa was largely over-estimated due to a few but critical assumptions, notably the assumption of a stable long-run level of population.

A general critique that can be addressed to demographic projections, and to UN projections in particular, is that they tend to neglect the potential for economic forces to shape demography. Typically, demographic projections ignore the fact that economic forces can bring about major policy changes which affect the micro decisions of households when they choose the number and education level of their children. A striking illustration of this is the recent relaxation of the one-child policy in China in response to age and gender imbalances in the population that were judged by China's authori-

ties as compromising the country's growth and development prospects (New York Times, 2013). Such sudden policy changes will undoubtedly impact on the fertility, age structure, and eventually the population size of China; given that China is one of the largest countries in the world in terms of size of population, whatever affects demography in China will have important repercussions on the distribution of the world population and, hence, on the world distribution of income.

The UN projections are widely used by governments and international agencies to design global policies, which address important issues such as global warming, food security, energy security, political and economic imbalances. Our objective, however, is not to propose yet another estimate of world population growth for the coming decades, but to demonstrate the potential sensitivity of such figures to changing policy environments. The policy we are interested in is migration, that is, whether immigration policies in the advanced economies will become more or less restrictive (determining how many people are allowed to move legally from developing to developed countries), and whether they will become more or less selective (that is, favor the highly educated and skilled, which will determine the skill composition of migration flows and the induced effects in terms of the quality/quantity tradeoff for children, as described in the next section). The UN projections (and for that matter, virtually all demographic projections released by international agencies) ignore the fact that migration affects the size and composition of nations ipso facto – that is directly, by moving people moving – but also indirectly, by the interaction between migration and other household decisions regarding human capital investment and fertility.

This paper examines these issues using a quantity/quality trade-off framework where decisions about the number of children to raise,

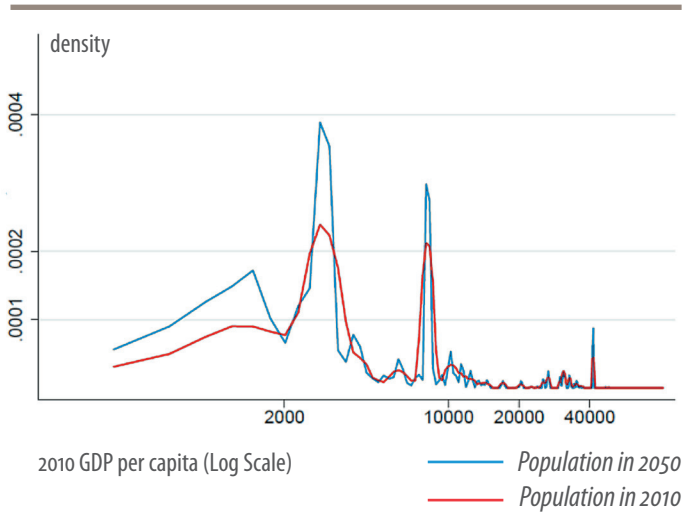
and how much education to give them, are affected by the global demand for skills (which determines wage premiums and inter-country wage differentials) and by the policies which allow labor to move across borders (i.e., the extent to which workers in the South can respond to changes in the demand for skills in the North). The quantity/quality trade-off has been shown to be an important factor in explaining the demographic transition from the Malthusian to the Modern Growth regime in the 19th century (see Galor, 2005), and it is therefore natural to ask whether the changes in the demand for skills will have significant effects on the fertility path of today's developing countries in the 21st century.

The future of the size of the African population will clearly have a direct effect on the changes in world income inequality. Figure 6.1 illustrates the effect of the projected changes in world population on the world distribution of income by plotting the density of the world distribution of income using the UN's medium variant population estimates for 2010 and 2050, while keeping each country's GDP per capita constant at their 2010 levels. Figure 1 shows that according to the UN projections, the populations of poorer countries will grow relative to the populations of richer countries in the next half century, and that this *ceteris paribus* will tend to increase world inequality by increasing the density of the distribution at low income levels and decreasing it at high income levels. However, as we argue in this paper, all things are not equal. The changes in the distribution of the world population, and so of the world distribution of income, will be significantly affected by changing economic incentives in the world economy over the next half century.

There are many potential candidates for economic changes, including changes in economic policies that may influence demography over the next few decades. One obvious candi-

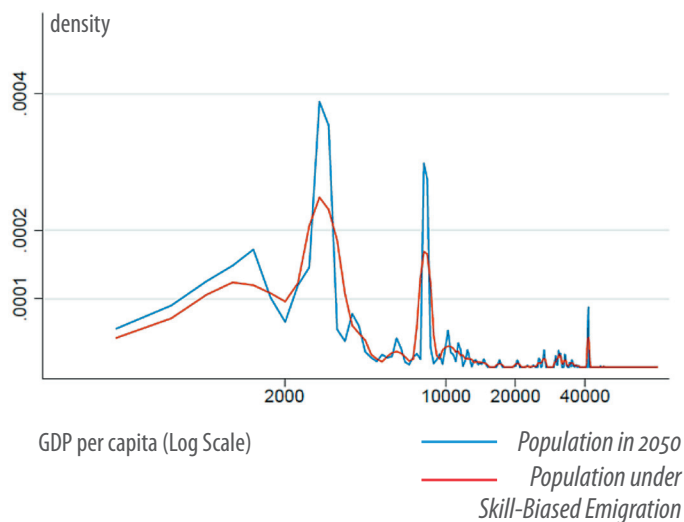
date is a direct policy change with respect to fertility, as we have seen in the case of China. However there also many other possible indirect influences, for example technological change or health shocks. We choose to focus on one such potential change, migration policy. Over the last quarter of a century, immigration policies in most OECD economies have become quantitatively more restrictive, and qualitatively more selective (see Bertoli & Rapoport, 2014). Mountford & Rapoport (2011) derived the theoretical implications of these changes, especially the fact that international migration is increasingly becoming of the "Brain Drain" type, on the world distribution of population and on world inequality. In this note we apply the new data of Brücker *et al.* (2013) who recently collected panel data on immigration stocks, disaggregated by country of origin and level of education, for 20 OECD receiving countries, to assess quantitatively the effects of changes in migration policy.

Figure 1. Changing world distribution of income implied by population growth



Note. Density of log GDP per capita in the world economy holding GDP per capita constant at 2010 levels while changing the distribution of world population to that of the UN estimates in 2010 and 2050.

Figure 2. Effect of skill-biased migration on world distribution of income



Note. Density of log GDP per capita in the world economy in 2050 under the UN projected population and under a scenario of skill biased emigration from Africa.

We find that changes in immigration policies in destination countries can have significant effects on demographic and economic outcomes. Figure 2 illustrates this point by comparing the world distribution of income implied by the UN medium variant population projection in 2050, again holding GDP per capita constant at 2010 levels, with that of a scenario where emigration possibilities from Africa become increasingly skill-biased. Differential emigration probabilities in favor of the highly educated and skilled increase the incentives to reduce fertility and invest in education, thereby reducing African population growth. As Figure 2 shows this results in a less unequal world distribution of income than the UN projection, reversing in part the increase in world inequality implied by demographic changes as projected by the UN.

Of course, increasingly quality-selective immigration policies in destination countries are not the only potential policy development with respect to migration. We also analyze the effects of immigration policies becoming more restrictive for both skilled and unskilled workers. We find that this policy tends to increase the rate of population growth in Africa, because not only do reduced emigration possibilities reduce the outflow of people from Africa to the rest of the world, but they also reduce the incentives to invest in education and cause an increase in fertility relative to that of the UN projection (and so lead to an increase in world inequality). However there are clearly other matters of interest that we have not investigated, for example the effects of changing child labor as analyzed recently by Delogu *et al.* (2013), and also the interaction between fertility, migration decision and cohort specific mortality rates by education level, which would be an interesting topic for future research.

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n° ISSN : 2275-5055

