WP 2018-11
July 2018

Working Paper

Charles H. Dyson School of Applied Economics and Management
Cornell University, Ithaca, New York 14853-7801 USA

MIGRANTS, TOWNS, POVERTY AND JOBS: INSIGHTS FROM TANZANIA

Luc Christiaensen, Joachim De Weerdt, Bert Ingelaere, Ravi Kanbur

It is the Policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

Migrants, Towns, Poverty and Jobs: Insights from Tanzania

By

Luc Christiaensen
The World Bank

Joachim De Weerdt
University of Antwerp

Bert Ingelaere
University of Antwerp

Ravi Kanbur
Cornell University

January 2018

Contents

1 Introduction: Looking Beyond Urban Aggregates

A decade ago, the world reached an important "tipping point"—half its population became urban. By 2030, almost 60% of the world will live in urban areas. About 90% of the world's urbanization in the next decades is expected to take place in the urban areas of Asia and Africa (United Nations, 2015). Not only is this part of the world urbanizing, it has been doing so at an extraordinarily rapid pace. While it took Industrial Europe 110 years (1800-1910) to increase its rate of urbanization from 15 to 40 percent, Asia and Africa did so in only 50 years (1960-2010), or twice as fast (Jedwab, Christiaensen, Gindelsky, 2017).

Many issues in urbanization are hotly debated. These include, for example:

- The association, and two-way causal relation, between urbanization and growth. The association is an essential aspect of classical theories of development (Lewis, 1954).
- Asia versus Africa. Is African urbanization "different"? (Henderson, Roberts, and Storeygard, 2013; Gollin, Jedwab, and Vollrath, 2016).
- The association between unemployment, poverty reduction and urbanization. (The vast literature emanating from Todaro, 1969, and Harris and Todaro, 1970).
- Urbanization and formalization (e.g. Ghani and Kanbur, 2014).
- Is urbanization delivering the benefits of agglomeration? (Duranton, 2015).

However, all of the above is in an aggregative perspective. It is the national rate of urbanization that is being focused upon, either as the variable to be explained, or the as the variable doing the explaining. This is, in fact, the dominant mode of reasoning and analysis in the literature. Barring some exceptions[1], the academic literature and policy mind-sets have been squarely focused on the aggregate rate of urbanization. Moreover, the opportunities and challenges posed by urbanization are often taken to be synonymous with those offered and experienced by the main urban centers (i.e. the political or commercial capitals, or the "big cities").

Take the case of Tanzania. According to the 2012 census, around 10% of the population lived in Dar es Salaam, the political capital. At around 4.5 million, this was the largest urban agglomeration in Tanzania by a huge margin. The population of Dar grew dramatically over the past fifty years and the bulk of this growth was accounted for by in-migration (Wenban-Smith, 2015). Facts such as these, seen in this way, have colored much of the urbanization discourse, in Tanzania, but also in the rest of the world. They lead to a focus on investment in large cities, in response to in-migration. And because these are migrants from poor rural areas, the argument goes, public investment in countries' metropoles is also of primordial importance to address poverty.

Consider, however, the following perspective, also taken from Wenban-Smith (2015). Figure 1 shows that in 2012 Dar accounted for about one third of the urban population. But it also accounted for about one third of the urban population in 2002, in 1988, in 1978 and so on back. Thus, non-Dar urban areas have grown as fast as Dar in Tanzania's history. If we further divide non-Dar urban into regional capitals (with an average population of around 200,000) and small towns (with an average population of around 20,000), an even more interesting trend appears— small towns are forming an ever-increasing

[1] For example, Henderson (2003), Kanbur and Venables (2007) and Christiaensen, De Weerdt and Todo (2013).

proportion of the urban population of Tanzania. There is clearly a lot of urbanization action going on in small towns! The movement out of rural areas, which is undeniable as a major trend, is as much to small towns as to Dar.

That researchers and policy makers may be missing a significant part of the urbanization action in Africa (not just in Tanzania) by focusing on big cities is shown by the fact that in Africa the distribution of urban agglomerations by population size is bimodal. Two fifths of the urban population is in cities larger than 1 million people, but two fifths is in towns of less than 250,000 people (Dorosh and Thurlow, 2013). Of course, what exactly is a small town depends on the country context. But the fact of the matter is that the literature and the policy discourse seldom go beyond the dichotomous rural-urban distinction, thereby ignoring the distribution of the urban population across cities of different sizes.

Our central contention is that the *composition* of urbanization could be as important for employment generation and poverty reduction as is the overall aggregate national rate. It is certainly an important policy question faced by any African government—at the margin, should the Government of Tanzania tilt towards public investment in small towns rather than the capital city? To address this question, it is important to understand why the composition of urbanization matters for the speed of poverty reduction, and thus employment and poverty reducing policies?

The effect on growth and poverty reduction of urbanization depends on the interplay of three forces[2]: (i) intra-urban agglomeration effects and congestion costs, (ii) the economic linkages between urban and rural areas and (iii) the rural-urban migration flows. The new economic geography literature, for example, emphasizes the importance that urban size plays in fostering economies of scale and agglomeration, which are found to propel economic growth (Overman and Venables, 2010). There is however a tipping point beyond which returns to size may start to decline (Henderson, 2003). Once cities become too big, congestion costs can cause a decline in economic growth. Drawing on the cross-country experience, Frick and Rodriguez-Pose (2016) find further that the effect of average city size on economic growth may not hold up to the same degree in developing countries as it did in developed countries. If anything, their empirical findings suggest that the relationship may even be negative.

There are also positive spill-overs of urban centres on the rural hinterlands, through consumption linkages, urban-rural remittances, upward pressure on agricultural wages, and the generation of rural non-farm employment (Cali, 2013). It is unclear whether, in the aggregate, spillovers are larger when the urban population is concentrated in few large urban centres, or when it is more spread out across a greater number of smaller urban centres.

Finally, due to a series of migration barriers, poorer people, who remain largest in number in the rural areas, may find it easier to connect to growth and jobs in and around smaller urban centres nearby than when these jobs are created further away in a limited number of large cities. That the rural poor benefit more from growth of towns than from growth of cities has for example been observed econometrically in India (Gibson, et al., 2017). Eighty-two percent of the poor in Sub-Saharan Africa live in rural areas (Beegle, et al., 2016) and a larger share of the rural population live within the hinterlands of smaller towns than within the hinterlands of cities (FAO, 2017).

[2] The theoretical and empirical literature on this is still in its infancy. Christiaensen and Kanbur (2017) provide an overview of the incipient conceptual insights and empirical findings.

Overall, the variety of forces can go in opposite way. Ultimately it is a matter for empirical investigation and resolution. But the investigation cannot begin if we stick with the conventional rural-urban dichotomy in the face of the growing importance of small towns in the urbanization story in Africa. The objective of this paper is to provide such an empirical exploration of a range of issues linking migration, small towns, poverty and jobs for one country, Tanzania, mostly drawing on a remarkable data base for qualitative and quantitative analysis from Kagera, northwestern Tanzania.

To do so, and given the complexity of the matter, it deliberately draws on different methods. In particular, the chapter synthesizes the insights of a body of work that has addressed the question of whether the composition of urbanization matters for poverty reduction in the context of Tanzania from a series of angles (theoretical and empirical, quantitative and qualitative).[3] This is not to say that this multi-layered approach will "resolve" the question of whether it is at the margin better to invest in towns than in cities to maximize the poverty reduction. Rather, to the extent that the findings from these different approaches point in the same direction, they can at least demonstrate the need for a more disaggregated perspective to the questions of urbanization and development, and draw attention to the notion that secondary towns can be particularly conducive to poverty reduction.

The chapter proceeds as follows. Through novel decomposition, drawing on the peculiar features of individual panel data from a shorter national and a longer regional panel in Tanzania, the paper first documents the empirical contributions of towns and cities to growth and poverty reduction among these populations during the periods under study (Section 2). Section 3 then introduces a basic theoretical framework, building on Harris-Todaro (1979), to help identify some of the potential mechanisms behind the observed contributions, with their empirical relevance illustrated within the context of the regional panel.

In this, rural-urban migration emerges as an important contributor to growth and poverty reduction, with town migration multiple times more frequent than city migration, despite larger growth and poverty reduction potential per move from moving to the city than to the town. While higher earning potential in cities has been considered a common feature of the urban landscape (Ferré, Ferreira, and Lanjouw, 2012), greater proximity of the rural population to towns than to cities emerges as an important additional factor to understand why many more rural citizens (many of them poor) end up in (nearby) towns rather than in the city. To examine this more rigorously, Section 4 presents the findings of an econometric test of the importance of distance in determining migrant destination choice. The econometric results are then probed further in Section 5 through qualitative analysis (life histories), with a subset of migrants from the Kagera panel). Section 6 concludes.

[3] The different papers the chapter draws on, are referenced throughout the chapter.

2 Migration, Towns and Poverty Reduction in Tanzania

The forces of agglomeration, congestion, hinterland linkages and migration can go in opposite ways, such that the overall effect of urban composition on growth and poverty is ultimately an empirical matter. What type of exercise might give us an initial handle on the effect of the composition of urbanization? Suppose we had nationally representative panel data at time t and time t+1, which gave us a person's individual location as well as their income (or consumption) in each period. Then we could, in effect, decompose national poverty change into the poverty effects of (i) income growth in rural areas, small towns, and cities, i.e. income growth among those who stayed in each of these three areas, and (ii) income changes as the result of (net) migration across these categories, i.e. income growth among those who moved from rural areas to small towns, from rural areas to the city, from small towns to the city and vice versa.[4]

Christiaensen, Kaminski, Sim and Wang (2017) do so using the National Panel Survey of Tanzania (2008-2012) (Table 1).[5,6] Overall, poverty did not decline much over this period (by 0.42 percentage points), consistent with the low annual growth in consumption (1.16 percent). Yet, these averages hide a lot of heterogeneity especially between non-movers and movers and depending on the destination (rural, town, city).[7] The vast majority of the population (91 percent) did not move and experienced very little consumption[8] growth or poverty reduction. Among them, poverty reduction was largest among those who stayed in secondary towns. Among city dwellers, growth was even slightly negative and the poverty headcount increased slightly.

These relatively small changes in (average) welfare contrast with the changes observed among the movers. Their poverty declined by 5.8 percentage points (and their average annual consumption growth amounted to 8.35 percent). More strikingly, income growth and poverty decline was especially substantial among rural-urban migrants, while moves back to the rural areas (from the town or the city) came along with a substantial increase in poverty incidence (from 4.5 to 14.8 percent and from 0 to 13.1 percent respectively). Urban-rural migration did not necessarily result in a decline of average income growth though. Return migration does not signify failure for everyone (Hirvonen and Lilleor, 2015).

Looking within the urban space, rural-town migration contributed most to overall poverty reduction (twice as much as rural-city migration, 105 percent versus 49 percent respectively), even though rural-city migration contributed more to overall income growth. The reason for the larger contribution to poverty reduction by rural-town migration follows from the fact that 4 years later about twice as many rural citizens were found in a secondary town than in the cities (3.4 percent versus 1.7 percent), while the decline in poverty incidence among both groups was very similar (13.1 and 12.4 percentage points respectively). When it comes to income growth however, rural-city movers saw their incomes grow much

[4] Christiaensen, De Weerdt and Kanbur (2018) elaborate the technical basis for these decompositions.
[5] Among those who stay in rural areas, they further split off those who go to a rural area in another region.
[6] The authors abstract from statistical weight adjustments for differential natural population growth rates across space.
[7] In their decomposition, urban centers with more than 500,000 inhabitants are classified as cities. They consist of Dar es Salaam and Mwanza (capital of the Mwanza region), with an estimated population of 4.36 million and 0.7 people respectively as of 2012.
[8] Consumption and income will be used interchangeably.

more than those moving to towns, overcompensating for the fact that only half as many ended up in the city.

These findings draw attention to the critical role secondary towns appear to have played in poverty reduction in Tanzania. This follows, at least in an accounting sense, from the fact that many more rural dwellers (including poor rural dwellers) ended up in towns, even though the income gains among those who were found in the city, were much larger. Yet, those making their way to the city might have been slightly better endowed to begin with (as suggested by their somewhat lower initial poverty incidence – 16.2 percent among rural-city migrants versus 23.2 percent among rural-town migrants).[9] And city migration may also be riskier than town migration, as suggested by the larger increase in poverty and larger decline in average incomes among city-rural migrants than among town-rural migrants.[10] The decomposition findings based on the national panel also abstract from longer run feedback effects between cities and towns.[11]

Application of the same decomposition to the famous long running Kagera Health and Development Survey (KHDS) (early 1990s-2010) provides complementary insights. This is also the sample on which much of the empirical analysis in the remainder of the paper will be based. KHDS is a data set of migrants from Kagera, a large, remote and primarily rural region in the north-western part of Tanzania. We have information on 4,339 individuals, first interviewed in their baseline communities in the early nineties and then re-interviewed nearly two decades later in 2010. The data set is unique, because of its unusually long time frame and because it tracked all original individuals who left for other rural areas, towns and cities (De Weerdt et al., 2012).

Contrary to the 2008-2012 period at the national level, there was a considerable amount of growth and poverty reduction in the KHDS sample over its 18-year span (Table 2). Per capita incomes rose by 77 percent and the poverty headcount declined by 24 percentage points. Yet, as before, movers contributed more than non-movers, in terms of poverty reduction (55 versus 45 percent), and especially in terms of growth (71 versus 29 percent). Further disaggregation of the contribution of the movers shows that rural-urban migration contributed more than migration within rural areas, and especially that rural-town migration contributed more to poverty reduction than migration of rural citizens to the cities, despite a much larger reduction in poverty from moves to the city.[12] As in the national panel, this follows from the substantially larger share of the migration population ending up in towns than in the city (just under twice as much). In the KHDS sample, migration to towns also contributed more to

[9] See Young (2013) highlights the importance of sorting in rural-urban migration.

[10] A larger share of town migrants also returned to the village, which reduced the amount of poverty reduction more than city-rural migration. Yet, the net contribution of rural-town migration to poverty reduction is still larger than the net contribution of rural-city migration, and the income (and poverty) losses per return migrant are lower. To see this, note that the net contribution of rural-town (105.6-32.1=73.5 percent) could be approximated by reducing the overall contribution of rural-town migration to poverty reduction (105.6 percent) by the expected contribution to poverty increase following town-rural return (32.1 percent). Similarly, the net contribution of rural-city migration is 39.7 percent (49.4-9.7=39.7 percent).

[11] See Dorosh and Thurlow (2013, 2014) for some economy wide modeling simulations of the differential effects on national poverty and economic growth of a similar productivity increase among citizens in rural areas, towns or cities.

[12] As in the national panel, Dar es Salaam and Mwanza are the only two cities considered. Tightening the definition to count only Dar as a city or broadening it to include all cities administratively defined as cities, does not change the conclusions.

income growth, as the difference in the per capita income gain between migrants to cities and towns wasn't large enough to offset the effect of the much larger number of rural-urban migrants that ended up in the towns.

In conclusion, while the typical move from rural to big city increases income and reduces poverty by more than the typical move from rural to small town, there are so many more moves from rural to small towns that in aggregate it is these moves—the rural-town part of urbanization—which account for the greater share of poverty reduction. But this in turn raises the question—if the move to the big city is expected to raise income by far more, why would anyone move to the small town at all, especially since the difference in poverty incidence at baseline (an indicator of credit constraint) between town and city migrants is relatively small in the national data or even zero in the case of the KHDS sample.

One obvious explanation may relate to selectivity. This would hold that it is especially the more educated and the more entrepreneurial, who are smaller in number, that make it to and in the city, where the returns to skills also tend to be higher (Young, 2013; Diamond, 2016; Hicks et al., 2017). There are some signs of that. The KHDS data set shows a clear education gradient with respect to migration destination. Out of migrants from rural origins, who are no longer in school, those moving to other rural areas have an average of 6 years of formal education, those who moved to secondary towns 7 years, and those who moved to cities 8 years. Ninety-three percent of those moving to the city have completed primary, while only 65% and 79% of those moving to rural locations and secondary towns, respectively, have completed primary. The city disproportionately attracts people with more years of formal schooling. This is also consistent with the larger gain in income among those moving to the city.

Yet, the fact that more of the better educated end up in the cities, does not necessarily imply that there are no extra income gains from moving to the city for the less educated, compared with moving to the towns.[13] To get a more systematic handle on the question as to why, in equilibrium, more rural people move to towns, even though the gains are larger when moving to the city, the next section builds on the insights from Harris-Todaro.

[13] In comparing (nominal) wage gaps with rural agricultural wages across Abidjan and other urban areas for employees with primary or higher education (secondary and tertiary), Christiaensen and Premand (2017, Table 2.1) find for example that the difference in the rural wage gaps with Abidjan (w_{cp}-w_{rp}) and other urban areas (w_{sp}-w_{rp}) tends to be higher for those with primary education (p) than the difference in the rural wage gap with Abidjan (w_{ch}-w_{rh}) and other urban areas (w_{sh}-w_{rh}) among the higher educated (h). (Abidjan, other urban/secondary towns and rural are denoted by c, s and r respectively). Put differently, $(w_{cp}-w_{rp})-(w_{sp}-w_{rp}) > (w_{ch}-w_{rh})-(w_{sh}-w_{rh})$ or $(w_{cp}-w_{sp})>(w_{ch}-w_{sh})$, which would imply larger gains from moving to towns for those with primary education than for those with higher education, at least in Cote d'Ivoire.

3 Extending the Harris-Todaro Framework

Migration equilibrium when there is a single destination from the rural area was worked out in the classic papers by Todaro (1969) and Harris and Todaro (1970). There have been many advances in the literature since then, but the power of the framework to address migration issues remains undiminished.[14] We will use this framework to answer the question posed in the last section, if the typical move from rural to big city leads to a larger gain than the typical move from rural to small town, why are there so many more moves to small towns?[15]

We begin the analysis with a single urban destination to introduce notation and establish benchmarks. In the simple Todaro (1969) model agents are identical, there is a single rural wage w_r and a single urban modern sector wage w. There are E modern sector jobs and those who do not get these jobs, survive in the informal economy ("unemployment") at wage w_0. The probability of modern sector employment is e, the "employment rate. We assume

$$w_0 < w_r < w \quad (1)$$

as a stylized representation of the facts. With risk neutral agents, migration equilibrium occurs when the certain rural wage equals the expected urban wage:

$$w_r = ew + (1-e)w_0 \quad (2)$$

The equilibrium value of the adjusting variable, e (all other variables are assumed to be constant) is thus:

$$\mathrm{e} = \frac{w_r - w_0}{w - w_0} \quad (3)$$

With total population given as the sum of the rural (N_r) and urban (N_u) population,

$$N = N_r + N_u \quad (4)$$

the equilibrium distribution of population can be derived as:

$$N_u = \frac{E}{e} = E\,\frac{w - w_0}{w_r - w_0} \quad (5)$$

As is now well known, an increase in the modern sector wage, increases the unemployment rate and the size of the urban population, in other words, more migration.

But there is also a cost to migration (e.g. transport, settlement, and job search costs), which has not been included in the standard H-T models. Denote this cost as t. Introducing such a cost makes the model more realistic. Informal urban wages are in practice typically at least as high as rural wages, which, under the traditional H-T assumptions, would suggest an empty country side.[16] The equilibrium condition now becomes:

[14] For a recent paper which incorporates many of these advances, see Basu, Chau, Fields and Kanbur (2016).
[15] This section draws on the analysis presented in Christiaensen, De Weerdt and Kanbur (2017).
[16] Everyone would leave the country side if $w_r < w_0 < w$. With t, the condition for a non-zero rural population in equilibrium becomes $w_0 < w_r + t < w$. Whether people migrate does not only depend on the wage differential, but also on the migration cost.

$$e = \frac{w_r + t - w_0}{w - w_0} \quad (6)$$

In this scenario, an increase in t comes along with an increase in the employment rate in equilibrium, to compensate, and there is less migration ($N_u = \frac{E}{e} = E\frac{w - w_0}{w_r + t - w_0}$ declines). These results are intuitive and have formed the basis for empirical exploration.

Let us now extend the basic model to one with two destinations, with subscripts *c* for city and *s* for small town. The equilibrium conditions are now given by:

$$w_r = e_s w_s + (1 - e_s) w_{os} - t_s = e_c w_c + (1 - e_c) w_{os} - t_c \quad (7)$$

In equilibrium, the city and town populations are given by:

$$N_c = \frac{E_c}{e_c} = E_c \frac{w_c - w_{0c}}{w_r - w_{0c} + t_c} \quad (8)$$

$$N_s = \frac{E_s}{e_s} = E_s \frac{w_s - w_{0s}}{w_r - w_{0s} + t_s} \quad (9)$$

$$N_r = N - N_c - N_s \quad (10)$$

It can now be shown that migration declines with t_i (with *i=c* or *s*), but increases with w_i and w_{0i}.[17] Put differently, according to the model, in equilibrium, the size of the migration flow to a destination (city or town) depends on the number of formal (or high paying jobs) (E_i), the wage gap between the formal and informal job at destination (w_i-w_{oi}), the wage gap between the job at origin and the informal job at destination (w_r-w_{oi}) as well as the cost of migration (*ti*).

These equations give a handle on key factors that affect the number of people that end up in cities versus towns in equilibrium. Parametrization further allows to explore the empirical relevance of its insights. If empirical resolution of the right-hand side of equations (8) and (9) yields migration patterns that correspond to those observed in reality (N_c, N_s), then this would suggest that the model has explanatory power. It would support its use as an entry point in understanding the reasons why so many people end up in towns, while there is more to be gained from moving to the city.

Information on the population size (N_i), the size of formal employment (E_i) and the formal and informal wage rates or income in the three locations (w_i, w_{oi}, w_r) can be obtained. Yet, empirical measures of the full migration cost (t_i) (transport, settlement and jobs search costs as well as psycho-

[17] By holding the number of formal or high paying jobs (E_c, E_s) fixed in each location, and thus independent of city size (N_c, N_s), we abstract from the potential of agglomeration economies, and thus faster economic growth and potentially larger formal employment generation, induced by rural-urban migration. If these effects are larger for cities than for towns, cities may in equilibrium attract more migrants than towns, which could affect the income distribution. While the evidence for the developed world clearly indicates that larger urban centers (by population size) also enjoy faster economic growth (Duranton, 2015), such a relationship has not been empirically established for urban centers in the developing world. In fact, if anything, as indicated above, the relationship may even be negative (Frick and Rodriguez-Pose, 2016).

social adjustment) are hard to come by.[18] This makes it difficult to empirically verify (8) and (9) directly. Therefore, equations (8) and (9) are rewritten as a ratio:

$$\frac{N_S}{N_C} = \frac{E_S}{E_C}\left[\frac{w_S - w_{OS}}{w_C - w_{OC}}\right]\left[\frac{w_r - w_{OC} + t_C}{w_r - w_{OS} + t_S}\right] \quad (11)$$

Given information on all parameters except t_c and t_s,, assuming $w_r+t_i > w_{oi}$ (otherwise migration to *i* would be zero), and assuming $t_c > t_s$, the ratio of t_c/t_s needed to solve (11) can then be derived and its empirical plausibility assessed. This will give a sense of the empirical importance of the cost differences between migrating to cities and towns in understanding why many more people moved to towns than to the city.

The long running KHDS panel provides an ideal opportunity to do so. The spatial and sectoral distribution of its population by 2010 could be seen as the long run equilibrium outcome of the migration process, represented by the model. Furthermore, virtually everybody of the KHDS sample living in the rural areas in 2010 worked in the informal sector (only 3.5 percent relied on a formal wage job), which corresponds closely with the rural population reflected in the model, i.e. employed in the informal sector at a lower income (w_r).

In 2010, there are 557 town migrants and 315 city migrants, or $N_s/N_c=1.77$. We subsequently calculate ($\frac{E_S}{E_C}$) and the observed wage gap between working in the formal and informal sector in the towns and the city ($\frac{w_S - w_{OS}}{w_C - w_{OC}}$). This provides the necessary information to identify a range of t_c/t_s combinations that can solve (11). In the towns, 18.9 percent lives in a household that relies on formal wage employment; in the cities, this share rises to 22.2 percent.[19] The E_s/E_c ratio thus equals 1.5.[20]

Figure 1 overlays the cumulative density functions (cdf) of annual consumption per capita for each of the 5 incomes of interest (informal rural employment, informal and formal town employment, and informal and formal city employment).[21] For the largest part, the income distributions first order dominate each other in the expected manner, i.e. $w_r < w_{os} < w_{oc} < w_s < w_c$.[22] Note that this is different from the assumptions in the traditional H-T model, whereby $w_o < w_r < w$, underscoring the importance to account for migration costs for the basic H-T assumption to hold empirically.

[18] While transport costs are relatively easy to obtain, the costs of migration go well beyond that. They also include the monetary costs related to resettlement, jobs search as well as the psycho-social costs associated with adjustment and being away from home.

[19] Contrary to expectations, after about two decades 20 years, the degree of formal employment among city migrants is thus not that much higher than among town migrants. As expected, the share of the formally employed working in the public sector is slightly higher in the towns (21 percent versus 11 percent in the cities), consistent with a relatively greater role of local government and public service provision in formal employment in towns. Nonetheless, in both towns and cities, most of the formally employed work in the private sector (70 and 80 percent respectively).

[20] E_s, the total number of migrants formally employed in towns equals 105 (=0.189*557); E_c, the total number of migrants formally employed in cities equals 70 (=0.222*315), or $E_s/E_c=105/70=1.5$.

[21] Given the difficulties in obtaining reliable income data in African settings, consumption per capita, spatially deflated and expressed in 2010 Tanzanian Shilling (TSH), is taken as proxy for income. For a detailed description of the data and the consumption variable construction, we refer to De Weerdt et al. (2012).

[22] Formal secondary town employment dominates informal city employment over most of the income range, except at the very bottom and top of the income distribution, which may also be linked to measurement errors.

Taking median incomes (in '000 TSH) of each group yields: w_r=372 < w_{os}=613 < w_{oc} =871 < w_s =1,088 < w_c =1,475.[23] The ratio of the town and city income gaps between formal and informal incomes, thus equals 0.79,[24] suggesting greater income polarization in cities than in towns, as expected (Ferré, Ferreira, and Lanjouw, 2012).

Returning to (11), it can be seen that $\frac{w_r - w_{oc} + t_c}{w_r - w_{os} + t_s} = \frac{(-499) + t_c}{(-241) + t_s}$ needs to equal 1.5, that t_c> 499 and t_s>241 for (11) to hold.[25] Several (t_c, t_s) pairs can be found that meet these conditions. For example, setting t_c at 500, or 133 percent of annual rural income per capita, t_s must equal, 242, or 66 percent of annual rural income per capita, for the model to hold empirically. Under these assumptions, t_c/t_s=2, or migration to the city is about twice as expensive as migration to towns.[26]

As said, there is no direct information on all migration costs in the sample. Yet, circumstantial evidence supports the notion that migrating to the city is substantially more expensive in the KHDS sample, than moving to towns. Reported one-way transport costs, for example, are on average two times higher to the city than to the towns (47,140 TSH vs 23,346 TSH respectively) and migrants to towns are 8 percentage point more likely to have found work before moving than migrants to the city, illustrating differences in search costs. Reliance on friends and family for the first residence was also much more important for city migrants (56 percent) than for town migrants (30 percent) who were more likely to own a dwelling (32 percent versus 16 percent in cities) or have housing provided by the employer (8 percent, versus 2% in cities). In each case about 30 percent rented a dwelling (Christiaensen, De Weerdt, and Kanbur, 2017).

Overall, these simulations suggest substantially higher barriers for city migration, and a greater role of family and friends to overcome them, than for migration to the more proximate and familiar towns. Differences in migration costs may well play a much more important role in understanding why many migrants end up in towns than in the city, than is currently appreciated, despite higher earnings on average in the latter.[27] One way to empirically test this, is to explore the effect of the distance from the origin to the destination on the choice of the destination. This is the topic of the next section.

[23] A similar gradient is observed when taking average incomes, which are more sensitive to outliers: w_r= 495 < w_{os}=765 < w_{oc} =1,063 < w_s =1,325 < w_c =1,605.

[24] $\frac{w_s - w_{os}}{w_c - w_{oc}} = \frac{1088 - 613}{1475 - 871} = \frac{475}{604} = 0.79$

[25] Rearranging (11): $\left[\frac{w_r - w_{oc} + t_c}{w_r - w_{os} + t_s}\right] = \frac{\frac{N_s}{N_c}}{\frac{E_s}{E_c}\left[\frac{w_s - w_{os}}{w_c - w_{oc}}\right]} = \frac{1.77}{1.5x0.79} = 1.5$. Further note that for an interior solution (i.e. N_r>0, N_i>0), $w_r+t_c>w_{oc}$ and $w_r+t_s>w_{os}$.

[26] Similar city-town migration costs ratios are found, for higher values of the city migration cost.

[27] The effects also play in a dynamic way. As distance reduces the likelihood of a first mover, and thus the likelihood of having family and friends far away to help overcome the migration costs, the higher costs of city migration are also more likely to bind, with especially poorer and liquidity constrained households more likely to be locked out (McKenzie et al., 2010; Beegle et al., 2011; Bryan, Chowdhury, Mobarak, 2014).

4 Proximity Rules: Econometric Evidence

We began the paper by showing that in the KHDS panel data set, the contribution of the small town moves to overall poverty reduction was greater because there were so many more of them. But the question arises, if the typical move to a big city is so lucrative, why are there not more of them. We attributed this to "migration costs" in the broad sense, encompassing actual physical costs of transportation over distance, but also other costs associated with distance, including lack of information, uncertainty, search and settlement costs, etc. Indeed, distance has been a consistently significant factor in the literature on the econometric analysis of migration decisions.[28] The Kagera sample affords a unique opportunity to test the impact of distance on migration and thus to circle back to our original finding on the importance of migration to small towns in poverty reduction. The augmented H-T model exhibited in the previous section further motivates an empirical specification to do so.

If we are to understand destination choice among migrants, then there is not only information in knowing where the migrant migrated to, but also in knowing the potential destinations the migrant did not migrate to. Information about both the chosen and foregone destinations can thus be exploited to identify the effect of the characteristics of the destination, such as distance, earnings potential, income polarization (while controlling for selectivity by controlling for the individual characteristics of the migrants). As towns are typically more nearby, with lower earnings potential and lower income polarization, the relative empirical importance of these different factors in determining why more migrants end up in towns can thus be explored.[29]

To begin, note that internal KHDS migrants moved to 57 different districts, within which further moves can be distinguished to rural or urban areas, to arrive at a total of 78 locations. We are particularly interested in the 967 migrants who migrated to the 31 urban locations. We assume that these 31 urban locations are the potential urban destinations for our sample of urban migrants. Taking the choice of moving to an urban (as opposed to a rural) location as given, each of the migrants in the sample has thus chosen to move to one urban destination; and has therefore also chosen not to move to the 30 other potential urban destinations. To understand the factors determining that choice better, a dyadic data set was created that contains 31 observations for each urban migrant *i*; one observation for each potential urban destination *d*. The dependent variable Y_{id} is a dummy equal to one if *i* was found in location *d* during the last survey round and zero otherwise. The correlates of Y_{id} were then examined by estimating the following equation:

$$Y_{id} = D_d\beta_1 + R_{id}\beta_2 + \alpha_i + \varepsilon_{id} \qquad (12)$$

[28] The importance of distance in understanding migration patterns has been highlighted early on in the literature (Sjaastadt, 1962; Schwartz, 1973), but has disappeared to the background lately, in favor of a focus on issues of selection.

[29] This section draws heavily on Christiaensen, De Weerdt, and Kanbur (2016). The application only analyzes those who have actually migrated, in order to not confound the destination choice with the migration choice. Herein, Christiaensen, De Weerdt and Kanbur (2016) follow Fafchamps and Shilpi (2013) who have used this kind of dyadic analysis before to study destination choice. We also analyze separately those who have moved to rural areas and those who have moved to urban areas.

Destination choice Y_{id} will depend on the observed and unobserved characteristics of the individual (including those related to household and community circumstances), the destination (such as the standard of living the migrant would expect to achieve at destination) (denoted by vector D_d) and the relation between the individual and the location (such as distance to destination). Motivated by the extended H-T model (equations (8) and (9)), the key variables of interest are the characteristics of the destination district (especially the income potential in their formal and informal sectors) and the relational variables (denoted by vector R_{id}) that are specific to the *i*–*d* pair, such as distance of *d* to the *i*'s baseline village.

A key econometric concern relates to selectivity bias. If the more entrepreneurial (a feature which is hard to observe) systematically move further away (say to the city because of higher earning potential) (Young, 2013; Diamond, 2016), then the estimated coefficients of *D* will be biased. To control for this, equation (12) includes an individual fixed effect α_i. This also controls for all household and community characteristics at the location of origin of *i*. To explore the differential effect of distance and location characteristics on destination choice by individual characteristics (Bryan, Chowdhury, Mobarak, 2014), interaction effects of individual characteristics such as education and poverty status with destination characteristics were further added. ε_{id} is an error term[30]. The coefficients are estimated using Ordinary Least Squares.

To capture high and low income potential (formal and informal employment) in the destination, Christiaensen, De Weerdt and Kanbur (2016) construct individual wealth indices in each of the destination districts, using the 2002 census. The 90th percentile value of the constructed wealth index at destination d (P90 wealth) and the 10th percentile are used to reflect the high and low income potential in each destination. Distance is the distance (in 1000s of km) of the district to the baseline community (expressed in logs).

The results from Table 3 confirm the importance of distance for destination choice. The further away from the destination, the less likely it is that a migrant will end up there. Migrants to cities travel on average 5 times further than migrants to secondary towns (roughly 1000 km versus 200 km). That difference represents 1.6 log points, which lowers the likelihood of migration by about 5 percentage points. The negative distance effect is only slightly mitigated by education (column 2), but not by wealth (column 3), suggesting that the effect of distance holds across the sample, irrespective of the individual characteristics. Town migrants also have only one year less of education on average than city migrants.

Higher earning potential at the lower end of the income distribution of the destination also exerts a positive influence. Contrary to the model's predictions, the coefficients on higher top incomes (reflecting income polarization) are negative, but not statistically significant. A Shapley decomposition further shows that for urban migrants, distance accounts for 65% of the explained variation. Clearly, the econometric results suggest that at least in this sample, distance, a broad (and exogenous) proxy for the cost (and barrier) to migrate, plays a role in understanding migrant destination choice.

[30] Fafchamps and Shilpi (2013) point out that, by construction, each migrant is only able to choose one destination, which raises a concern about negative correlation between error terms of observations from the same individual for the selected district and the non-selected districts and a positive correlation between all non-selected districts of the same individual. We follow these authors by clustering the standard errors at individual (or higher) level to address this concern.

5 Unpacking Distance Through Qualitative Investigation

To triangulate the findings, a selection of the respondents to the KHDS survey were also approached to talk about their migration experience in their own words (Ingelaere, et al., 2018). This life history method provides a rich complement to the more conventional economic approaches presented above and helps probe further into migrants' motivation in choosing their destination. From the overall KHDS sample, 75 migrants were interviewed from 6 purposively selected villages that were pairwise similar in their socio-economic characteristics in the early 1990s, but that displayed quite different migration patterns.

The overall insights from this qualitative investigation as to why more people may end up in towns than in cities, are well illustrated through the story of a single migrant, called R, here, for confidentiality purposes.[31] Born in 1978 in village F, R left the village in 1997, and returned in 2014. In that period, he shifted residence 8 times and had 7 different ways to make a living.

Aged 19, he moved to the small town of Bukoba. Here is how he describes his motives for moving: *"What made me move from [my village] to Bukoba was the economic situation. Because at that time I had completed school. Also, once a car like this passed by me, I wondered the speed it moved. Following this I desired going to driving school. That was the reason: to move to Bukoba town and learn how to drive . Having arrived in Bukoba town, I did some work and got money, went to […] the driving School. So, I liked driving very much."*

While living in his village and, later, Bukoba, R was exposed to images from and stories about Tanzania's capital: *"People say Arusha is a city, but Dar is something else. There used to be video shows in our village and all the famous football players, like Runyamila, seemed to live in Dar. We were childish at the time and we thought that if we went to Dar we'd see all these people."* However, at the time lack of resources did not allow him to make the trip: *"I would have gone to Dar es Salaam but when you know you have nobody in Dar es Salaam, someone to host you, [you can't undertake the trip]. But also the fare sometimes is not enough, because going to a place like Dar es Salaam, you have to plan in advance in order to get there."*

So, R's trajectory continued and included a return to the village, time spent in Mwanza – Tanzania's second largest city, small urban centers in the Kagera region and in make-shift camps on Lake Victoria's Islands. But he did not give up his plan to live in Dar, so he travelled to Dar despite having no connections: *"Yes, as I told you that there must be a person to host or welcome you. You might get imprisoned and this person becomes your referee or else you must be having money. The good thing is God helped me; the time I was moving to Dar es Salaam I had money so for whatever case maybe I would hire a taxi and would rent a room, put a mattress."*

While he did not have a host in the capital, he did have some money, was more skilled and had a better understanding of how to navigate urban environments. Between 2006 and 2014, while residing in Dar, he worked as a construction foreman, a laborer sorting scrap metal, a waiter and security guard.

[31] Interview rural village in Kagera, 29 September 2015.

What insights do we get from R's story and the stories of our 75 respondents? Two key features emerge to understand migration: a person's action space and cumulative causation. Action space defines the range of possible destinations a migrant can realistically move to, and is determined by a complex of factors such as aspirations, resources and social norms. But migration is not a one-shot event, and a migrant's action space continuously evolves, expands or contracts, through cumulative causation.

Urban centres are seen as having more "circulation" *("mzunguko wa pesa"*), i.e. the circulation of money, goods, people and ideas. This makes them particularly attractive. With circulation also comes an anonymity that is valued, but the closeness of the village links, and the security this brings, in case things go wrong, are set against this. And city life is fully cash driven.

The small town then emerges as the more accessible alternative, in between the village and the big city. There is circulation and thus opportunities, and some degree of anonymity, but the distance to the village remains surmountable, which is important, in case things go awry. Although the capital city Dar is the preferred destination, the nearest small town is more accessible, especially for first time migrants.

The first move is especially different, in that it is mostly about getting away from the village, not so much about maximizing one's income. Having money to pay for the fare and a connection in the destination to help out are key. This is more likely the case for secondary towns than in cities. But the migration process doesn't stop there. Yet, as time moves on and migrants settle in their occupations and advance in their life cycle, the window of opportunity for migration also closes, as family obligations grow and aspirations subside.

Ingelaere et al. (2018) conclude that this explains why many rural migrants end up in secondary towns; because they are much easier to access and navigate and because that's where they end up finding themselves further down their life cycle, when the migration window of opportunity starts closing.

6 Conclusion

The tidal wave of urbanization that is under way in developing countries, and particularly in Africa, needs policy responses. But we hope to have shown in this paper that viewing urbanization as an aggregate is empirically inaccurate. The composition of urbanization matters. In particular, the small town versus big city distinction should be made clearly and continuously. But it is not just a matter of empirical inaccuracy. The natural policy inclination is to equate urbanization with big city growth. Together with the natural metropolitan bias among national elites, this leads to disproportionate public investment in the capital city and other large urban agglomerations. But this neglects small towns, where increasingly much of the urbanization is taking place, and which contribute significantly to poverty reduction.

In this paper, we have reported on a line of research and policy analysis focused on Tanzania, which highlights the role of secondary towns in migration and in poverty reduction. Using the national panel data as well as the KHDS panel, we first of all show that migration to secondary towns contributes

more in aggregate to poverty reduction than migration to big cities, even though the typical move from rural to town reduces poverty by less than the typical move from rural to city. This is because there are many more rural to town moves. But how can this be, if the typical move to city is so beneficial?

We answer this question by introducing “distance” and “migration” costs both in the physical sense (transport) but also in the sense of information, uncertainty and contacts in a broader setting. We adapt the standard Harris-Todaro framework to incorporate these costs and show that in equilibrium we can indeed have more migration to small towns.

Empirical simulation with the KHDS data further shows how plausibly higher migration costs of moving to the city than to the town can solve the observed migration equilibria, given the observed wage rates across the different locations and sectors. We further show econometrically the importance of physical distance in explaining migration choice, it being understood that physical distance could stand proxy for all kinds of forms of social distance. Finally, qualitative analysis of the experience of a selection of migrants in the KHDS panel, corroborates the role played by small towns in expanding migrants’ action space and as a crucial node in the cumulative causation that underlies many migration trajectories.

We hope that these insights from Tanzania will lead to further research on small towns and their role in migration and poverty reduction, and that this role will increasingly be factored into policy analysis and decision making.

References

Basu, Arnab, Nancy Chau, Gary Fields and Ravi Kanbur. 2016. "Job Creation in a Multi-Sector Labor Market Model for Developing Economies." *CEPR Discussion Paper, No. 11386*.

Beegle, Kathleen; Joachim De Weerdt and Stefan Dercon. 2011. "Migration and Economic Mobility in Tanzania: Evidence From a Tracking Survey", *Review of Economics and Statistics,* 8 (1): 1010-1033.

Beegle, Kathleen, Luc, Christiaensen, Andrew, Dabalen, and Isis, Gaddis, 2016. *Poverty in a Rising Africa*, World Bank Group: Washington D.C.
Bryan, Gharad, Shyamal, Chowdhury, and Ahmed Mushfiq, Mobarak, 2014. "Underinvestment in a Profitable Technology: The Case of Seasonal Migration in Bangladesh." *Econometrica*, 82-5: 1671-1748.

Cali, Massimiliano, 2013. "Does Urbanization Affect Rural Poverty? Evidence from Indian Districts." *World Bank Economic Review*, 27-2: 171-201.

Christiaensen, Luc, Joachim De Weerdt, and Yasuyuki Todo. 2013. "Urbanization and Poverty Reduction–The Role of Rural Diversification and Secondary Towns." *Agricultural Economics,* 44 (4-5): 435–447.

Christiaensen Luc and Yasuyuki, Todo. 2014. Poverty reduction during the rural--urban transformation---the role of the missing middle. *World Dev*. 63: 43—58.

Christiaensen, Luc, Joachim, De Weerdt, and Ravi, Kanbur, 2016, Migration destination choice: city, town or village? Mimeographed.

Christiaensen, Luc and Ravi Kanbur. 2017. "Secondary Towns and Poverty Reduction: Refocusing the Urbanization Agenda." *Annual Review of Resource Economics*, 9: 405-19.

Christiaensen, Luc, and Patrick, Premand, 2017. Eds. Cote d'Ivoire Jobs Diagnostic– Employment, Productivity, and Inclusion for Poverty Reduction, *Jobs Series Issue No. 2*, World Bank Group: Washington D.C.

Christiaensen Luc, Joachim, De Weerdt, and Ravi, Kanbur. 2017. Migration equilibrium and income distribution with multiple destinations: cities, towns, and poverty. Processed, Cornell University.

Christiaensen, Luc, Jonathan, Kaminski, Armand, Sim, and Yue, Wang. 2017. *Poverty, employment and migration patterns in Tanzania 2008-2012 – The role of secondary towns*, mimeographed.

Christiaensen, Luc, Joachim, De Weerdt and Kanbur. 2018. *Decomposing the Contribution of Migration to Poverty Reduction: Methodology and Application to Tanzania.* Mimeographed.

De Weerdt, Joachim, Kathleen Beegle, Helene Bie Lilleør, Stefan Dercon, Kalle Hirvonen, Martina Kirchberger, and Sofya Krutikova. 2012. "Kagera Health and Development Survey 2010: Basic Information Document." Rockwool Foundation Working Paper Series no. 46.

Diamond, Rebecca. 2016. The Determinants and Welfare Implications of US Workers' Diverging Location Choices by Skill: 1980-2000. *American Economic Review* 106(3): 479-524.

Dorosh P, Thurlow J. 2013. Agriculture and small towns in Africa. *Agric. Econ.* 44:449—59.

Dorosh P, Thurlow J. 2014. Can cities or towns drive African development? Economy wide analysis for Ethiopia and Uganda. *World Dev*. 63:113—23.

Duranton G., 2015. Growing through cities in developing countries. *World Bank Res. Obs.* 30:40–73

Fafchamps Marcel, and Forhad Shilpi. 2013. "Determinants of the Choice of Migration Destination", *Oxford Bulletin of Economics and Statistics*, 75(3): 388-409.

Ferré, Céline, Francisco, H.G., Ferreira, and Peter, Lanjouw. 2012. "Is There a Metropolitan Bias? The Relationship Between Poverty and City Size in a Selection of Developing Countries." *World Bank Economic Review*, 26-3: 351-382.

Food and Agriculture Organization. 2017. "State of Food and Agriculture 2017 – Leveraging Food Systems for Inclusive Rural Transformation." Food and Agriculture Organization: Rome.

Frick, SA and A., Rodrıguez-Pose A. 2016. "Average city size and economic growth." *Cambridge Journal of Regions, Economy and Society* 9(2): 301-318.

Ghani , Ejaz, and Ravi, Kanbur. 2014. "Urbanization and (In)Formalization" in Edward Glaeser and Abha Joshi-Ghani (Editors) "The Urban Imperative: Towards Competitive Cities." Oxford University Press.

Gibson, John, Gaurav, Datt, Rinku Murgai and Martin Ravallion, 2017. "For India's Rural Poor, Growing Towns Matter More than Growing Cities." *World Development* 98: 413-429.

Gollin D, Jedwab R, Vollrath D. 2016. "Urbanization with and without industrialization." *J. Econ. Growth:* 21:35–70.

Harris, John and Michael Todaro. 1970. "Migration, Unemployment, and Development: A Two Sector Analysis," *American Economic Review* 40: 126-142.

Henderson, J. Vernon, 2003. "The urbanization process and economic growth: The so-what question." *Journal of Economic growth* 8-1: 47-71.

Henderson, J. Vernon, Mark, Roberts, and Adam, Storeygard. 2013. Is Urbanization in Sub-Saharan Africa Different?. World Bank Policy Research Working Paper 6481, World Bank: Washington, DC.

Hicks, Joan, Marieke, Kleemans, Nicholas, Li, and Edward, Miguel, 2017. Re-evaluating agricultural productivity gaps with longitudinal microdata, *NBER working paper 23253*, National Bureau of Economic Research.

Hirvonen, Kalle and , Helene Bie, Lilleor. 2015. “Going Back Home: Internal Return Migration in Rural Tanzania”, *World Development,* 70: 186-202.

Ingelaere, Bert, Luc Christiaensen, Joachim De Weerdt and Ravi Kanbur. 2018. “Why Secondary Towns Can Be Important for Poverty Reduction – A Migrant Perspective.” World Development, forthcoming.

Jedwab, Remi, Luc Christiaensen, and Marina, Gindelsky. 2017. “Demography, urbanization and development: Rural push, urban pull and … urban push?” *Journal of Urban Economics*, 98: 6-16.

Kanbur, Ravi and Anthony J. Venables. 2007. “Spatial Disparities and Economic Development,” (with A.J. Venables) in D. Held and A. Kaya (eds.) *Global Inequality*, Polity Press, pp. 204-215.

Lewis, Arthur. 1954. “Economic Development with Unlimited Supplies of Labour.” *The Manchester School*, 22-2: 139-191.

McKenzie, David, John Gibson, and Steven Stillman. 2010. “How Important is Selection? Experimental vs Non-experimental Measures of the Income Gains from Migration.” *Journal of the European Economic Association* 8(4): 913-45.

Overman, H.G. and Anthony J. Venables. 2010. “Evolving city systems”, in J. Beall, B. Guha-Khasnobis and R. Kanbur (eds.), *Urbanization and Development: Multidisciplinary Perspectives*, Oxford University Press, pp. 103-123.

Schwartz, Aba. 1973. “Interpreting the Effect of Distance on Migration.” *Journal of Political Economy*, 81-5: 1153-1169.

Sjaastad, Larry A., 1962. “The Costs and Returns to Human Migration.” *Journal of Political Economy* 70-5: 80-93.

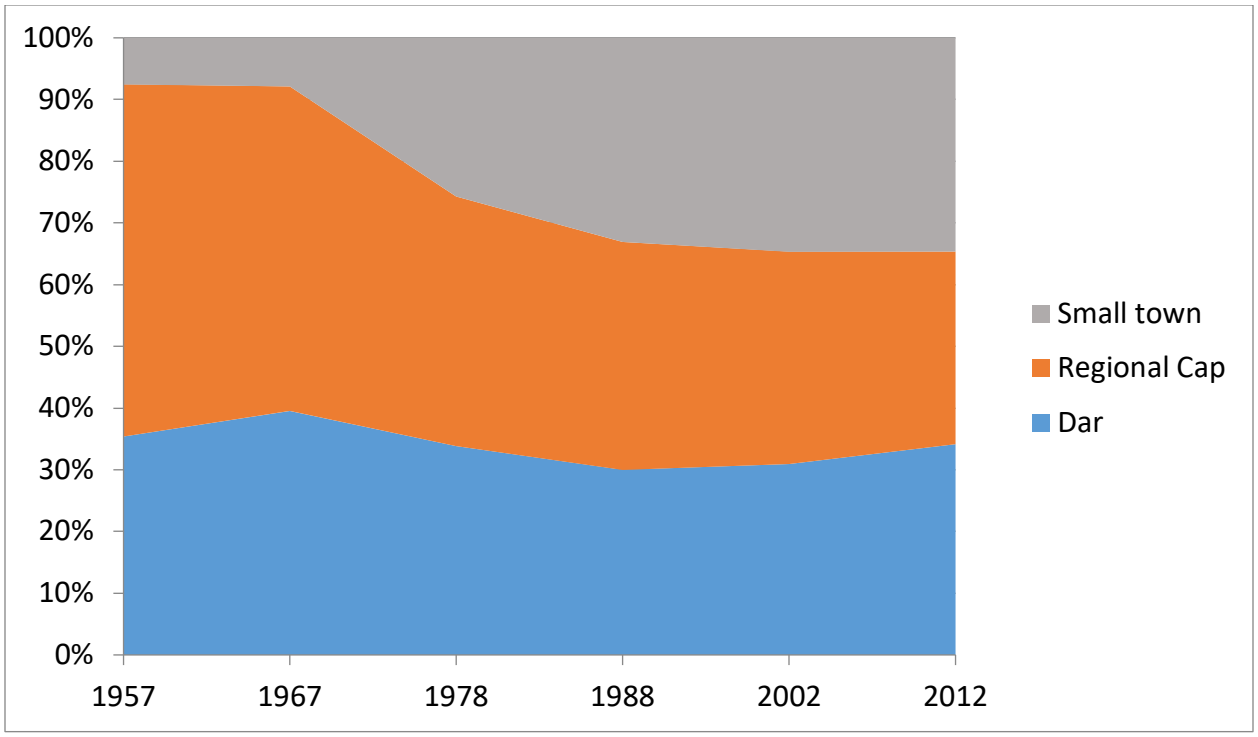
Todaro, Michael P., 1969. “A Model of Labor Migration and Urban Unemployment in Less Developed Countries.” *American Economic Review* 59(1): 138-148.

United Nations, 2015, *World Urbanization Prospects: The 2014 Revision*, Department of Economic and Social Affairs: Population Division: New York.

Wenban-Smith HB. 2015. *Population growth, internal migration and urbanisation in Tanzania, 1967–2012. Phase 2, Final Report.* Work. Pap. C-40211-TZA-1, Int. Growth Cent., London.

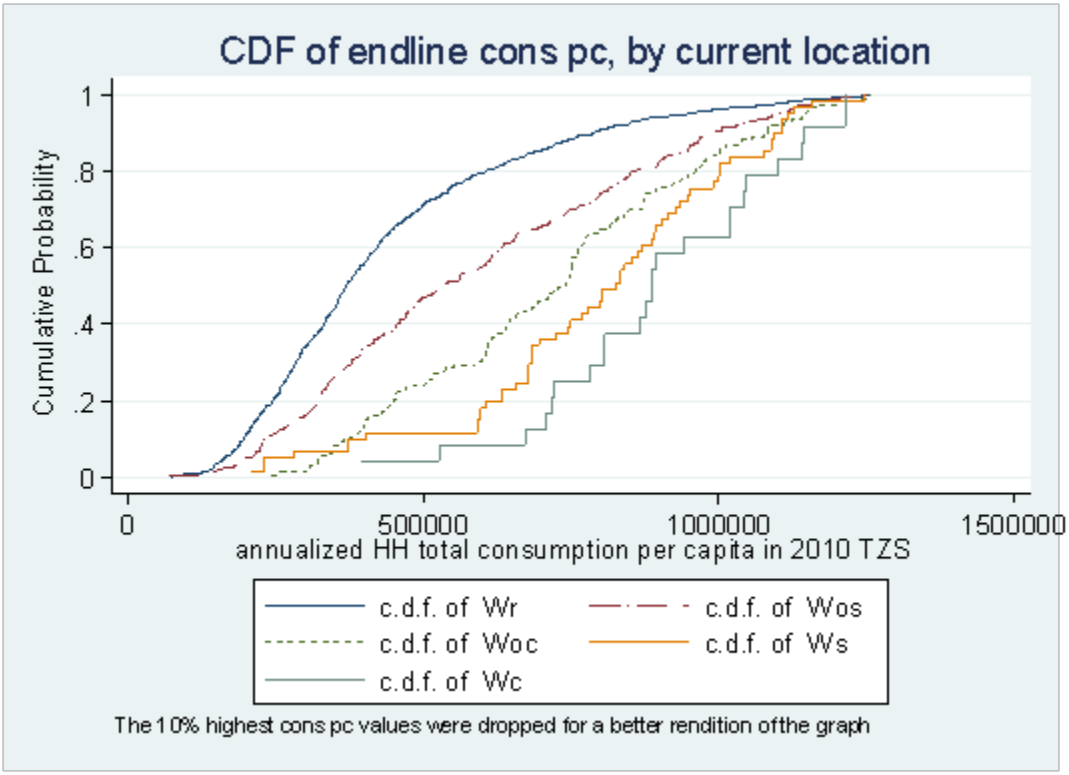
Young, Alwyn. 2013. “Inequality, the Urban-Rural Gap and Migration.” *Quarterly Journal of Economics*, 128-4: 1727-1785.

Figure 1: The evolution of urban composition in Tanzania



Source: Wenban-Smith, 2015

Figure 2: Cumulative density function of income (2010) by income groups



Source: Christiaensen, De Weerdt, and Kanbur, 2017

Table 1: Secondary towns contribute substantially more to poverty reduction in Tanzania 2008-2012 than cities

Household movement	**Poverty Headcount (%)**					**Consumption/adult equivalent ('000 Tanzanian Shilling)**				
	Population share[a] (%)	2008	2012	Total reduction (%point)	Share of national poverty reduction (%)	Population share[b] (%)	2008	2012	Annual growth (%)	Share of total national consumption growth (%)
Non-Movers	**91.14**	**19.42**	**19.53**	**0.11**	**-23.87**	**91.09**	**634.5**	**643.2**	**0.34**	**26.51**
Rural-Rural	69.83	23.39	24.04	0.65	-108.08	69.02	488.4	499.1	0.55	*24.73*
Secondary towns-Secondary town	10.61	12.04	8.78	-3.26	82.28	10.97	784.6	838.2	1.66	19.55
Cities-Cities	10.70	0.83	0.69	-0.14	3.57	10.95	1392.5	1344.7	-0.87	-17.40
Movers	**8.86**	**16.23**	**10.44**	**-5.79**	**122.12**	**8.91**	**654.4**	**902.0**	**8.35**	**73.51**
Rural-Rural	1.55	20.42	18.50	-1.92	7.07	1.45	506.5	571.2	3.05	3.13
Rural-Secondary towns	3.38	23.21	10.09	-13.13	105.64	3.42	555.6	667.0	4.68	12.69
Rural-Cities	1.67	16.19	3.77	-12.42	49.38	1.66	544.4	1332.1	25.07	43.55
Secondary towns-Cities	0.50	1.74	0.00	-1.74	2.08	0.55	696.2	1615.2	23.42	16.83
Secondary towns-Rural	1.31	4.53	14.83	10.30	-32.11	1.36	929.0	971.5	1.12	1.92
Cities-Sec towns	0.14	0.00	0.00	0.00	0.00	0.15	1688.1	1290.4	-6.50	-1.99
Cities-Rural	0.31	0.00	13.16	13.16	-9.71	0.29	1317.2	915.3	-8.70	-3.88
National	**100**	**19.14**	**18.72**	**-0.42**	**100**	**100**	**636.2**	**666.3**	**1.16**	**100**

Note: a) Weighted by panel weight multiplied by household size; b) Weighted by panel weight multiplied by total adult equivalent. This table describes poverty and consumption changes of households that moved spatially between 2008 and 2012. A household is defined as a mover if their location of residence, such as cities, secondary town, or rural in 2012 differs from that in 2008 or if a rural household has changed region. A household that moved within cities or secondary towns is considered as a non-mover.

Source: Christiaensen, Kaminski, Sim and Wang, 2017

Table 2: Secondary towns contribute substantially more poverty reduction than cities in Kagera (early 1990s-2010)

Household movement	**Poverty Headcount (%)**					**Consumption/capita ('000 Tanzanian Shilling)**			
	Population share (%)	1991-94 average	2010	Total reduction (%point)	Share in total net poverty reduction (%)	1991-94 average	2010	Total growth (TSH)	Share of total national consumption growth (%)
Non-Movers	**52**	**57**	**36**	**-21**	**45**	**343**	**493**	**149**	**29**
Rural-rural	49	59	38	-21	42	336	476	140	25
Town-town	3	29	7	-22	3	451	747	296	4
Movers	**48**	**50**	**23**	**-27**	**55**	**370**	**776**	**407**	**71**
Rural-Rural	24	57	36	-21	22	344	573	229	20
Rural-Towns	13	50	16	-34	18	373	871	497	24
Rural-Cities	7	47	3	-44	14	389	1184	795	21
Town-Rural	1	34	25	-8	0	405	570	165	1
Town-Town	2	15	5	-10	1	489	969	481	3
Town-City	1	9	3	6	0	540	1452	913	3
National	**100**	**54**	**30**	**24**	**100**	**356**	**629**	**273**	**100**

Table 3: Distance reduces the attraction of a destination

	(1)	(2)	(3)
P10 wealth	0.081**	0.037***	0.075**
	(0.037)	(0.009)	(0.034)
(P10 wealth)*(years of schooling)		0.006	
		(0.004)	
(P10 wealth)*(HH in highest wealth quintile)			0.020*
			(0.011)
P90 wealth	-0.008	-0.0004	-0.007
	(0.014)	(0.0080)	(0.013)
(P90 wealth)*(years of schooling)		-.0001	
		(0.0015)	
(P90 wealth)*(HH in highest wealth quintile)			-0.003
			(0.004)
Distance to destination (ln km)	-0.034*	-0.063***	-0.040**
	(0.018)	(0.010)	(0.016)
(Distance to destination) * (years of schooling)		0.004***	
		(0.001)	
(Distance to destination) * (HH in highest wealth quintile)			0.0008
			(0.0059)

Notes: Based on dyadic data that pair all 967 urban migrants to all 31 urban destinations, for a total sample size *N*=45,449. Regressions include individual fixed effects and standard errors are clustered by origin district. P10 wealth and P90 wealth are the 10th and 90th wealth percentiles of the population at destination, and are calculated from the census. Years of schooling and wealth quintiles are taken from the baseline 1991-94 KHDS data. Years of schooling considers only formal years of schooling. Wealth quintiles are based on consumption data. Distance is the natural logarithm of the distance in 1000s of kilometers between the baseline and the potential destination.

OTHER A.E.M. WORKING PAPERS

WP No	Title	Fee (if applicable)	Author(s)
2018-11	Migrants, Towns, Poverty and Jobs: Insights from Tanzania		Christiaensen, L., Weerdt, J.D., and R. Kanbur
2018-10	Inequality and the Openness of Borders		Kanbur, R.
2018-09	Measuring Unfair Inequality: Reconciling Equality of Opportunity and Freedom from Poverty		Hufe, P., Kanbur, R., and A. Peichl
2018-08	Isolated by Caste: Neighbourhood-Scale Residential Segregation in Indian Metros		Bharathi, N., Malghan, D. and A. Rahman
2018-07	Spatial Segregation, Multi-scale Diversity, and Public Goods		Bharathi, N., Malghan, D., Mishra, S. and A. Rahman
2018-06	The Compatibility of Farmland Sales and Opinion Survey Data		Bigelow, D.P., Ifft, J. and T. Kuethe
2018-05	Exploring the Feasibility of Rural Broadband Cooperatives: The NEW New Deal?		Schmit, T. M. and R. M. Severson
2018-04	Employer Power, Labor Saving Technical Change, and Inequality		Chau, H.N. and R. Kanbur
2018-03	On the Volume of Redistribution: Across Income Levels and Across Groups		Kanbur, R.
2018-02	Gunnar Myrdal and *Asian Drama* in Context		Kanbur, R.
2018-01	Political Activism as a Determinant of Clientelistic Transfers: Evidence from and Indian Public Works Program		Chau, N., Liu, Y. & V. Soundararajan
2017-14	Too Much to Eat It All: How Package Size Impacts Food Waste		Petit, O., Lunardo, R. and B. Rickard
2017-13	Why Secondary Towns Can Be Important For Poverty Reduction - A Migrant's Perspective		Ingalaere, B., Christiaensen, L., De Weerdt, J. and R. Kanbur

Paper copies are being replaced by electronic Portable Document Files (PDFs). To request PDFs of AEM publications, write to (be sure to include your e-mail address): Publications, Department of Applied Economics and Management, Warren Hall, Cornell University, Ithaca, NY 14853-7801. If a fee is indicated, please include a check or money order made payable to Cornell University for the amount of your purchase. Visit our Web site (*http://dyson.cornell.edu/research/wp.php)* for a more complete list of recent bulletins.