

# Return migration and self-employment dynamics: Empirical evidence from Kyrgyzstan

Tilman Brück (IGZ, ISDC and IZA)

Clotilde Mahé (Maastricht University)

Wim Naudé (Maastricht University, MSM and IZA)

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# Motivation

## Migration

- lifetime optimisation of occupational choice (both what and where)
- mechanism for occupational mobility
- opportunity to leave occupation-productivity mismatch (White and Wolaver, 2003)
- at destination, and upon return, migrants may have wider set of occupational options

## Return migrants

- often labelled 'super-entrepreneurs' who (should) substantially contribute to their origin country's development through entrepreneurship (Naudé et al., 2015)
- understanding migrants' (labour market) adjustment process upon return is central in discerning their effect on communities of origin (Piracha and Vadean, 2010)
- savings and experience accumulated during migration might also increase returnees' probability to be self-employed (Wahba and Zenou, 2012)

## Research questions

### What happens upon return?

- *surviving in* rather than *entering into* self-employment might have lasting effects on economic development (Marchetta, 2012)
- *transitioning between occupations* might help experimenting and learning about one's own preferences and abilities (Jovanovic, 1979, 1982; Koelle, 2016; Dillon/Stanton, 2017)
- opting for self-employment could be a *transitory phase for re-integrating* the domestic labour market, waiting for preferred wage-employed opportunities, in the spirit of Harris and Todaro's (1970) 'parking lot' hypothesis, or in view of future (re-)migration

### There is little empirical evidence on return migration and persistence in entrepreneurship

- Marchetta (2012): migrants tend to survive in self-employment upon return to Egypt
- these 2 dimensions have been analysed separately or not specifically estimated

### Hence our research questions are

- whether returnees become entrepreneurs
- whether their entrepreneurial activities are temporary

## Preview of results

**In this paper, we assess whether return migrants and non-migrants differ in their likelihood to enter into and survive in self-employment**

We use **panel data from Kyrgyzstan**, a country with prevalent international return migration and in which entrepreneurship may play key role in transition process

### **We find that**

- Return migration is pos. related to probability of entering into self-employment (sign.)
- Return migration is neg. related to probability of surviving in self-employment (sign./insign.)

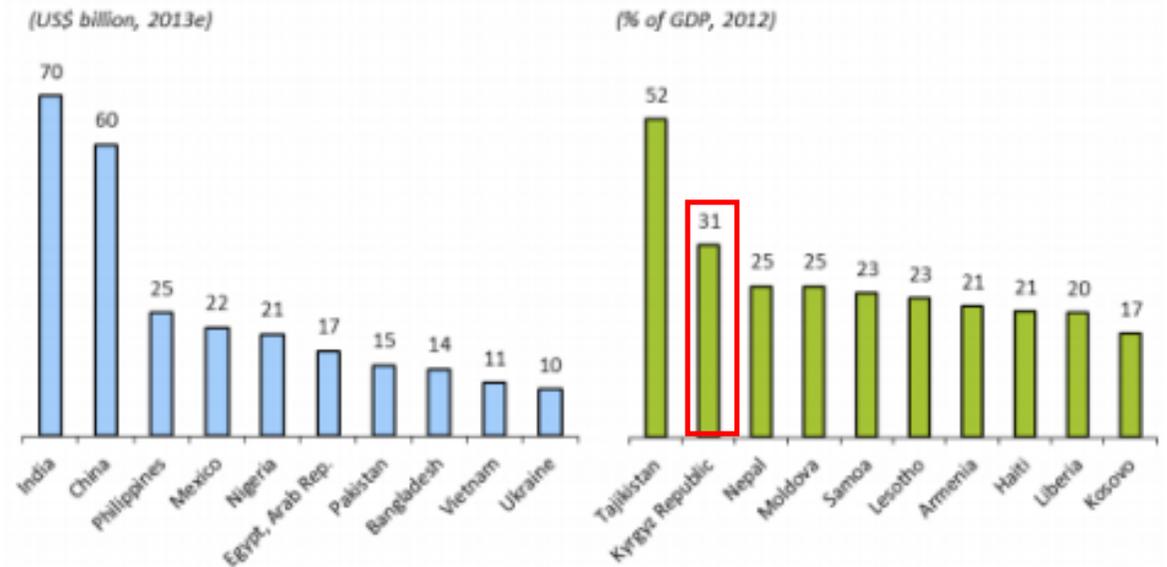
### **Implications**

Results question returnees' potential sustainable contribution to Kyrgyzstan's development  
Migration may be a substitute (not complement) for entrepreneurship in Kyrgyzstan

# Migration in Kyrgyzstan: Responding to push and pull factors

- Predominantly rural, young population
- Rising economic opportunities in neighbouring countries
- International labour migration became a natural response to economic challenges
- With a population of about 5.7 million in 2013, the number of permanent and seasonal labour migrants approximates 200,000 to 1 million people
- To Russia (92 %) and Kazakhstan (8 %)
- Russia's recent economic slowdown spurred many returns

Figure 1: Top 10 recipients of remittances



Sources: World Bank

# Entrepreneurship and economic transition in Kyrgyzstan

## **Entrepreneurship is central to a successful transition (McMillan and Woodruff, 2002)**

- in China, Poland and Vietnam, entrepreneurs coped with lacking market-supporting institutions through informal networks (reputational incentives)
- as enterprises' expand, they need formal institutions and macroeconomic stability

## **Weak, if existent, market-supporting institutions in Kyrgyzstan**

- in 2014, individual entrepreneurs and small farmers contributed to 18% and 9%, respectively, of GDP and accounted for 90% of entrepreneurial activities
- limitations on private ownership of land and state-led rent-seeking limits the growth of Kyrgyz family farms (Atamanov and van den Berg, 2012)
- political instability, tax rates and corruption were listed among the first challenges formal, non-agricultural enterprises faced in Kyrgyzstan (World Bank, 2013)
- 2001-2014, the main driver of growth in GDP were large enterprises (Rudaz, 2017)

## Data source

### **Life in Kyrgyzstan Study (LiK)**

- carried out in Kyrgyzstan annually from 2010 to 2013 and in 2016
- tracking the same 8,000 individuals
- for further information, see Brück et al. (2014) and [www.lifeinkyrgyzstan.org](http://www.lifeinkyrgyzstan.org)

### **Unit of analysis**

- working-age (18-64) individuals born in Kyrgyzstan of non-splitting households
- interviewed in all four waves 2010-2013 (2016 data is now being cleaned)

### **Sample attrition**

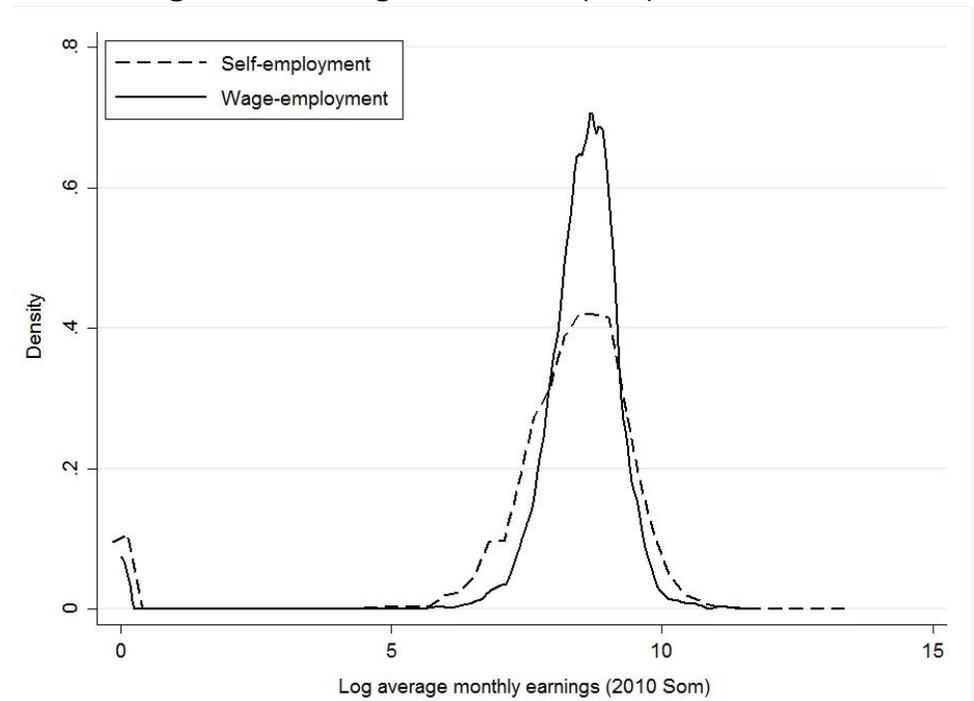
- Lack of data for 2,099 individuals from 557 households interviewed in 2010
- Returnees whose entrepreneurial activities fail might be more likely to migrate again
- Potential endogenous attrition is taken into account by computing IMR for selection into retention (exclusion restriction: perception of safety)

# 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 2:** Earning distribution (real)



## Descriptive statistics: Return migrants (individual characteristics)

**Table 2:** Descriptive statistics of estimation sample by migration status

	Returnees	Non-migrants		
		All	Living w/t returnee(s)	Living w/o returnee(s)
Male	0.6819	0.4576	0.3906	0.4657
Age	38.8493	39.6056	39.8021	39.5819
Head	0.4280	0.3567	0.2396	0.3708
Married	0.7802	0.7525	0.7802	0.7492
Kyrgyz	0.6495	0.6975	0.5875	0.7107
Vocational	0.1174	0.1599	0.1313	0.1634
Secondary	0.5970	0.5718	0.6469	0.5628
University	0.1807	0.1734	0.1104	0.1810
Worked last week	0.6386	0.5976	0.5552	0.6027
Self-employed	0.3189	0.2114	0.1901	0.2139
Wage-employed	0.2406	0.2983	0.2417	0.3052
Family worker	0.0741	0.0853	0.1198	0.0812
Total	1,201	17,859	1,920	15,939

## Descriptive statistics: Return migrants (household characteristics)

**Table 2:** Descriptive statistics of estimation sample by migration status (contd)

	Returnees	Non-migrants		
		All	Living w/t returnee(s)	Living w/o returnee
Household size	6.1424	5.6221	6.9771	5.4589
0-15 dependency ratio	0.2802	0.2682	0.2469	0.2707
Member(s) working abroad	0.1757	0.1255	0.1870	0.1181
Owens land	0.7968	0.7698	0.8391	0.7615
Total land area (ha.)	0.7034	0.8150	0.6919	0.8298
Land area distributed (ha.)	0.5827	0.7085	0.5952	0.7221
Number of shocks	2.0275	1.9398	1.9625	1.9371
Urban	0.3172	0.3675	0.2630	0.3801
Total	1,201	17,859	1,920	15,939

**Table 3:** Shares of household income sources

	Individuals in a household w/t returnee(s)	Individuals in a household w/o returnee
Household enterprise	.37433	.33213
Property	.00931	.00978
Social transfers	.15697	.19043
Material aid	.12274	.08184
Wage-employment	.30877	.36205
Other incomes	.02789	.02377
Total	1,336	7,695

**Table 4:** Shares of household expenditures

	Individuals in a household w/t returnee(s)	Individuals in a household w/o returnee
Health	.11773	.14164
Housing and utilities	.30543	.30649
Education	.0225	.02019
Transportation	.10661	.1024
Leisure	.11049	.11269
Celebrations	.10757	.09714
Clothing	.22968	.21945
Total	1,349	7,757

## Transition probabilities: High degree of flexibility

**Table 5: Returnees**

Employment status t	<i>Ever returnees</i>					Total
	Employment status t + 1					
	I	U	S	W	O	
Inactive	61.49	2.80	14.91	13.98	6.83	100.00
Unemployed	35.90	15.38	17.95	28.21	2.56	100.00
Self-employed	19.72	0.83	63.89	11.39	4.17	100.00
Wage-employed	15.81	1.72	18.56	59.11	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>					
	I	U	S	W	O	Total
Inactive	65.04	2.65	13.72	10.62	7.96	100.00
Unemployed	36.36	9.09	9.09	40.91	4.55	100.00
Self-employed	22.18	0.70	63.03	10.21	3.87	100.00
Wage-employed	18.43	1.38	16.59	58.99	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 6: Non returnees**

Employment status t	<i>Never returnees</i>					Total
	Employment status t + 1					
	I	U	S	W	O	
Inactive	71.98	2.68	8.31	10.35	6.68	100.00
Unemployed	36.75	13.68	10.26	36.47	2.85	100.00
Self-employed	19.67	0.95	63.98	10.90	4.50	100.00
Wage-employed	11.43	1.69	7.15	78.33	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>					
	I	U	S	W	O	Total
Inactive	71.85	2.67	8.39	10.46	6.62	100.00
Unemployed	36.94	13.89	10.56	35.83	2.78	100.00
Self-employed	19.57	0.97	63.93	11.04	4.48	100.00
Wage-employed	11.43	1.70	7.16	78.31	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

## Estimation

We assess to which extent return migration is related to self-employment dynamics following de Ree and Nillesen (2009) and Bleaney and Dimico (2011), accounting for:

### **(i) Dynamics**

An individual is more likely to be self-employed at time  $t$  if s/he was self-employed in  $t-1$ ; the determinants of entry into and survival in self-employment might differ (or not)

### **(ii) Time-invariant effects (e.g. self-selection)**

Returnees might positively/negatively self-select into entrepreneurship, which might influence their chances to survive

### **(iii) Time-varying effects (e.g. reverse causality)**

Migrating, and accumulating resources during migration, might be business strategies to set up and/or expand firms

## Estimation (2)

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  $\beta_{1k} = \beta_{2k} \dots$

## Estimation (3)

... '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...

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

## Dealing with endogeneity

- Dynamics are taken into account by estimating a dynamic, non-linear panel with unobserved heterogeneity (as in Wooldridge, 2005):
  - time-invariant effects are controlled for through a Mundlak correction (Mundlak, 1978)
  - time-varying characteristics are captured by time-varying variables
- We cannot control for source(s) of time-varying endogeneity (through IV for instance) because of how our variable of interest is defined (return migration captures migration only up to 2005)
- Selection into working is accounted for with inverse Mills ratio (IMR) (excl. rest.: being married)

## Dealing with endogeneity (2)

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

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

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

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

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

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

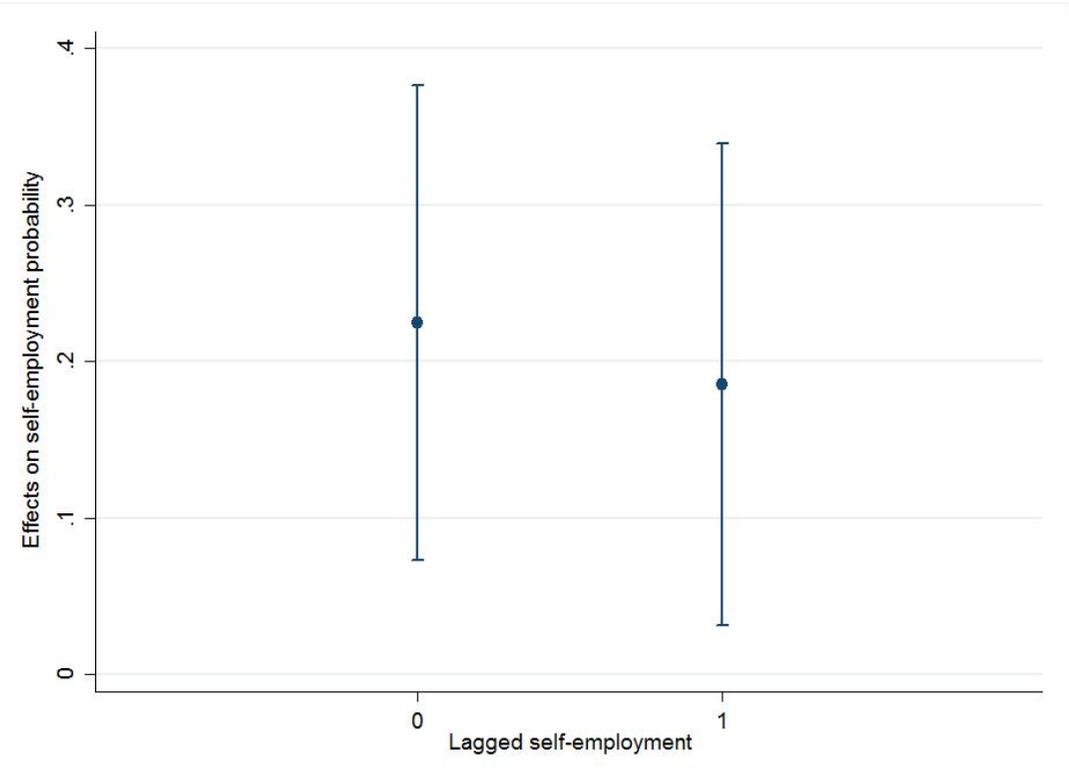
# Benchmark results (1)

**Table 7:** Coefficient estimates of benchmark specifications

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)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Group means	No	Yes	No	Yes	No	Yes	Yes	Yes
Insig2u	1.2246*** (0.0718)	1.2462*** (0.0728)	0.3376* (0.2036)	0.3683* (0.2045)	-0.8696* (0.4559)	-0.7797* (0.4463)	-0.2255 (0.2137)	-0.2156 (0.2119)
$\bar{X}_{kit} = 0$		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
Number of groups	3,849	3,849	3,044	3,044	1,371	1,371	3,736	3,736

# Benchmark results (2)

Figure 2: Average marginal effects of return migration with 95% CI of parsimonious 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 8:** Coefficient estimates on matched sample (propensity score matching, 5NN)

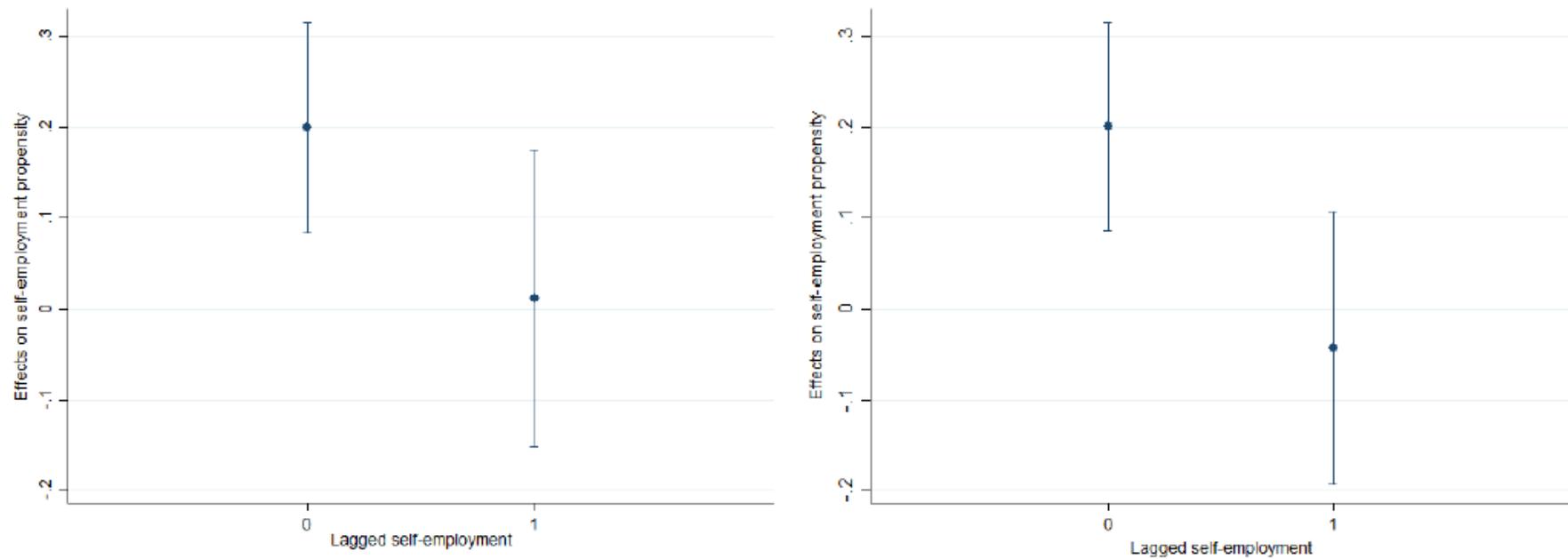
Variables	Baseline (1)	Entry (2)	Survival (3)	Comb. (4)	Pars. comb. (5)
Returnee	0.2343 (0.1456)	0.6435*** (0.1888)	-0.0302 (0.2737)	0.6462*** (0.1882)	0.6325*** (0.1841)
Self-employed <sub>(t=0)</sub>				0.7408*** (0.2135)	0.7357*** (0.2103)
Self-employed <sub>(t-1)</sub>				-3.9184 (2.4404)	1.2250*** (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 9:** Coefficient estimates on matched sample (covariate matching, 5NN)

Variables	Baseline (1)	Entry (2)	Survival (3)	Comb. (4)	Pars. comb. (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 parsimonious combined model on matched sample (left: CVM; right: PSM)



## Discussion

- Results suggest that the occupational choices of returnees are less stable than those of non-migrants
- This questions any potential lasting contribution of returnees to Kyrgyzstan's economic development through entrepreneurship
- Differences in occupational choice and survival might be explained by
  - consumption rather than (entrepreneurial) investment motives for migration
  - self-employment may serve one of these functions
    - an escape from unemployment → parking lot hypothesis (Harris and Todaro, 1970)
    - a gradual learning process about one's own preferences and abilities (Jovanovic 1979, 1982; Koelle, 2016; Dillon and Stanton, 2017)
  - difficulties in expanding as a firm in Kyrgyzstan
  - obstacles temporary migration cannot overcome

## Policy implications

- Results highlight the need to account for differences between entry in versus survival in self-employment
- They reveal the existence of differences among self-employed and return migrants
- Self-employment as a transitory choice of occupation might question policies encouraging entrepreneurial activities of return migrants
- Policy support might be more useful in easing transitions between occupations
- Also given the role of agriculture, more support for value chains may be helpful
- 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 stage, but formal market-supporting institutions might be necessary for firms to last and grow

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