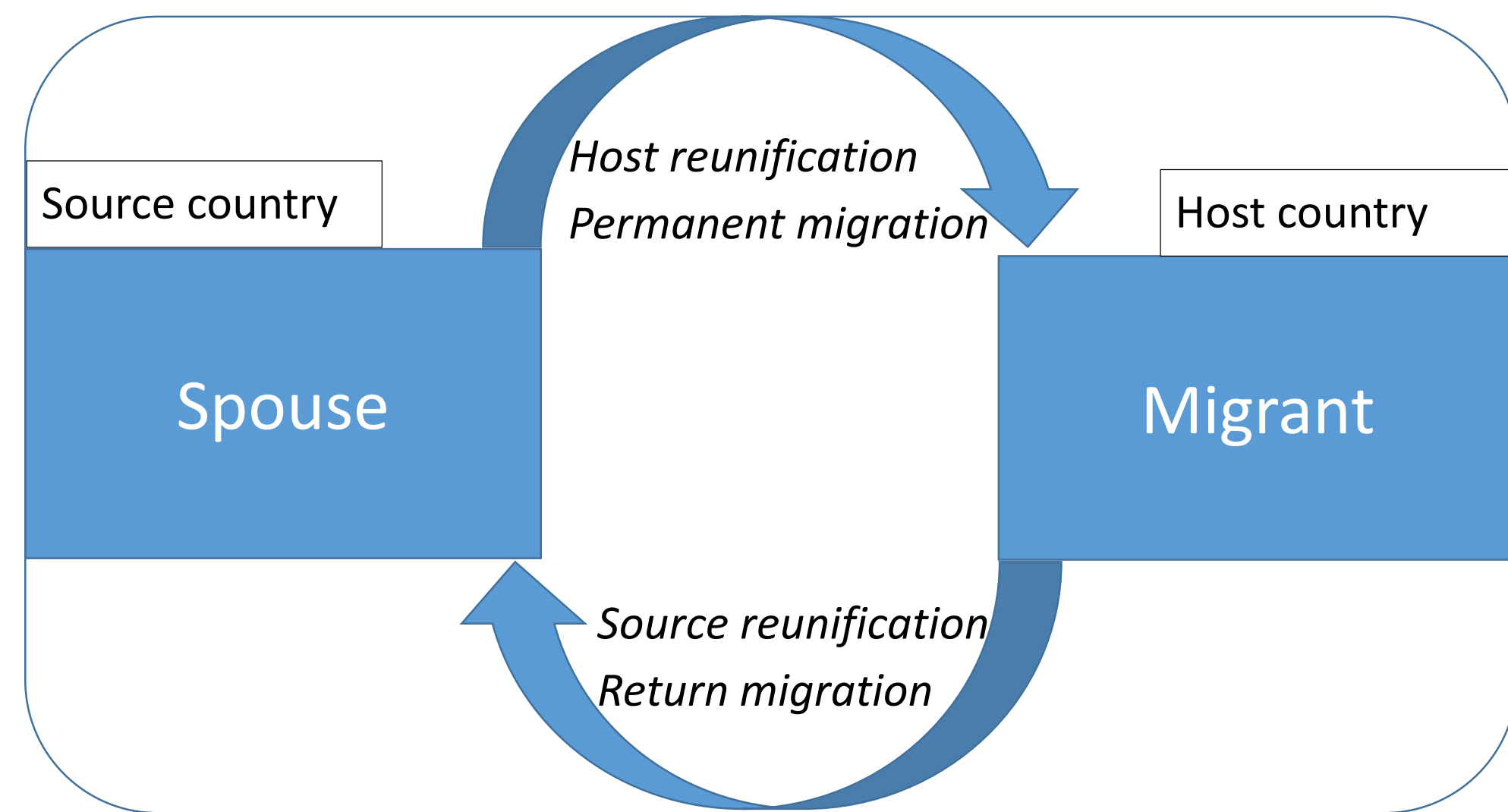


## Abstract & Illustration

This paper aims to analyze family reunification behavior of migrants whose spouses are still in the source country. Does s/he reunify? Where? When? It is based on a simple model of a utility-maximizing behavior of a representative household composed of two spouses. An illustration of South to North migration using MAFE database is provided with the use of survival analyses methods to test the timing of reunification.



## Model

- Only migrants with spouses and known life expectancy.

- The case of host reunion

$$\text{ArgMax}_{c,\tau} V(u(\tilde{c}_{1t}, c_{1s}), u(\tilde{c}_{2t}, \tilde{c}_{2s})) \text{ s.t. Budget Constraint}$$

**Proposition 1.** In the case of South to North migration and the case of host reunification, with a price level in the host country relatively high (i.e.  $\tilde{p}\theta > p$ ) and a not too large cost of separation the time being separated in the neighborhood of the optimal varies as:

- (i)  $\frac{dr_h}{dK_0} > 0, \frac{dr_h}{dK_1} > 0, \frac{dr_h}{dA_0} < 0$
- (ii)  $\frac{dr_h}{dw_s} \leq 0, \frac{dr_h}{dw} < 0, \frac{dr_h}{d\tilde{w}} < 0$
- (iii)  $\frac{dr_h}{dp} < 0, \frac{dr_h}{d\tilde{p}} > 0$
- (iv)  $\frac{dr_h}{d\tau} > 0$

- The case of source reunion

$$\text{ArgMax}_{c,\tau} V(u(\tilde{c}_{1t}, c_{1s}), u(c_{2t}, c_{2s})) \text{ s.t. Budget Constraint}$$

**Proposition 2.** In the case of South to North migration and the case of source reunification,

- (i)  $\frac{dr_s}{dK_0} > 0, \frac{dr_s}{dK_1} > 0, \frac{dr_s}{dA_0} < 0$
- (ii)  $\frac{dr_s}{dw_s} \leq 0, \frac{dr_s}{dw} < 0, \frac{dr_s}{d\tilde{w}} < 0$
- (iii)  $\frac{dr_s}{dp} > 0, \frac{dr_s}{d\tilde{p}} < 0$
- (iv)  $\frac{dr_s}{d\tau} > 0$

- Compare the value functions in the two scenarii (use calibration)

$$\text{Ratio} = \frac{V_{\text{host}}^*(\cdot)}{V_{\text{source}}^*(\cdot)} \leq 1$$

Calibration setting:  $\tilde{p} = 2.5, p = 1, \tilde{w} = 8, w = 1.5, \tilde{w}_s = 5, w_s = 1, A_0 = 80, K_0 = 80, K_1 = 60, T = 40, r = 0.05, \delta = 0.05, \theta = 0.81, \alpha = 0.55, \gamma = 0.99.$

Figure: Ratios of optimal utilities and price levels

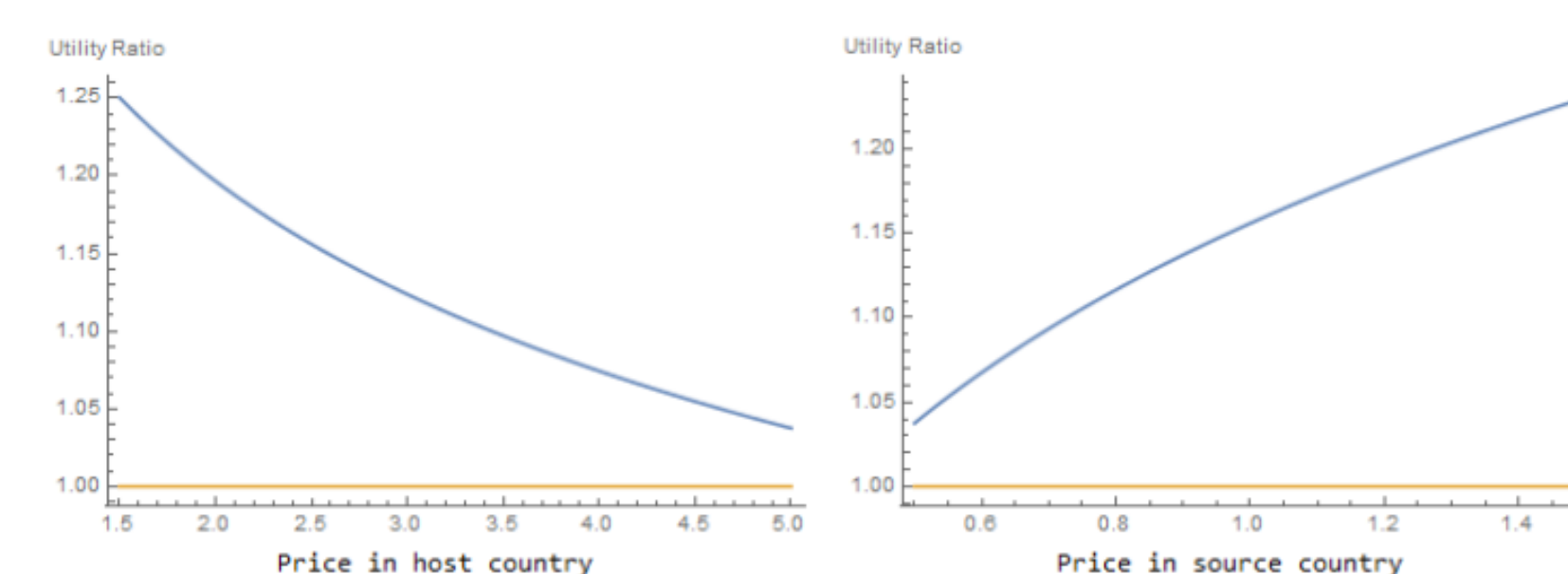
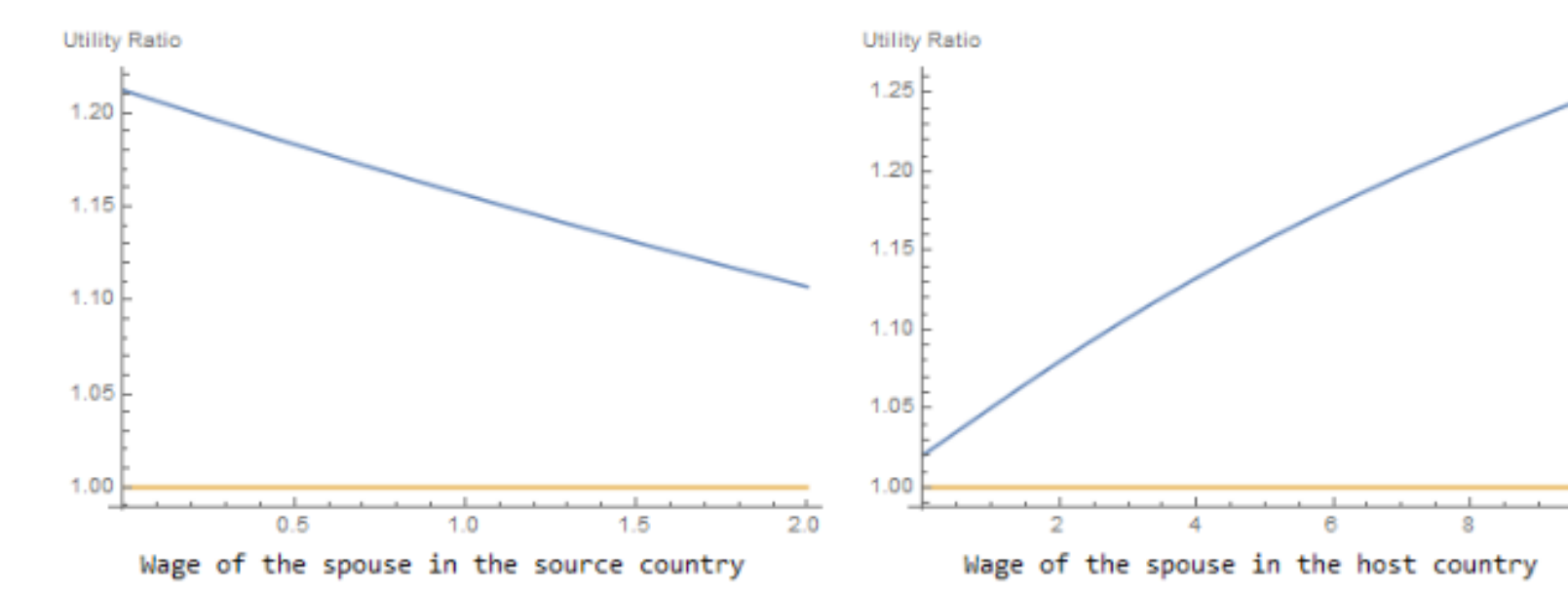
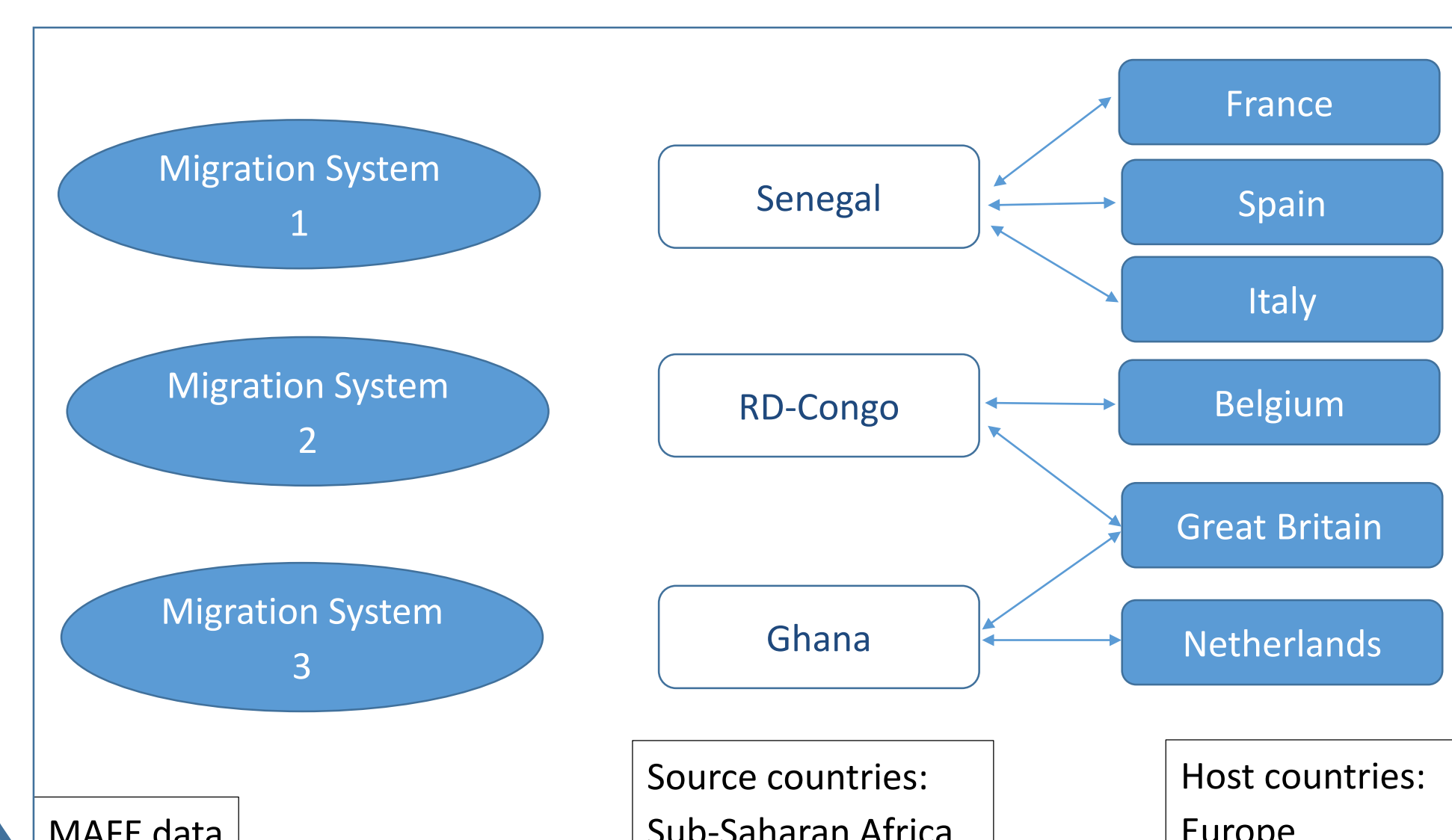


Figure: Ratios of optimal utilities and spouse's wages



## MAFE data



I use MAFE because it has:

- Permanent migration
- Return migration
- Simultaneous and sequential migration
- Time of separation
- The data covers
  - People's lives until 2009
  - Host country with similar legal frames

## Idea

- Look at the timing of reunification in
  - The case of host reunion
  - The case of source reunion

- Use survival analysis
- Since the data are censored:

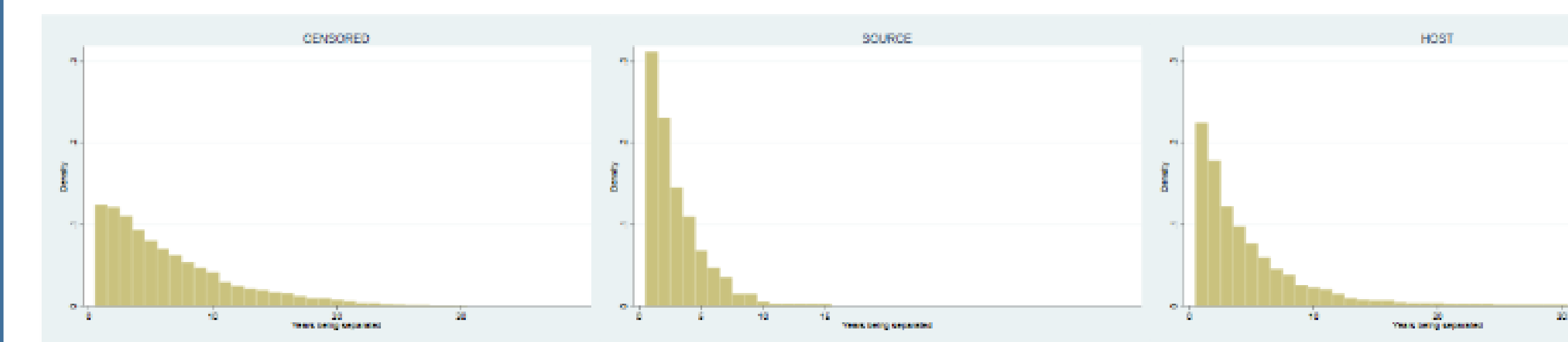


Figure: Number of years being separated by categories

- To compute competitive risks (I use the Cox and the sub-hazard ratio models)

$$h_l(t|X_i) = h_{o,l}(t)e^{X_i\beta_X}$$

$$\bar{h}_l(t|X_i) = \bar{h}_{o,l}(t)e^{X_i\beta_X}$$

## Results

	SOURCE		HOST	
	(1) Cox Model	(2) Sub-hazards	(3) Cox Model	(4) Sub-hazards
Age at separation	0.018 (0.012)	0.023** (0.011)	-0.036*** (0.011)	-0.043*** (0.011)
Gender of first migrant	0.266 (0.252)	0.226 (0.243)	-0.073 (0.202)	-0.114 (0.199)
Years of schooling	0.047*** (0.018)	0.029* (0.017)	0.076*** (0.012)	0.066*** (0.011)
ln(GDP/capita) in host	-0.369*** (0.111)	-0.320*** (0.113)	-0.089 (0.094)	-0.012 (0.088)
ln(GDP/capita) in source	0.265 (0.183)	0.304* (0.178)	-0.385*** (0.122)	-0.361** (0.141)
Price level in host	1.490* (0.808)	1.591** (0.772)	-0.749 (0.565)	-0.955* (0.575)
Price level in source	-2.569*** (0.969)	-2.663*** (0.996)	-0.059 (0.573)	0.250 (0.567)
ln(distance)	-0.223 (0.449)	-0.007 (0.300)	-1.049*** (0.227)	-0.963*** (0.278)
Colony	-0.305 (0.443)	-0.389 (0.428)	0.743** (0.358)	0.680* (0.355)
Language	1.472*** (0.461)	1.462*** (0.450)	-0.546 (0.353)	-0.640* (0.364)
N	3903	3903	3903	3903
Number of surveyed	651	651	651	651
Number of reunifiers	104	104	227	227
Number of competing events			227	104
Number of still separated			320	320
pseudo-R2	0.059		0.027	
chi2	74.324	60.630	71.793	74.789

## Conclusion

- First insights of sequential family migration
- The choice of the reunifying country is in line with economic aspects.

## Motivations

- Sequential migration: introduce a time component in the family migration

	DRC	Ghana	Senegal	Total
Simultaneous Migration	23%	23.9%	28.9%	26.1%
Source reunification	58.7%	50.3%	32.4%	42.8%
Host reunification	18.3%	25.7%	38.8%	31.2%

Table: Types of family migration

Data: MAFE

- Return migration versus permanent migration

- Key channel of migration

	Belgium	France	Italy	Netherlands	Spain	UK
Education	12.9	30.3	7.7	18.8	11.3	40.5
Family	50.7	42.5	32.7	33.7	49.6	1.7
Occupation	10.1	9.4	39.8	18.8	26.8	20
Other	26.3	17.7	19.8	28.7	12.3	37.8

Table: Share of reasons of migration per host countries

Data: Eurostat

	DRC	Ghana	Senegal
Education	9.6	14.7	11
Family	39.6	37.9	43.3
Occupation	3.2	22.3	30.4
Other	47.2	25.1	15.2

Table: Share of reasons of migration per source countries

Data: MAFE

## Literature

Mincer (1978) <i>First steps: tied losers issues</i>	Borjas and Bronars (1991) <i>Roy model: higher self-selection</i>	Jasso and Rosenzweig (1986,1995,2010) <i>Multiplier; children</i>
Monk, Nikolka, Poutvaara (2017) <i>Lower self-selection</i>	Gemici (2007) <i>Labor market impacts</i>	Fogged (2017) <i>Spouses shares in the migration decision</i>