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# Migration constraints and development: *Hukou* and capital accumulation in China

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### ABSTRACT

Rural-urban migration flows are a crucial corollary of economic development. The adverse or beneficial effects of internal migration, for sending as well as receiving areas, and the definition of optimal migration policies, have remained much discussed issues since the seminal works of Harris and Todaro (1970). This debate is especially acute in China where the "household registration system" (*hukou*) acts as a strong constraint on individual migration. This paper aims to assess the consequences of *hukou* through a simple model of a developing dual economy with overlapping generations. Contrary to existing studies focused on the contemporaneous allocation of economic resources, it deals with the dynamic consequences of migration flows and migration policies. It shows that, in fairly general circumstances, *hukou*-related migration constraints can actually hasten development, understood as the transfer of the labor force to the modern sector, driven by capital accumulation. The *hukou* system could thus be one of the causes of the extremely high Chinese saving rate and of the high pace of Chinese development, and theoretical results are especially consistent with the effects of the 2001 "towns and small cities" reform.

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# 1. Introduction

The historical experiences of developed countries since the XIX<sup>th</sup> century and of LDCs after wwil have shown that the process of development, basically an intersectoral transfer of the labor force from traditional to modern activities, is paralleled by a geographical redistribution of the population, mainly through intense migration flows from rural to urban areas. There are two main ways to understand this link between development and urbanization.

The first is based on the classical baseline model of a dual economy developed by Lewis (1954). For Lewis, development essentially corresponds to the transfer of the labor force from labor-intensive activities to modern and capitalistic sectors. Development is then driven by capital accumulation in the modern sector, and rural–urban migration flows are simply a by-product of this process, as technology, capital and thus modern sector jobs are more likely to be located in cities.

Externalities are a second way to understand the link between growth and agglomeration. Indeed, if the effects of beneficial externalities are only felt locally, then the concentration of people and activities through urbanization is a crucial determinant of economic growth. These local externalities can be pecuniary, based on scale economies, as underlined by the New Economic Geography literature (Krugman, 1991), or due to human capital, as stressed by Lucas (1988) and Endogenous Growth theories.

Both of these standpoints leave room for policy intervention in internal migration flows, for pure market processes are not likely to lead to optimal results. Indeed, in the dual economy case, the existence of a traditional sector provides capital owners

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with an "unlimited supply of labor" (Lewis, 1954), which prevents the emergence of a market-clearing wage. In such a context, free migration flows can lead to detrimental phenomena, like urban unemployment, as shown by Todaro (1969) and Harris and Todaro (1970). And if there are local externalities, this immediately casts doubt on the social optimality of individual migration decisions, for both sending and receiving regions (Taylor & Martin, 2001). Political intervention can then be welfare-enhancing, as is well-known in the case of international migration flows (Benhabib & Jovanovic, 2007).

However, among the various policy options available to LDC governments, direct controls have been generally ruled out, for, as Lucas (1997) puts it, "direct restrictions upon mobility either prove ineffective or require Draconian enforcement measures, incurring a cost in civil liberties most nations are fortunately unwilling to tolerate". This does not really constitute an issue as direct restrictions are generally seen, on economic efficiency grounds, as too tight a policy. To quote Stark (1980), "the 'cannot' tallies with the 'should not' ".

From this point of view, the People's Republic of China stands as a stunning outlier. Since the beginning of the "Reform and Opening" era in 1978, the Chinese State has retained extremely tight controls on individual moves, through the "household registration system" (*hukou*), but at the same time, the PRC has developed at an unprecedented pace. Within the span of one generation, between the end of the 1970s and the mid-2000s, real GDP per capita has increased seven-fold (Bosworth & Collins, 2008), while the urbanization rate has only doubled. In 2002, the PRC urbanization rate was only 39.09%, 13 percentage points below the average urbanization rate of LDCs at the same level of development (Chang & Brada, 2006). And this urbanization gap has steadily increased as China developed.

This "paradox of China's growing under-urbanization" (Chang & Brada, 2006) has fueled an extremely lively debate in Chinese political and academic circles about internal migration controls and their political, social and economic consequences (Xiang & Tan, 2005). As for the economic side of the debate, most studies have tended to show that the *hukou* system and related migration constraints prevent a better allocation of economic resources in China (Au & Henderson, 2006; Whalley & Zhang, 2007), and thus hinder Chinese development. Some scholars, on the other hand, defend the *hukou* institution on the grounds that it prevents so-cially suboptimal migration flows from rural to urban areas (Fan & Stark, 2008).

On both sides of the debate, the arguments are thus based on considerations of resource allocation: would it be more efficient if migration flows were freer? But the dynamic, temporal aspect of this problem has been largely neglected. The *hukou* system and its various modifications and adjustments are likely to have important consequences on individual life-cycles and consequently on the dynamics of capital accumulation, in both urban and rural areas. The *hukou* constraints thus concern not only the sectoral and geographical allocation of resources in China, but also their intertemporal allocation. In particular, it could be one of the factors explaining the structurally extremely high aggregate saving rate in China and the pace of Chinese development.

The very high level of Chinese aggregate savings has aroused much debate about its causes and concern about its consequences. China has displayed the world's highest domestic saving rate for the last quarter of a century. Savings were above 35% of Chinese GDP in the 1980s, they exceeded 40% in the 1990s, and even reached an astonishing 52% in 2006 (NBS, Various years). The causes behind this phenomenon have been widely discussed, and the reasons proposed include traditional Confucian culture (Franke, Hofstede, & Bond, 1991), demographic and age structure evolution (Modigliani & Cao, 2004), precautionary savings in a context of rapid economic changes and dismantling of social services (Chamon & Prasad, 2008), habit formation (Carroll, Overland, & Weil, 2000), and even the PRC one-child policy and the consequent sex ratio imbalance (Wei & Zhang, 2009).

In this paper, a simple overlapping generations model of a dual economy with two regions is used to show that, in a context where production factor markets are imperfect, *hukou*-related migration constraints between a developing (rural) and a developed (urban) region can be a factor in raising the aggregate saving rate and speeding up development, understood as the transfer of the labor force from traditional to modern activities, driven by capital accumulation.

The plan of the paper is as follows. In the first section, the basic settings of the model, with only one region, are presented. In the second section, a second region is introduced, and the effects of different labor migration policies are discussed. The third section discusses how this simple model can explain some aspects of the Chinese experience, while the final part uses a change in migration policies which took place within Chinese provinces between the end of the 1990s and the beginning of the 2000s, to assess the relevance of the theoretical conclusions. The final section concludes.

#### 2. The process of development in a dual economy with overlapping generations

# 2.1. General setting

This simple model aims to describe the dynamic process of development in a dual economy with two-period life cycle agents. We will first deal with the production and employment aspects of the model, and then with the agents' life cycle and intertemporal trade-off. That will finally lead to the characterization of the development process.

As in the classical Lewis (1954) model, development is understood here as the transfer of labor from a traditional to a modern sector, this intersectoral transfer being driven by capital accumulation.

# 2.2. Production and employment

#### 2.2.1. Production technologies

The economy is dual in the sense that, while one single homogeneous product is produced, of an (exogenously given) price normalized to 1, two technologies are available: a traditional technology, using only labor ( $L_T$ ), with constant returns to scale,

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