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Demography, credit and institutions: A global perspective☆

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ABSTRACT

This paper examines the role of age structure and its interaction with various capital market imperfections in driving international capital flows in an empirical framework. Using panel data covering the period 1970 to 2000 for up to 115 countries, results indicate the existence of a differentiated effect in the relationship between age structure and international capital flows. Good institutions allow for a differentiated impact of age structure on saving and investment, opening the scope for an impact of age structure in driving international capital flows. In contrast, bad institutions result in no effect of age structure on international capital flows. Despite increased credit availability contributing to reduced aggregate saving, this will nevertheless magnify the role of the population age structure in driving international capital flows. Over the past three decades, age structure changes are estimated to have contributed to improve the current account position by five per cent of GDP in more advanced aging countries. However, around the year 2020, population age structure changes are projected to deteriorate the current account position in the latter countries which will experience a drop in saving. In other regions, the faster the current aging process, the sharper the projected improvement in the current account position. This improvement is projected to reverse itself, at a later stage in time in regions with a slower aging process. Also, our results suggest that in order to take advantage of their younger population in the form of increased foreign capital inflows, countries that are less advanced in the demographic transition would need to improve the quality of their institutional arrangements before the "window of opportunity" closes.

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1. Introduction

Different regions of the world are at different stages of a global aging phenomenon entitled "demographic transition". More advanced countries in this process face a high old age dependency ratio. Less advanced countries are currently experiencing a relatively lower old age dependency ratio and an increasing labor force population. According to the United Nations (2004) demographic differences are likely to remain important in the future.

Assuming an overlapping-generations two country model were the two countries that are identical in every respect except in fertility rates. Under diminishing return assumption, an implication of the life-cycle hypothesis is that part of the saving supply triggered by the rapidly aging country should flow to the slower aging country where capital is relatively scarce and where labor is relatively abundant.

This prediction matches with the surge in past decades of capital inflows to younger/poorer countries following their capital markets liberalization. However, those international capital flows appear to be limited compared to what neoclassical theory would predict as claimed by Lucas (1990). Indeed, capital market imperfections are likely to impede aging differences to foster international capital flows. Lucas (1990) emphasizes the role of political risk in explaining the lack of capital flow from capital abundant to capital scarce countries. More recently, Shleifer and Wolfenzon (2002) model how agency costs stemming from inefficient corporate governance and law enforcement mechanisms impede foreign capital from flowing to capital-scarce countries. Their results suggest that poor countries receive substantially less capital inflows. Alfaro et al. (2003), using cross country data, show empirically the importance of institutional factors in determining international capital inflows to emerging countries.

In parallel, another strand of literature has addressed the economic consequences of aging differences in an open economy perspective using large scale simulation models. Attanasio and Violante (2000) and Brooks' (2002) simulation results point to a significant role being played by demographic differences in explaining capital flow from fast aging OECD countries to slower aging emerging markets. Brooks' (2002) simulations results also predict a reversal in the direction of international capital flows. Indeed, Brooks' (2002) predictions suggest that capital will flow from currently younger countries to currently older regions as the former will enter into the fast aging stage of the demographic transition.[1] There is, however, an important caveat to this recent literature. These studies assume the absence of capital market imperfections, that are likely to explain the uneven distribution of capital inflows across younger/poorer countries.

In addition to being relatively scarce, international capital inflows have been unevenly distributed across younger/poorer countries. These stylized facts on international capital movements, documented in Prasad et al. (2003), suggest a role for interaction between aging differences and capital market imperfections in explaining the timing, the magnitude and the distribution of international capital flows across recipient countries. However, little empirical and theoretical works have been conducted on the importance of such interactions in explaining international capital flows. Indeed, the existing literature has focused separately on the individual role of capital market imperfections or of demographic changes in explaining international capital flows. One noticeable exception is Arezki (2010) who analyzes the consequences of an asymmetric negative fertility shock on saving/investment imbalance in a Diamond-type overlapping-generations small open economy with capital market imperfection. The capital market imperfection is modelled through a symmetric wedge between foreign investor and domestic investor return on capital likely to arise when property rights are not enforced. The author finds that the shock is transmitted to the small open economy depending on whether the wedge is below a given threshold. If the wedge is not too high, capital first flows into the small open economy in order to exploit the difference in returns on capital. After the shock has occurred, capital is repatriated in order to finance old age consumption of the rest of the world investors. In the present paper, a reduced form estimation is used to test empirically the validity of the latter theoretical results.

Empirically, Higgins (1998) estimates a reduced form estimation to quantify the impact of age structure differences in explaining international capital flows. Drawing from data for up to 100 countries over the period 1950 to 1989, Higgins results point to the significant impact that changes in population age

[1] It should be noted that this literature is often understood in terms of the life-cycle model. However, that does not need to be the case. For instance, Cutler et al. (1990-1) rely on the Cass–Ramsey–Solow optimal growth model shows in the case of the U.S. versus OECD countries that a similar link between age structure differences and capital flows can be obtained using that main alternative framework.