

# Return migration and self-employment dynamics

## Empirical evidence from Kyrgyzstan

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# In a nutshell

## Motivation

- ▶ Return migrants are often labelled as 'super-entrepreneurs' who should substantially contribute to their origin country's development through entrepreneurship
- ▶ *Surviving in* rather than *entering into* self-employment might have lasting effects on economic development
- ▶ Two dimensions either analysed separately, or not specifically estimated

## Empirical evidence from Kyrgyzstan

- ▶ We examine the relations between return migration and self-employment *dynamics*
  - ▷ Return migration + probability of entry (sign.)
  - ▷ Return migration - probability of survival (sign./insign.)

## Implication

Results question returnees' potential contribution to Kyrgyzstan's economic development through entrepreneurship

# Return migration and self-employment dynamics

## A dynamic, lifetime continuum of occupations

- ▶ Migrating out of occupation-productivity mismatches
- ▶ Migrating to destinations with greater labour market opportunities
  - ▷ Can migrating be a mechanism for occupational mobility?

## Evidence on return migration and entrepreneurship

- ▶ Migrants do not tend to stay permanently away, but return to their origin household
- ▶ Empirical evidence finds that return migrants are more likely to be self-employed than stayers
- ▶ Few empirical evidence on persistence, despite its importance
  - ▷ Transitioning between occupations helps experimenting and learning about one's own preferences and abilities, in particular in developing economies
- ▶ Pervasive endogeneity between migration and occupational choice

# Migration and entrepreneurship in Kyrgyzstan

## Migration as a response to push and pull factors

- ▶ Predominantly rural, young population that mainly relies on agriculture, but slow down in agricultural growth (2000s)
- ▶ Concurred with rising economic opportunities in neighbouring countries that share a common history
  - ▷ International labour migration became a natural response to economic challenges in Kyrgyzstan to mainly Russia (92 %) and Kazakhstan (8 %)
  - ▷ Russia's recent economic slowdown spurred many returns

## Kyrgyzstan's legacy of communism may hinder entrepreneurship

- ▶ Weak, if existent market-supporting institutions
- ▶ However, entrepreneurship is central to a successful transition (McMillan and Woodruff, 2002)
  - ▷ Entrepreneurs coped with lacking market-supporting institutions through informal networks
  - ▷ Still, as enterprises' expand, they need formal institutions and macroeconomic stability

# Methodology: Estimation (1)

Baseline specification

$$Y_{it} = \alpha_0 + \sum_{k=1}^K \beta_{0k} X_{kit} + u_{it} \quad (1)$$

Entry into self-employment (conditional on not being self-employed in  $t - 1$ )

$$Y_{it} = \alpha_1 + \sum_{k=1}^K \beta_{1k} X_{kit} + u_{it} \quad (2)$$

Persistence in self-employment (conditional on being self-employed in  $t - 1$ )

$$Y_{it} = \alpha_2 + \sum_{k=1}^K \beta_{2k} X_{kit} + u_{it} \quad (3)$$

But it might be that  $\beta_{1k} = \beta_{2k} \dots$

## Methodology: Estimation (2)

... 'True' model to be estimated on whole dataset

$$Y_{it} = \alpha_3 + \sum_{k=1}^K \beta_{3k} X_{kit} + \lambda_3 Y_{i,t-1} + u_{it} \quad (4)$$

But  $\beta_{3k}$  might not to be the same in both cases, and error term might not be drawn from the same population...

$$Y_{it} = \alpha_4 + \sum_{k=1}^K \beta_{4k} X_{kit} + \lambda_4 Y_{i,t-1} + \sum_{k=1}^K \theta_{4k} X_{kjt} Y_{i,t-1} + u_{it} \quad (5)$$

# Methodology: Dealing with endogeneity (1)

Since temporarily migrating is unlikely to be exogenous with occupational choice and persistence upon return, we control for:

- ▶ Selection into working
- ▶ Time-invariant and time-varying characteristics

We obtain individual fixed effects through Mundlak correction (Mundlak, 1978)

$$E[\gamma_i | X_{kit}] = g(X_{kit}) \quad (6)$$

$$\gamma_i = \delta_0 + \sum_{k=1}^K \delta_{1k} \bar{X}_{ki} + \epsilon_i \quad (7)$$

$$Y_{it} = (\alpha_0 + \delta_0) + \sum_{k=1}^K \beta_{0k} X_{kit} + \sum_{k=1}^K \delta_{1k} \bar{X}_{ki} + u_{it} + \epsilon_i \quad (8)$$

## Methodology: Dealing with endogeneity (2)

Dynamic, non-linear panel with unobserved heterogeneity (Wooldridge, 2005)

$$g(\gamma_i | Y_{i0}, X_{kit}) \sim N(\delta_0 + \delta_1 Y_{i0} + \sum_{k=1}^K \delta_{2k} \bar{X}_{ki}, \sigma_\epsilon^2) \quad (9)$$

$$\gamma_i = \delta_0 + \delta_1 Y_{i0} + \sum_{k=1}^K \delta_{2k} \bar{X}_{ki} + \epsilon_i, \quad (10)$$

$$Y_{it} = (\alpha_4 + \delta_0) + \sum_{k=1}^K \beta_{4k} X_{kit} + \delta_1 Y_{i0} + \lambda_4 Y_{i,t-1} + \sum_{k=1}^K \theta_{4k} X_{kjt} Y_{i,t-1} + \sum_{k=1}^K \delta_{2k} \bar{X}_{ki} + u_{it} + \epsilon_i \quad (11)$$



## Data source

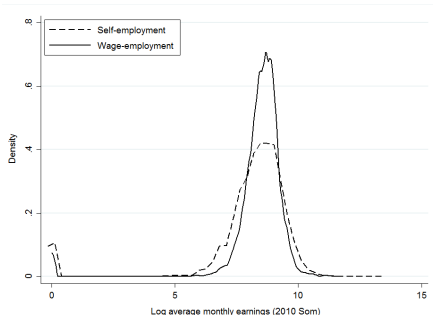
- ▶ Life in Kyrgyzstan Study (LiK): Carried out in Kyrgyzstan annually from 2010 to 2013, tracking the same 8,000 individuals
- ▶ Unit of analysis: Working-age (18-64) individuals born in Kyrgyzstan, of non-splitting households, interviewed in all four waves – 4,765 individuals, members of 2,195 (original) households
- ▶ Sample attrition: Lack of data on 2,099 individuals from 557 households interviewed in 2010
  - ▷ Return migrants who plan to re-migrate might take self-employment as a transitory occupation, waiting for future migration; they might not have any interest in lasting entrepreneurial activities
  - ▷ Returnees whose entrepreneurial activities fail might be more likely to migrate again

# Descriptive statistics: Labour market outcomes

Table 1: Full estimation sample

	Mean	S.D.
Has worked over last week?	0.6002	0.4899
Self-employed	0.2182	0.4130
Wage-employed	0.2947	0.4559
Family worker	0.0846	0.2783
Has ever lived abroad	0.0630	0.2430
Total	19,060	

Figure 1: Earning distribution (real)



# Descriptive statistics: Transition probabilities

Table 2: Returnees

Employment status $t$	Employment status $t + 1$					
	I	U	S	W	O	T
	<i>Ever returnees</i>					
Inactive	61.49	2.80	14.91	13.98	6.83	100.00
Unemployed	35.90	<b>15.38</b>	<b>17.95</b>	<b>28.21</b>	2.56	100.00
Self-employed	19.72	<b>0.83</b>	<b>63.89</b>	<b>11.39</b>	4.17	100.00
Wage-employed	15.81	<b>1.72</b>	<b>18.56</b>	<b>59.11</b>	4.81	100.00
Other	41.84	0.00	15.31	16.33	26.53	100.00
Total $t + 1$	33.33	2.07	31.89	25.68	7.03	100.00
	<i>Returnees upon return</i>					
Inactive	65.04	2.65	13.72	10.62	7.96	100.00
Unemployed	36.36	<b>9.09</b>	<b>9.09</b>	<b>40.91</b>	4.55	100.00
Self-employed	22.18	<b>0.70</b>	<b>63.03</b>	<b>10.21</b>	3.87	100.00
Wage-employed	18.43	<b>1.38</b>	<b>16.59</b>	<b>58.99</b>	4.61	100.00
Other	42.68	0.00	12.20	17.07	28.05	100.00
Total $t + 1$	35.26	1.56	31.05	24.55	7.58	100.00

Table 3: Non returnees

Employment status $t$	Employment status $t + 1$					
	I	U	S	W	O	T
	<i>Never returnees</i>					
Inactive	71.98	2.68	8.31	10.35	6.68	100.00
Unemployed	36.75	<b>13.68</b>	<b>10.26</b>	<b>36.47</b>	2.85	100.00
Self-employed	19.67	<b>0.95</b>	<b>63.98</b>	<b>10.90</b>	4.50	100.00
Wage-employed	11.43	<b>1.69</b>	<b>7.15</b>	<b>78.33</b>	1.41	100.00
Other	33.13	0.92	12.06	15.50	38.40	100.00
Total $t + 1$	37.22	2.11	20.86	32.17	7.65	100.00
	<i>Never returnees and returnees before migration</i>					
Inactive	71.85	2.67	8.39	10.46	6.62	100.00
Unemployed	36.94	<b>13.89</b>	<b>10.56</b>	<b>35.83</b>	2.78	100.00
Self-employed	19.57	<b>0.97</b>	<b>63.93</b>	<b>11.04</b>	4.48	100.00
Wage-employed	11.43	<b>1.70</b>	<b>7.16</b>	<b>78.31</b>	1.40	100.00
Other	33.08	0.91	12.09	15.51	38.40	100.00
Total $t + 1$	37.16	2.13	20.93	32.17	7.61	100.00

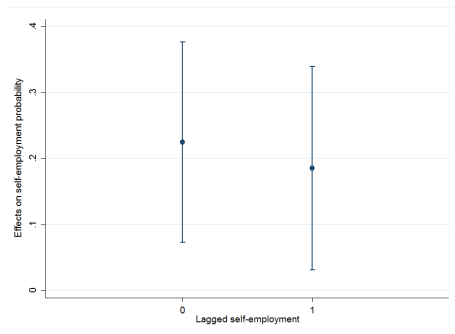
# Benchmark results (1)

**Table 4:** Coefficient estimates of non-linear panel data model for self-employment

Variables	Baseline		Entry		Survival		Combined model	Parsimonious combined model
	RE (1)	FE (2)	RE (3)	FE (4)	RE (5)	FE (6)	FE (7)	FE (8)
Returnee	0.5659*** (0.1436)	0.6244*** (0.2424)	0.5571*** (0.1461)	0.8097* (0.4141)	0.1200 (0.1351)	0.5563 (0.3905)	0.9162*** (0.2873)	0.8977*** (0.2858)
Self-employed <sub>(t=0)</sub>							1.0602*** (0.1246)	1.0610*** (0.1237)
Self-employed <sub>(t-1)</sub>							-0.4154 (0.9229)	1.0144*** (0.2378)
... X Returnee							-0.2866* (0.1597)	-0.2678* (0.1599)
IMR <sub>retention</sub>	-1.8509*** (0.5365)	-1.4439** (0.6269)	-0.6906 (0.5263)	-0.5274 (0.6009)	-1.0095* (0.5849)	-0.7027 (0.6672)	-0.6307 (0.4341)	-0.5622 (0.4296)
IMR <sub>working</sub>	1.2281** (0.5381)	1.1892** (0.5399)	0.1753 (0.6373)	0.2269 (0.6468)	-0.2035 (0.6356)	-0.1905 (0.6453)	0.1710 (0.4325)	0.3467 (0.3946)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Group means	No	Yes	No	Yes	No	Yes	Yes	Yes
$\bar{X}_{kit} = 0$		54.99 0.0000		21.96 0.0560		144.91 0.0000	20.19 0.0907	21.18 0.0694
$\beta_k = \theta_k$							46.92 0.0000	34.47 0.0003
Observations	11,361	11,361	6,031	6,031	2,620	2,620	8,651	8,651

## Benchmark results (2)

**Figure 2:** Average marginal effects of return migration with 95% confidence intervals of parsimonuous combined model



# Robustness checks (1)

- ▶ We run benchmark specifications on a matched sample of control (non-returnees) and treated (returnees), following Egger et al. (2008) and Falvey and Foster-McGregor (2015):
  - ▶ For each year  $t$ , we define controls as individuals who are not return migrants, and treated, as individuals who are reported as return migrants in year  $t$ , but who were not in year  $t - 1$ 
    - Only 'newly' treated in year  $t$  are used in the matching procedure; existing treated are dropped
  - ▶ We match new returnees to non-returnees at time  $t$  on the basis of  $t - 1$  explanatory variables (5 NN propensity score/covariate matching)
    - We obtain two-year pooled cross-sections of matched individuals, on which we run benchmark specifications applying matching weights as frequency weights
- ▶ **Control for observed heterogeneity between returnees and non-migrants as well as self-selection into temporary migration**

## Robustness checks (2)

**Table 5:** Coefficient estimates of benchmark specifications on matched sample (PSM)

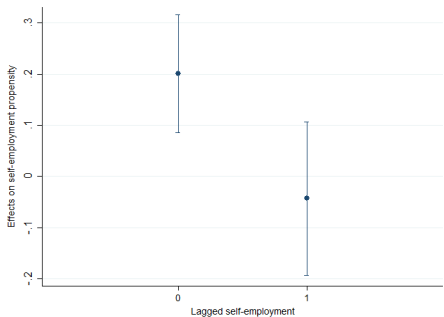
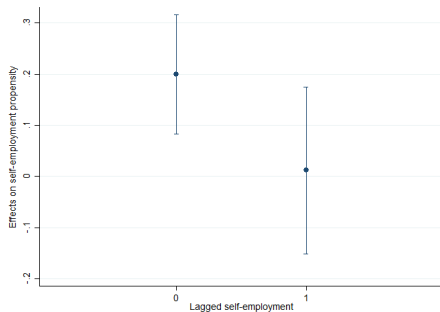
Variables	Baseline (1)	Entry (2)	Survival (3)	Combined model (4)	Parsimonious combined model (5)
Returnee	0.2343 (0.1456)	0.6435*** (0.1888)	-0.0302 (0.2737)	0.6462*** (0.1882)	0.6325*** (0.1841)
Self-employed <sub>(t=0)</sub>				0.7408*** (0.2135)	0.7357*** (0.2103)
Self-employed <sub>(t=1)</sub>				-3.9184 (2.4404)	1.2250*** (0.2094)
... X Returnee				-0.6415* (0.3366)	-0.5931* (0.3344)
Control variables	Yes	Yes	Yes	Yes	Yes
Group means	No	No	No	No	No
$\beta_k = \theta_k$				23.65 0.0345	16.55 0.0009
Observations	1,190	743	434	1,177	1,190

**Table 6:** Coefficient estimates of benchmark specifications on matched sample (CVM)

Variables	Baseline (1)	Entry (2)	Survival (3)	Combined model (4)	Parsimonious combined model (5)
Returnee	0.1601 (0.1414)	0.6274*** (0.1785)	-0.3648 (0.2905)	0.6195*** (0.1772)	0.5895*** (0.1792)
Self-employed <sub>(t=0)</sub>				0.5734*** (0.2220)	0.5927*** (0.2259)
Self-employed <sub>(t=1)</sub>				-3.6235 (2.3462)	1.4785*** (0.2361)
... X Returnee				-0.8953** (0.3498)	-0.7480** (0.3316)
Control variables	Yes	Yes	Yes	Yes	Yes
Group means	No	No	No	No	No
$\beta_k = \theta_k$				30.10 0.0074	20.88 0.0003
Observations	1,190	762	428	1,190	1,190

## Robustness checks (3)

**Figure 3:** Average marginal effects of return migration with 95% confidence intervals of parsimonuous combined model on PSM (l) and CVM (r) matched sample





# Discussion

- ▶ Occupational choices of returnees are less stable than non-migrants'
  - ▷ Questions any potential lasting contribution of returnees to Kyrgyzstan's economic development through entrepreneurship
- ▶ Correlation, not causation
- ▶ Differences in occupational choice and survival might be explained by
  - ▷ Consumption rather than (entrepreneurial) investment motives for migration
  - ▷ Self-employment as an escape from unemployment, or as a gradual learning process
  - ▷ Difficulties in expanding as a firm in Kyrgyzstan – obstacles temporary migration cannot overcome

# Policy implications

- ▶ Need to account for differences between entry into/survival in self-employment
  - ▷ Looking at dynamics reveals the heterogeneity of those self-employed and return migrants
- ▶ Self-employment as a transitory choice of occupation might question policies encouraging entrepreneurial activities of return migrants, with high expectations from returnees, labelled as 'super-entrepreneurs'
  - ▷ Policy support might be more useful in easing access to wage-employment
- ▶ Negative relation with survival as self-employed might highlight the requirements for entrepreneurial success to occur in Kyrgyzstan
  - ▷ Temporary migration might substitute for imperfect institutions at start-up stages, but formal market-supporting institutions might be necessary for firms to grow and thrive over time



Thank you

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