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Poverty Reduction During the Rural–Urban Transformation – The Role of the Missing Middle

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Summary. — As countries develop, they restructure away from agriculture and urbanize. But structural transformation and urbanization patterns differ substantially, with some countries fostering migration out of agriculture into rural off farm activities and secondary towns, and others undergoing rapid agglomeration in mega cities. Using cross-country panel data for developing countries spanning 1980–2004, it is found that migration out of agriculture into the missing middle (rural nonfarm economy and secondary towns) yields more inclusive growth patterns and faster poverty reduction than agglomeration in mega cities. This suggests that patterns of urbanization deserve much more attention when striving for faster poverty reduction.
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1. INTRODUCTION

As countries grow and develop, their economies restructure away from agriculture into manufacturing and services.[1] Accompanying this process is an occupational shift toward more remunerative nonfarm activities, though usually only with a lag, instigating inequality (World Bank, 2008). Historically, great diversity has been observed in these processes and much has been written about how the nature and speed of countries' sectoral and occupational diversification, i.e., their structural transformation, affects economic growth and the speed of poverty reduction (Szirmai, 2012; Timmer, 2009).

Along with countries' structural transformation usually also comes urbanization, i.e., a spatial transformation, with people relocating from rural to urban areas. Great diversity also exists in how these structural and spatial transformation processes interact. In some countries, the structural transformation goes along with rapid agglomeration in mega cities (as for example in South Korea and the Philippines), while in others, people diversify out of agriculture into the rural nonfarm economy and secondary towns (e.g., Taiwan and Thailand) (Christiaensen, 2007; Otsuka, 2007). And just like different processes of economic growth and structural transformation may yield quite different distributional and poverty outcomes,[2] so, different patterns of rural–urban transformation may be associated with different rates of economic growth, and especially poverty reduction.

The clustering of a country's urban population in few localities, known as urban concentration,[3] could for example generate more economic growth and jobs given economies of scale and agglomeration (World Bank, 2009). On the other hand, off-farm jobs generated in nearby villages or rural towns may be more readily accessible to the poor given lower thresholds to migrate and better compatibility with their skill sets (because of higher local demand for unskilled and semi-skilled *versus* skilled labor). In addition, urbanization affects poverty

also indirectly, through positive spillovers on the rural economy. There is, *a priori*, no reason to believe that these indirect effects of urbanization on rural poverty would be the same for less and more concentrated urbanization patterns.

Different literatures have so far focused on subsets of these three channels (agglomeration economies, rural off-farm employment, and urbanization externalities) and their effects on either growth or poverty, but typically not both, and not in a comparative or comprehensive framework. The new economic geography literature, for example, emphasizes how urbanization fosters economies of scale and agglomeration, which in turn are found to spiral economic growth (World Bank, 2009). The existence of localized external economies of scale has been documented for several industries such as heavy industries, and more modern manufacturing sectors such as transport and high tech. Externalities arising from producers locating close to suppliers and service providers as well as consumers and knowledge interactions in dense interactive locations can further add economies of agglomeration, especially beneficial to high tech industries (Henderson, 2010). Economies of scale and agglomeration would thus favor urban concentration, provided it also maximizes employment generation, especially for the (unskilled) poor.

Another longstanding literature has highlighted the positive role of rural nonfarm activities in poverty reduction, with rural towns, which mediate the flow of inputs, goods, and services between rural hinterlands and large urban centers, seen as the most effective generators of nonfarm employment for the poor (Haggblade, Hazell, & Reardon, 2007; Lanjouw & Murgai,

2009). Faster rates of poverty reduction from secondary town development than from metropolitization might be understood within the standard Harris–Todaro (H–T) framework, [4] if for example, the probability of being employed for the poor is higher in secondary towns than in mega cities, as observed in Tanzania. [5] Put differently, even though they may on average earn less (the wage distributions in secondary towns being more compressed), the higher likelihood of finding a job (given higher demand for unskilled and semi-skilled labor) [6] may give them a higher chance of exiting poverty. On the supply side, lower migration costs and the ability to maintain and exploit closer social ties with the areas of origin might further favor migration of the rural poor to nearby towns to find off-farm employment and exit poverty, as opposed to distant cities. [7] But lower agglomeration economies in rural towns might also lead to slower economic growth (and job creation), possibly inducing a growth-equity trade-off.

In addition to the direct impact on poverty from rural–urban migration by the rural poor, there are also positive spillovers of urban centers on the rural hinterlands, through consumption linkages, urban–rural remittances, the upward pressure on agricultural wages, and the generation of rural nonfarm employment [8] (Cali & Carlo, 2013; Lanjouw & Murgai, 2009). [9] This is especially important as 70% of the world's poor are estimated to be rural (World Bank, 2008). Whether the positive spillover effects on (aggregate) rural poverty are stronger for metropoles than for secondary towns is not clear *a priori*. The magnitude of the positive spillover effects on rural poverty in the hinterlands of metropoles could for example be larger, while the space and population affected by the metropoles may also be smaller than this affected by all the secondary towns taken together.

Thus, while urban concentration may be more conducive to aggregate economic growth—and important caveats [10] remain—the pro-poor marginal incidence of nonfarm employment expansion may be higher for secondary towns. Overall, the relationship between urbanization and poverty reduction, beyond its effect on growth, remains little studied, with theoretical expositions by Anand and Kanbur (1985), Fields (2005) and Ravallion (2002) and an initial empirical exploration by Ravallion, Chen, and Sangraula (2007) being notable exceptions. Nonetheless, the question of urban concentration is pressing, as policymakers prepare to accommodate the next wave of rural migrants as the structural transformation proceeds. China and India for example both contemplating the development of supercities (Henderson, 2010) and Africa also thought to be urbanizing rapidly, [11] while finding itself already at high levels of urban primacy (Behrens & Bala, 2013). The lock-in of urbanization patterns, including through infrastructural lock-in, adds further urgency.

Building on Ravallion *et al.* (2007) and also drawing on the global cross-country experience, this study takes a comprehensive and comparative perspective and empirically examines whether the nature of the rural–urban transformation process (i.e., urban concentration *versus* rural diversification and secondary town development, as opposed to urbanization *per se*) matters for the speed of poverty reduction. In doing so, it does not seek to establish causality as such, but rather explores whether worldwide, empirical regularities along these lines can be uncovered.

To do so, the population in each country is classified into three groups according to their occupation and location: (1) those living in rural areas and employed in agriculture, (2) those living in mega cities and employed in industry and services, and (3) those living in rural areas and secondary cities and employed outside agriculture. The latter group will be

referred to as the "missing middle," reflecting its operational definition as the residual category between the total population and those employed in agriculture and those living in mega-cities. Hence this study differs conceptually from most of the literature, which typically applies either a spatial (rural–urban) or an occupational (agriculture–nonagriculture) dichotomy. The empirical application, using country fixed effect panel estimation techniques, is to 206 poverty spells from 51 developing countries spread across five continents, spanning 1980–2004.

The empirical findings suggest that migration out of agriculture into rural nonfarm activities and secondary towns is associated with a reduction of poverty, while no statistically significant effect on the rate of poverty reduction was found from agglomeration in mega cities. Further exploration of the channels indicates that rural diversification and secondary town expansion yield on average more inclusive growth patterns. In contrast, mega-city agglomeration yields faster income growth, but also comes with higher income inequality, which appears to offset its potential impact on overall poverty. While still no causality is purported as such, these empirical regularities are robust to a series of definitional issues and competing hypotheses. Together they add a new and timely dimension to the ongoing debates about the role of urbanization in development and its implications for the spatial distribution of portable (education, health) and nonportable (infrastructure) public goods.

In what follows, Section 2 presents the analytical framework underpinning the estimation equations. The data are reviewed in Section 3 and the empirical findings, including a series of robustness tests, are discussed in Section 4. Section 5 concludes.

2. ANALYTICAL FRAMEWORK AND EMPIRICAL STRATEGY

Denote by A the (rural) agriculture sector, by U the (urban) metropolitan sector, and by N the nonfarm sector in rural areas and secondary towns, i.e., the missing middle. Building on the conceptual framework developed in Ravallion and Datt (1996) and Ravallion (2002), the aggregate, decomposable poverty measure, P, is then decomposed as:

$$P = s_U P_U + s_N P_N + s_A P_A \tag{1}$$

where s_i and P_i are the share of the population and the poverty headcount ratio of sector i, respectively. Total differentiation of Eqn. (1) leads to:

$$\frac{dP}{P} = \frac{s_U P_U}{P}\left(\frac{ds_U}{s_U} + \frac{dP_U}{P_U}\right) + \frac{s_N P_N}{P}\left(\frac{ds_N}{s_N} + \frac{dP_N}{P_N}\right)$$
$$+ \frac{s_A P_A}{P}\left(\frac{ds_A}{s_A} + \frac{dP_A}{P_A}\right) \tag{2}$$

Assume that the poverty measure P_i is a function of the average income (y_i) and the population share (s_i) of the sector:

$$P_i = f_i(y_i, s_i) \quad \text{for } i = U, N, A, \tag{3}$$

A distribution neutral increase in average income (y_i) shifts the income distribution of each sector i to the right and reduces poverty, which is termed the "*income-level effect*." Following Ravallion (2002), it is assumed that an increase in the population share of the sector may change its income distribution (holding average income constant), which is termed the "*income-distribution effect*." If the income distribution becomes less equal, the concentration in the sector changes its poverty