

# Migration between Rural and Urban Sectors of Lower-Income Countries

by Robert E.B. Lucas

Reflections by Luc Christiaensen, Jobs Group, World Bank  
BBL, KNOMAD 29 September, 2016

# Underappreciated features of domestic migration

- High degree of female migration, also for economic reasons
- Return migration (UR)
- Differential role of education
  - Higher educated more likely R-U migration (that's standard);
  - Lower educated more likely U-R migration is found à Young, 2013 (QJE): sorting on skills explains r-u gap in living standards
- Migration as a journey with multiple destinations
  - “Migration is like sinning; after you have done it once it is easier to do again” (Berliner, 1977)*

# Migration as a journey

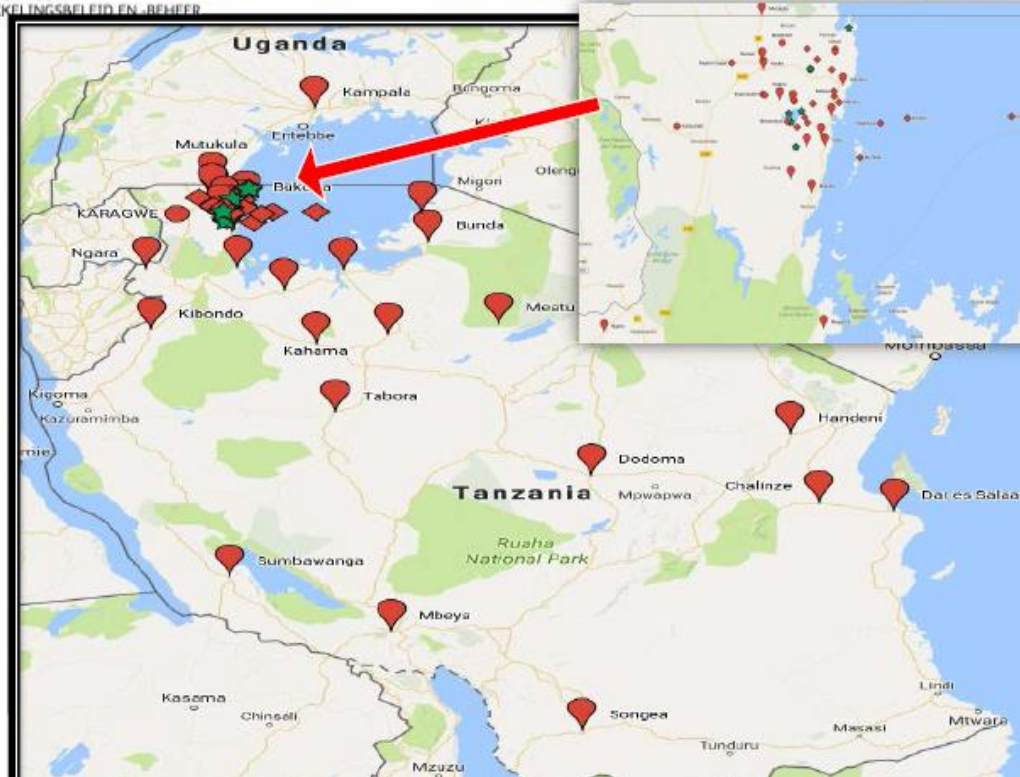


N=208

N° of migration 'stops'		
	Frequency	%
1	27	36,0
2	15	20,0
3	11	14,7
4	10	13,3
5	3	4,0
6	4	5,3
7	2	2,7
8	2	2,7
9	1	1,3
Tot	75	100,0

18

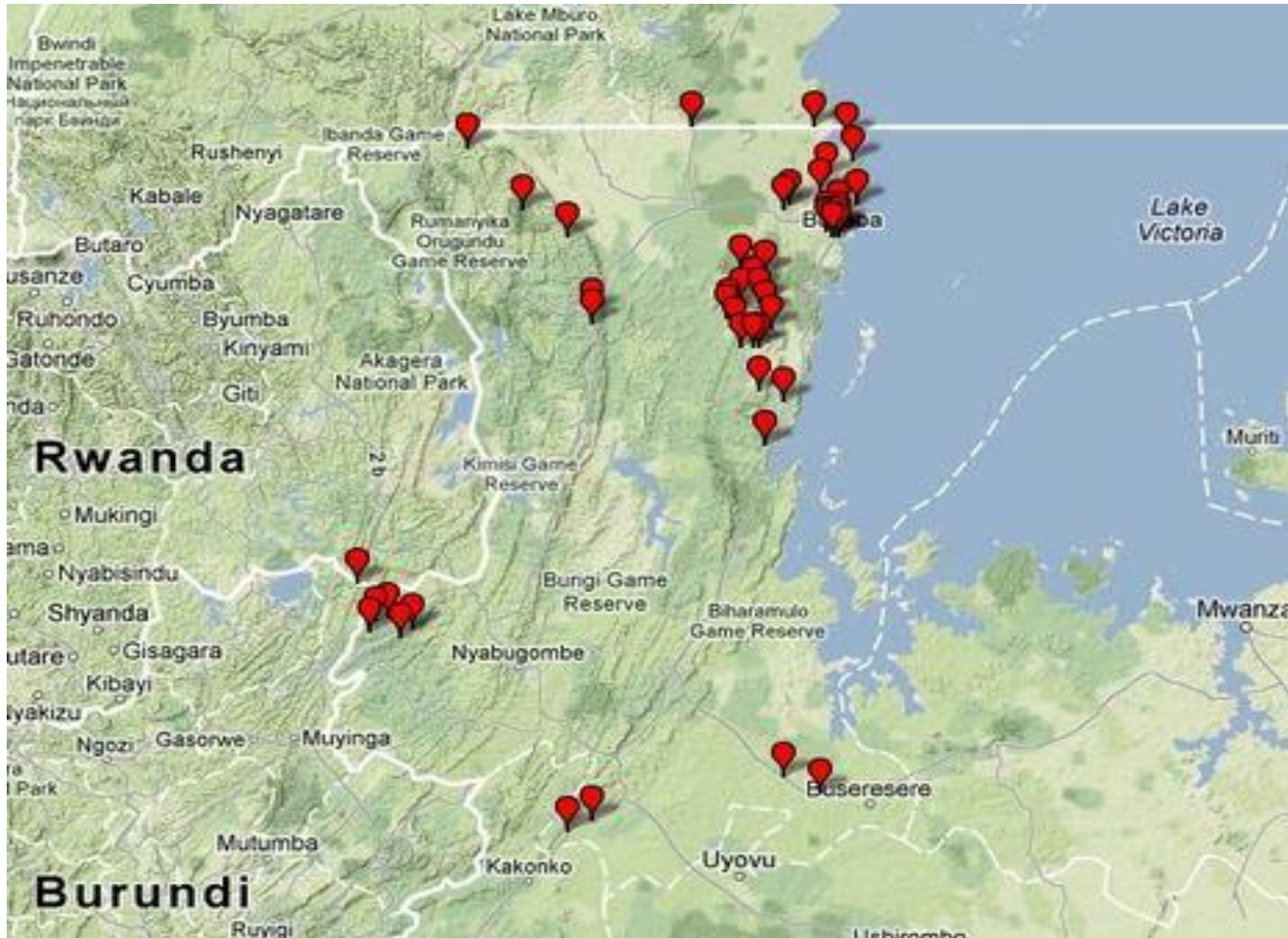
But, multiple moves over life course



Among 75 migrants, on average 3 moves over a 10 year period?

Implications for theoretical modeling?

# A portfolio of destinations

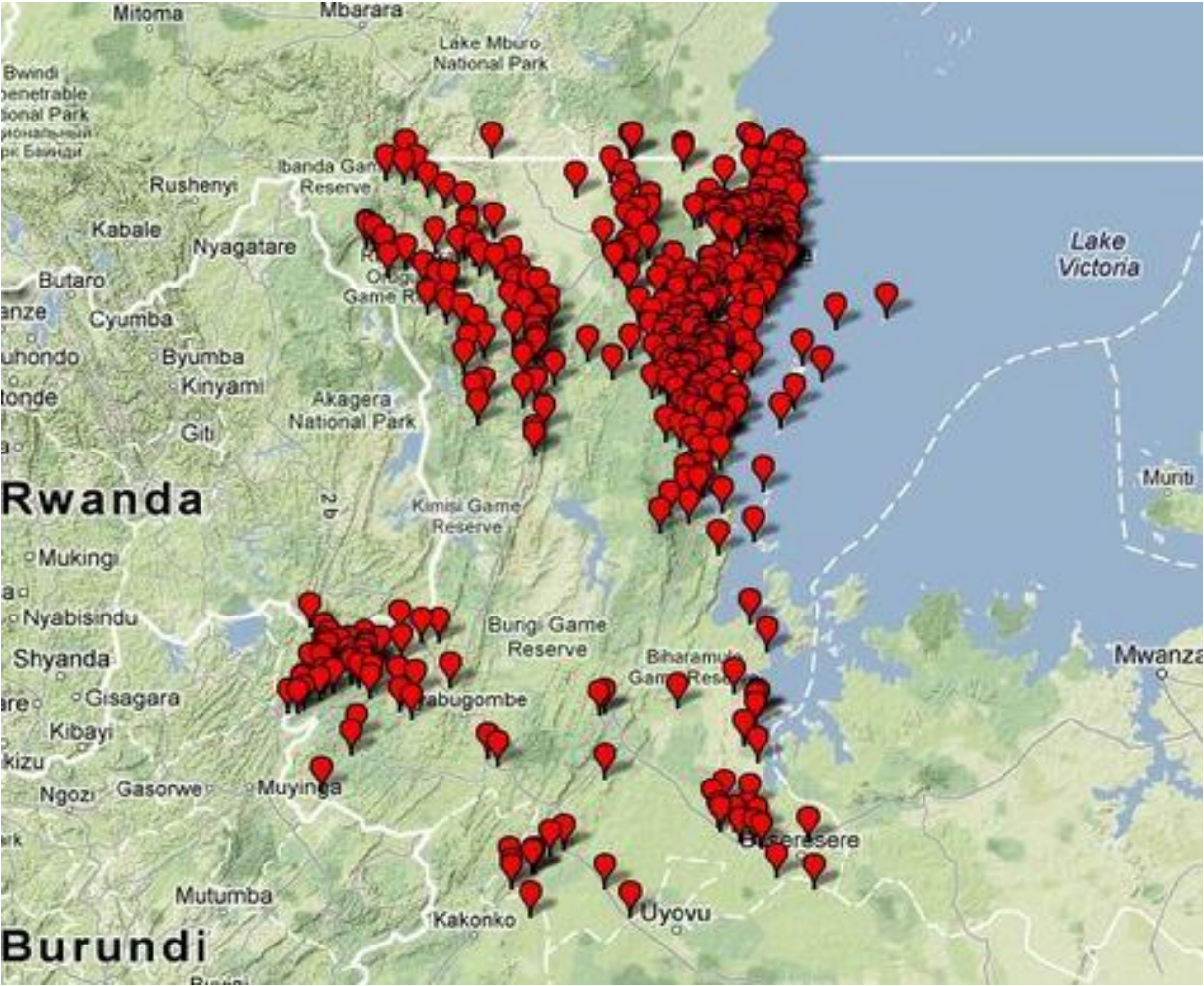


**KHDS Baseline  
= 1991-1994**

915 households  
from 51 villages

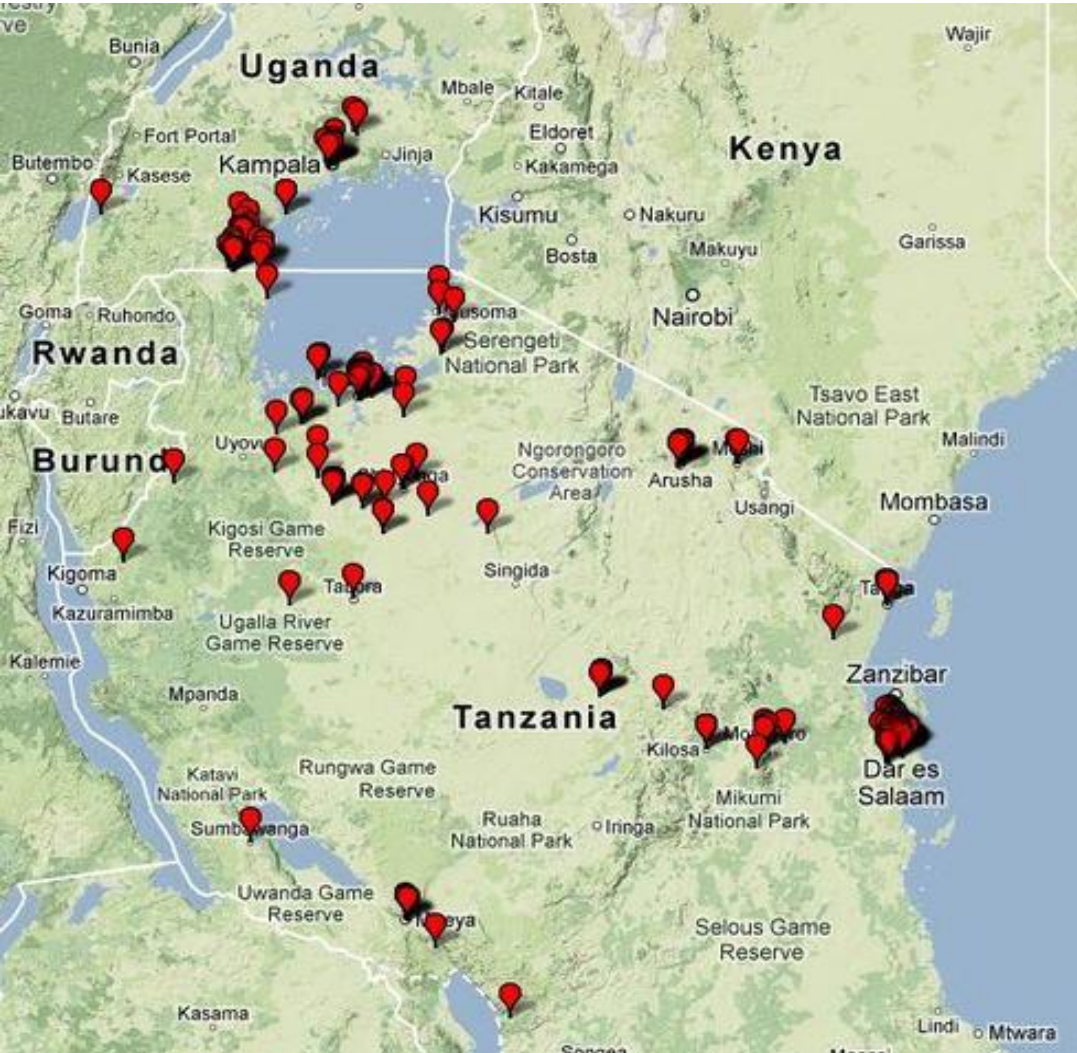
93% from rural  
areas

# A portfolio of destinations



2010: Kagera

# A portfolio of destinations



2010: Other regions & Uganda

# Growth Decomposition

<b>From rural farm in 1992 to</b>	<b>N</b>	<b>Share pop%</b>	<b>Avg. growth</b>	<b>Share in growth</b>
Rural farm	1,906	44%	55%	23%
Rural off-farm	972	22%	92%	20%
Town	1,175	27%	129%	38%
City	286	7%	228%	19%

# Poverty Decomposition

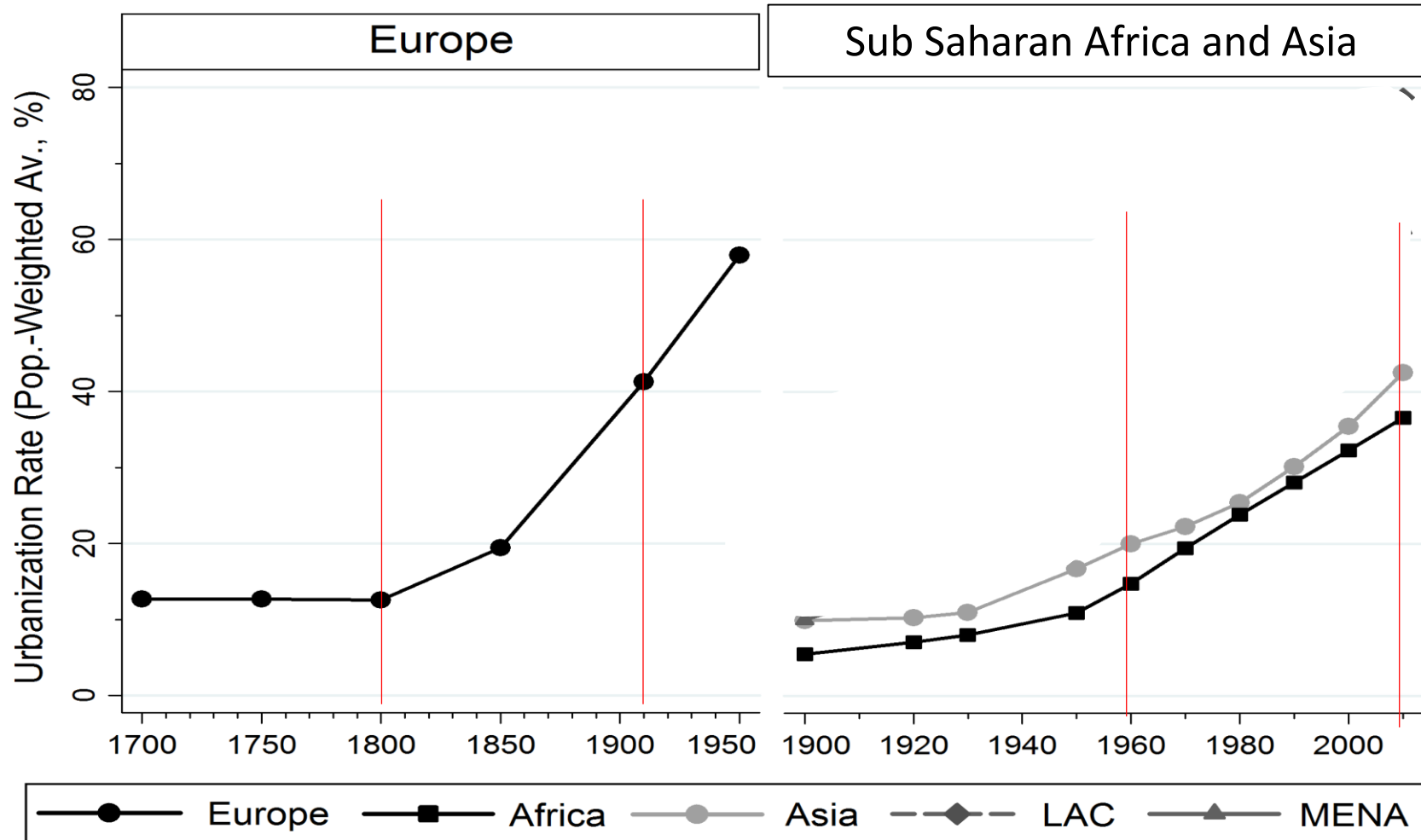
<b>From rural farm in 1992 to</b>	<b>N</b>	<b>Share pop%</b>	<b>Head- count 1992</b>	<b>Head- count 2010</b>	<b>Share in net poverty reduction</b>
Rural farm	1,906	44%	66%	44%	34%
Rural off-farm	972	22%	62%	31%	25%
Town	1,175	27%	47%	17%	30%
City	286	7%	47%	2%	11%



# Urbanization = migration?

- Migration and urbanization

# SSA and Asia urbanized twice as fast as Europe in the 19<sup>th</sup> century



# Two questions

- Why was urban expansion in the developing world almost twice as fast?
- Does this matter for development?

# One and a half answers

- Because of rapid population growth
- Rapid urban growth, especially urban natural increase (less migration), linked w/ congestion

# Relevant metric for urban expansion

- Say urbanization → people think migration

$$\Delta U_t = \frac{U_t}{(1 + Nni_t)} \left[ (1 - U_t)(Uni_t - Rni_t) + \frac{Mig_t}{Upop_t} \right]$$

→ economists focus on migration (urban pull/rural push)

- Say urban growth → also population growth

$$\frac{\Delta Upop_t}{Upop_t} = Uni_t + \frac{Mig_t}{Upop_t}$$

→ Look at both, but especially speed of urban growth matters

# Question 1: Why faster *urbanization*?

→ Migration rates have been similar

	Europe	Developing world
	1800-1910	1960-2010
<b>Change in urbanization (%point)</b>	<b>25%</b>	<b>28.6%</b>
<b>% point change per year</b>	<b>0.23</b>	<b>0.57</b>
<b>Annual urban growth (%)</b>	<b>2.2</b>	<b>3.8</b>
<b>Urban natural increase</b>	<b>0.5</b>	<b>2.3</b>
<b>Rural natural increase</b>	<b>1.5</b>	<b>2.4</b>
<b>Difference</b>	<b>-1</b>	<b>-0.1</b>
<b>Migration rate (%) (wrt urban population)</b>	<b>1.7</b>	<b>1.6</b>

$$\frac{\Delta U_{pop_t}}{U_{pop_t}} = Uni_t + \frac{Mig_t}{U_{pop_t}}$$

$$\Delta U_t = \frac{U_t}{(1 + Nni_t)} \left[ (1 - U_t)(Uni_t - Rni_t) + \frac{Mig_t}{U_{pop_t}} \right]$$

# Question 1: Why faster *urbanization*?

→ Faster urban natural increase → urban push!

	Europe	Developing world
	1800-1910	1960-2010
<b>Change in urbanization (%point)</b>	<b>25%</b>	<b>28.6%</b>
<b>% point change per year</b>	<b>0.23</b>	<b>0.57</b>
<b>Annual urban growth (%)</b>	<b>2.2</b>	<b>3.8</b>
<b>Urban natural increase</b>	<b>0.5</b>	<b>2.3</b>
<b>Rural natural increase</b>	<b>1.5</b>	<b>2.4</b>
<b>Difference</b>	<b>-1</b>	<b>-0.1</b>
<b>Migration rate (%) (wrt urban population)</b>	<b>1.7</b>	<b>1.6</b>

$$\frac{\Delta U_{pop_t}}{U_{pop_t}} = Uni_t + \frac{Mig_t}{U_{pop_t}}$$

$$\Delta U_t = \frac{U_t}{(1 + Nni_t)} [(1 - U_t)(Uni_t - Rni_t) + \frac{Mig_t}{U_{pop_t}}]$$

# Question 1: Why faster *urban growth*?

→ Faster urban natural increase or urban push!

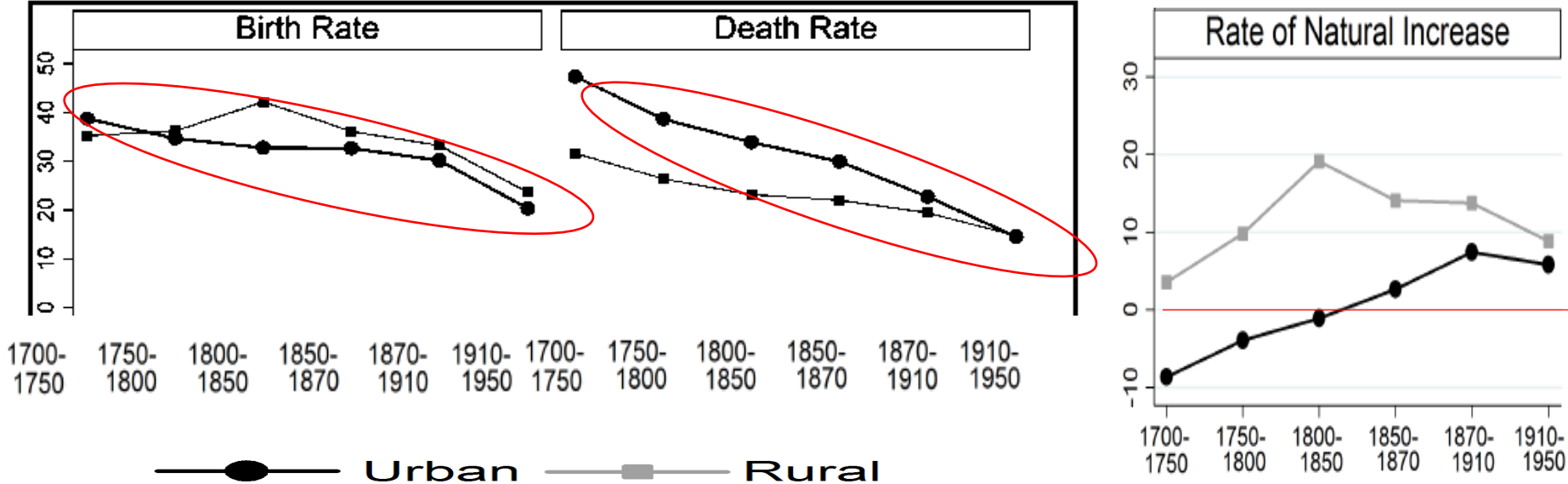
	Europe	Developing world
	1800-1910	1960-2010
Change in urbanization (%point)	25%	28.6%
% point change per year	0.23	0.57
<b>Annual urban growth (%)</b>	<b>2.2</b>	<b>3.8</b>
<b>Urban natural increase</b>	<b>0.5</b>	<b>2.3</b>
Rural natural increase	1.5	2.4
Difference	-1	-0.1
<b>Migration rate (%) (wrt urban population)</b>	<b>1.7</b>	<b>1.6</b>

$$\frac{\Delta U_{pop_t}}{U_{pop_t}} = \text{Uni}_t + \frac{Mig_t}{U_{pop_t}}$$

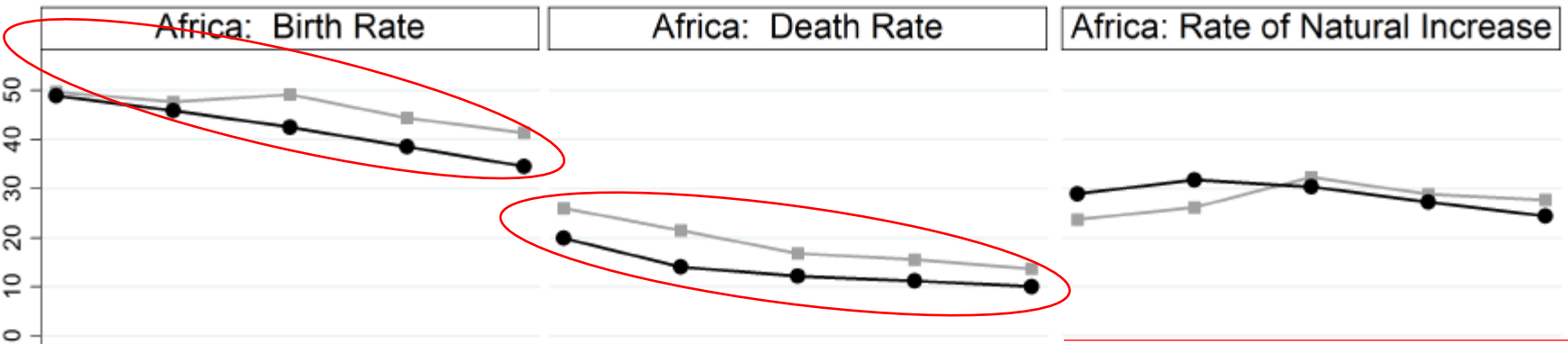
$$\Delta U_t = \frac{U_t}{(1 + Nni_t)} \left[ (1 - U_t)(Uni_t - Rni_t) + \frac{Mig_t}{U_{pop_t}} \right]$$

# Killer versus mushroom cities

## Europe 1700-1950



## Africa 1960-2010





## Question 2: What matters for development

### A. Fast urban growth linked with urban congestion, not urbanization

TABLE 3: URBAN NATURAL INCREASE, URBAN GROWTH AND MEASURES OF URBAN CONGESTION (2005)

Dependent Variable:	Urban Population Living in Slums %, 2005			Living Area %, 2005	Finished Floor %, 2005	Water Source %, 2005	Sanitation Facilities %, 2005	School Attend. %, 2000	PM10 mg per m <sup>3</sup> , 2000	Empl.Sh. Pers.Serv. %, 2000	Dependency Ratio (% 2000)		Total Both
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	0-14 y.o.	65+ y.o.	
Change in Urbanization Rate (Pct. Points, 1960-2010)	-0.0 (0.3)	0.1 (0.2)	0.1 (0.2)	-0.2 (0.2)	0.7 (0.5)	0.1 (0.1)	-0.0 (0.1)	0.0 (0.3)	0.2 (0.7)	-0.1 (0.1)	0.0 (0.1)	0.0 (0.0)	0.1 (0.1)
Annual Urban Growth Rate (%, 1960-2010)	6.4** (2.79)												
No. Years for Urban Pop. x2 (Average, 1960-2010)	-0.6*** (0.2)												
No. Years for Urban Pop. x2 * Dummy (> Sample Mean)	-0.7** (0.3)												
Urban Natural Increase (%, 2000)			14.4*** (5.0)	8.6* (4.6)	-6.5 (5.6)	-3.5** (1.6)	-1.2 (2.7)	-11.8*** (2.7)	17.8* (10.0)	4.0** (2.0)	10.3*** (2.7)	-2.8*** (0.5)	7.5*** (2.7)
Residual Migration (%, 2000)			4.6* (2.6)	2.9 (2.8)	-1.3 (3.6)	-2.0* (1.1)	-2.0 (-1.9)	-3.4 (3.0)	-0.0 (5.7)	1.2 (1.0)	0.9 (1.3)	-1.3*** (0.3)	-0.4 (1.3)
Region FE (10), Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations; Sample Mean	95;49	95;49	95;49	57;19	66;78	93;90	93;65	64;80	93;71	72;5	89;57	89;7	89;64
Adj. R-squared	0.68	0.69	0.70	0.80	0.66	0.60	0.86	0.77	0.46	0.44	0.87	0.80	0.83

Source: Jedwab, Christiaensen, Gindelsky, 2015

## Question 2: What matters for development

### C. It is urban natural increase, not migration

TABLE 3: URBAN NATURAL INCREASE, URBAN GROWTH AND MEASURES OF URBAN CONGESTION (2005)

Dependent Variable:	Urban Population Living in Slums %, 2005			Living Area %, 2005	Finished Floor %, 2005	Water Source %, 2005	Sanitation Facilities %, 2005	School Attend. %, 2000	PM10 mg per m <sup>3</sup> , 2000	Empl.Sh. Pers.Serv. %, 2000	Dependency Ratio (% , 2000)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	0-14 y.o.	Aged 65+ y.o.	Total Both
Change in Urbanization Rate (Pct. Points, 1960-2010)	-0.0 (0.3)	0.1 (0.2)	0.1 (0.2)	-0.2 (0.2)	0.7 (0.5)	0.1 (0.1)	-0.0 (0.1)	0.0 (0.3)	0.2 (0.7)	-0.1 (0.1)	0.0 (0.1)	0.0 (0.0)	0.1 (0.1)
Annual Urban Growth Rate (%, 1960-2010)	6.4** (2.79)												
No. Years for Urban Pop. x2 (Average, 1960-2010)	-0.6*** (0.2)												
No. Years for Urban Pop. x2 * Dummy (> Sample Mean)	-0.7** (0.3)												
Urban Natural Increase (%, 2000)	14.4*** (5.0)			8.6* (4.6)	-6.5 (5.6)	-3.5** (1.6)	-1.2 (2.7)	-11.8*** (2.7)	17.8* (10.0)	4.0** (2.0)	10.3*** (2.7)	-2.8*** (0.5)	7.5*** (2.7)
Residual Migration (%, 2000)	4.6* (2.6)			2.9 (2.8)	-1.3 (3.6)	-2.0* (1.1)	-2.0 (-1.9)	-3.4 (3.0)	-0.0 (5.7)	1.2 (1.0)	0.9 (1.3)	-1.3*** (0.3)	-0.4 (1.3)
Region FE (10), Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations; Sample Mean	95;49	95;49	95;49	57;19	66;78	93;90	93;65	64;80	93;71	72;5	89;57	89;7	89;64
Adj. R-squared	0.68	0.69	0.70	0.80	0.66	0.60	0.86	0.77	0.46	0.44	0.87	0.80	0.83

Source: Jedwab, Christiaensen, Gindelsky, 2015

Africa and Asia differ in urban growth due to higher urban natural increase in Africa

	Africa 1960-2010	Asia 1960-2010
Change in urbanization (%point)	22.5	21.9
% point change per year	0.45	0.45
<b>Annual urban growth (%)</b>	<b>4.9</b>	<b>3.5</b>
<b>Urban natural increase</b>	<b>2.9</b>	<b>1.7</b>
Rural natural increase	2.8	1.9
Difference	0.1	-0.2
<b>Migration rate (%) (wrt urban population)</b>	<b>2.1</b>	<b>1.8</b>

$$\frac{\Delta U_{pop_t}}{U_{pop_t}} = Uni_t + \frac{Mig_t}{U_{pop_t}}$$

$$\Delta U_t = \frac{U_t}{(1 + Nni_t)} \left[ (1 - U_t)(Uni_t - Rni_t) + \frac{Mig_t}{U_{pop_t}} \right]$$

# Discussion

- Urban natural increase (“urban push”) important additional driver of urban growth (and urbanization).
- If too fast → congestion may outway benefits from agglomeration → “urbanization w/o growth”
- Does the source of urban growth matter for policy – migration vs urban natural increase → people can’t go back