Easy Come, Easy Go? Economic Shocks, Labor Migration and the Family Left Behind
Online Appendix

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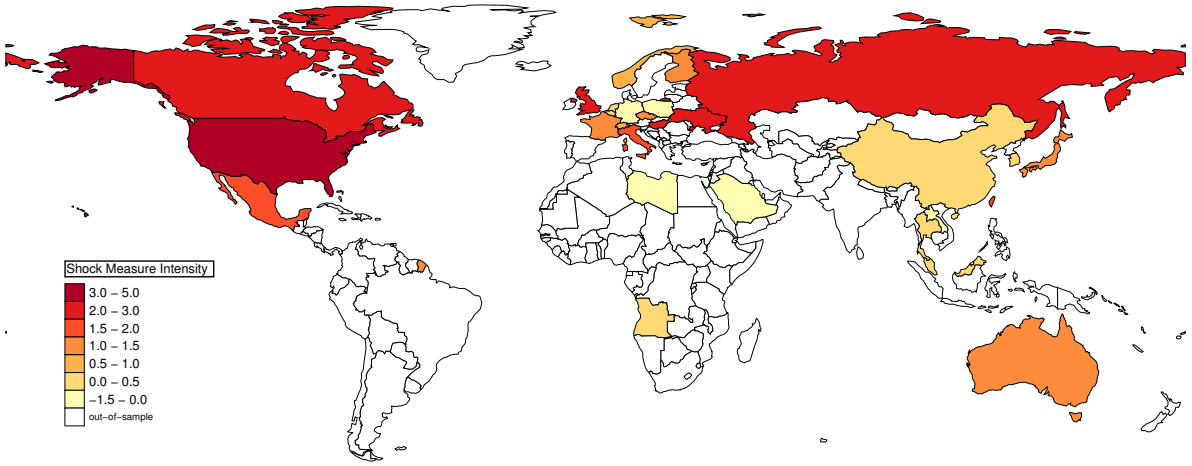
1 Figures & Tables

Figure A.1: Change in unemployment rate in migrant destination countries 2007-2009



Source: IMF World Economic Outlook database. *Note*: Graphical visualization of percentage point changes in unemployment rate (percent of total labor force) between 2007 and 2009 in migrant destination countries ($\Delta UR_{d,2007-2009}$). Visualization using Pisati (2008).

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Table A.1: Foreign Migration: Additional Outcomes

	Number of foreign migrants					
	Female		Male		Male labor	
	(1)	(2)	(3)	(4)	(5)	(6)
Shock×Post (β_1)	0.0311*	0.0480*	0.0301	0.0236	0.0196	0.0227
	(0.0163)	(0.0242)	(0.0259)	(0.0300)	(0.0280)	(0.0271)
EDF (p-value)	0.050	0.062	0.202	0.405	0.429	0.377
Shock×Post×Rich (β_2)		-0.0305		0.0134		-0.00697
		(0.0210)		(0.0220)		(0.0277)
EDF (p-value)		0.162		0.532		0.793
$\beta_1 + \beta_2 = 0$ (p-value)		0.313		0.204		0.656
Household FE	√	√	√	√	√	√
Province-Year FE	√	√	√	√	√	√
Baseline controls	√	√	√	√	√	√
Observations	1,000	1,000	1,000	1,000	1,000	1,000
Households	500	500	500	500	500	500
Cluster	26	26	26	26	26	26
R^2	0.866	0.867	0.815	0.815	0.776	0.777
Mean Dep. Var.	0.72	0.72	0.56	0.56	0.46	0.46

Source: Author's calculations based on DOTM panel data 2008–2013. *Note*: Each column displays the result of a separate regression based on equation 4 and 5 respectively. I only report the shock coefficient interacted with the *Post* dummy for the follow-up wave 2013 (β_1 in equation 4 and 5) and the triple interaction term with the subgroup dummy (β_2 in equation 5). Cluster robust standard errors in parenthesis. Bias corrected p-values based on the effective degrees of freedom (EDF) calculated using the "edfreg" Stata module (Young, 2016). The F-test p-value is for the null hypothesis of the net effect for the rich subgroup being zero. Significance level based on EDF adjusted standard errors. *** p<0.01, ** p<0.05, * p<0.1.

2 Theoretical Framework: Mathematical Derivation

A. Elasticity of <u>domestic</u> migration w.r.t. foreign wages

- Solve the household size constraint for m_h,

$$m_h = n - m_d - m_f$$

- the budget constraint for m_f,

$$m_f = \frac{\underline{c} - w_d m_d}{w_f}$$

- and replace m_h and m_f in the maximization problem:

$$\underset{m_d}{\text{Max}} \quad \left\{ u(n - m_d - (\frac{\underline{c} - w_d m_d}{w_f})) - \alpha m_d - \beta(\frac{\underline{c} - w_d m_d}{w_f}) \right\}$$

- Differentiation w.r.t. m_d, yields the first-order condition:

$$\frac{\mathrm{dU}}{\mathrm{d}m_d^*} = \frac{w_d - w_f}{w_f} u'(m_h) - \alpha + \beta \frac{w_d}{w_f} = 0.$$

- Total differentiation yields:

$$\frac{\mathrm{dm_d^*}}{\mathrm{dw_f}} = -\frac{\frac{\mathrm{d}}{\mathrm{dw_f}}}{\frac{\mathrm{d}}{\mathrm{dm_d^*}}} = -\frac{-\frac{w_d}{w_f^2} u'(m_h^*) + \frac{(w_d - w_f) m_d^*}{w_f^2} u''(m_h^*) - \beta \frac{w_d}{w_f^2}}{\left.\frac{\mathrm{dU^2}}{\mathrm{d}d^2}\right|_{d=d^*}}.$$

- Since, by assumption: $\frac{\mathrm{dU^2}}{\mathrm{d}m_d^2} < 0$, the sign of the elasticity of domestic migration w.r.t. foreign wages is determined by the sign of the numerator ($\frac{\mathrm{d}}{\mathrm{dw_f}}$):

$$sgn(\frac{\mathrm{d}}{\mathrm{dw_f}}) = sgn(-\frac{w_d}{w_f^2} u'(m_h^*) + \frac{(w_d - w_f) m_d^*}{w_f^2} u''(m_h^*) - \beta \frac{w_d}{w_f^2}).$$

B. Elasticity of foreign labor migration w.r.t. foreign wages

- Solve the household size constraint for m_h,

$$m_h = n - m_d - m_f$$

- the budget constraint for m_d,

$$m_d = \frac{\underline{c} - w_f m_f}{w_d}$$

- and replace m_h and m_d in the maximization problem:

$$\underset{m_f}{\text{Max}} \quad \left\{ u(n - (\frac{\underline{c} - w_f m_f}{w_d}) - m_f) - \alpha(\frac{\underline{c} - w_f m_f}{w_d}) - \beta m_f) \right\}$$

- Differentiation w.r.t. m_f, yields the first-order condition:

$$\frac{\mathrm{dU}}{\mathrm{d}m_f^*} = \frac{w_f - w_d}{w_d} u'(m_h) + \alpha \frac{w_f}{w_d} - \beta = 0.$$

- Total differentiation yields:

$$\frac{\mathrm{dm_f^*}}{\mathrm{dw_f}} = -\frac{\frac{\mathrm{d}}{\mathrm{dw_f}}}{\frac{\mathrm{d}}{\mathrm{dm_f^*}}} = -\frac{\frac{1}{w_d} u'(m_h^*) + \frac{(w_f - w_d) m_f^*}{w_d^2} u''(m_h^*) + \alpha \frac{1}{w_d}}{\left. \frac{\mathrm{dU^2}}{\mathrm{d}m_f^2} \right|_{m_f = m_f^*}}.$$

- Since, by assumption: $\frac{\mathrm{dU^2}}{\mathrm{d}m_f^2} < 0$, the sign of the elasticity of foreign migration w.r.t. foreign wages is determined by the sign of the numerator ($\frac{\mathrm{d}}{\mathrm{dw_f}}$):

$$sgn(\frac{\mathrm{d}}{\mathrm{dw_f}}) = sgn(\frac{1}{w_d} u'(m_h^*) + \frac{(w_f - w_d) m_f^*}{w_d^2} u''(m_h^*) + \alpha \frac{1}{w_d}).$$

3 Theoretical Framework: Calibration Exercise

In order to illustrate the comparative statics of this simple model for the discrete case of a poor migrant household with a level of consumption (c) close to the minimum ($\underline{c}$), I conduct a simple parametrization exercise. Table A.2 summarizes the parameters used in this exercise for the hypothetical household, comparing three periods, before (t_0), when the household faces the shock (t_1), and after adjustment has taken place (t_2). I assume that the household optimally distributes $n = 5$ members across *home*, *domestic*, and *foreign* locations, which corresponds approximately to the mean household size in my sample, including migrants. Discrete optimization is important in this context because households' migration decisions are restricted and the set of potential migration candidates is strictly finite.

Table A.2: Parametrization of Household Migration Model

	Period 0	Period 1	Period 2
Domestic wage (w_d)	2	2	2
Foreign wage (w_f)	8	6	6
Home consumption shock (Δc)		-2	
Domestic cost parameter (α)	0.1	0.1	0.1
Foreign cost parameter (β)	0.3	0.3	0.3
		Results	
Members at home (m_h^*)	3	3	3
Domestic migrants (m_d^*)	1	1	0
Foreign migrants (m_f^*)	1	1	2
Consumption ($\underline{c}^*$)	10	8	12

Note: Minimum consumption, $\underline{c} = 10$ units, utility function: $u(m_h) = ln(m_h) - \alpha m_d - \beta m_f$.

Income from home production is normalized to zero and minimum consumption is covered by migrant earnings. Wages from domestic migration are: $w_d = 2$ and remain constant over time. In period 0, foreign migrants earn $w_f = 8$, which implies a considerable wage premium from foreign migration. Furthermore, I assume that foreign migration causes three times more disutility than the domestic one ($\alpha = 0.1$ and $\beta = 0.3$). Since we are interested in the reaction of migrant households, i.e. the ones with $d, f > 0$, the minimum consumption level is assumed to be greater or equal to the earnings of a household with one domestic and foreign migrant each ($\underline{c} \geq 10$). In period 1, a negative labor market shock occurs abroad, which leads to a reduction in foreign wages by 2 units such that $w_f = 6$. This wage loss is equivalent to a relative decrease of 25% in the foreign wage which is close to the empirical estimates of the change in remittances from the USA to Mexico (-19%) and the change in migrant wages in the USA between 2007 and 2009 (-21.7%) according to Cervantes Gonzalez and del Pino (2012).[1]

[1]Migrant wages refer to earnings by non-citizen Mexican immigrant workers in the US with post-secondary, non-tertiary education level. This subgroup is most comparable to the migrants in my sample,

Given ex-ante migration decisions, the foreign wage shock in period 1 leads to a decrease in household consumption to 8 units, below the consumption minimum ($\underline{c}$). In period 2, affected households are now forced to re-optimize their migration decisions in order to secure their minimum consumption needs. They do so by increasing the allocation of labor to foreign markets by one member as the marginal wage abroad is still superior compared to the domestic one they face. As additional foreign migration occurs and the household's budget constraint is satisfied once again, the income from the remaining domestic migrant does not provide any more utility. Due to the household's home bias of locational preferences, they derive positive utility from calling the domestic migrant back home, such that the allocation of members to domestic destinations decreases to zero.

This simple discrete optimization exercise demonstrates that for poor migrant household with a level of consumption close to the minimum, under the given parameters, the model predicts that the elasticity of domestic migration with respect to foreign wages is positive and the one of foreign migration is negative. In other words, the income effect dominates the substitution effect. The optimal coping strategy for the household in this example is to trade-off domestic migrants with foreign ones. In this setting, heterogeneity in household responses come from their baseline consumption level. It is easy to simulate the same exercise for a rich household whose migrants earn, say, twice the wage of those from poor households due to their higher skill level.[2] In this situation, the rich household has one foreign migrant earning a foreign wage of 16 units (2×8) and the rest of the family stays at home due to the home bias. All else equal, the same absolute (-2 units) or relative shock to foreign migrant wages (25% of 16 units = -4 units) would result in consumption levels which remain superior to minimum levels.

This implies that rich households would be able to absorb the shock on their own without falling below minimum consumption levels and, therefore, would not have to change their migration decisions. In this scenario, income and substitution effects would approximately balance out. Note that the same holds when relaxing the minimum consumption threshold by allowing for positive decreasing marginal returns to additional consumption since richer households will always have higher shock coping capacity, on average. In my empirical analysis, I exploit this variation in consumption levels and explore heterogeneous effects for poor and rich households measured by their consumption level with respect to the sample median at baseline.

who tend to have no citizenship in their host country and who predominantly posses a secondary educational degree.

[2]Alternatively, this may also be due to larger earnings from home sources.

4 Household Sample Comparison

The panel data used in this paper originates from a special migration survey conducted in 2008 (originally titled: "Development on the Move" – DOTM) which was implemented to cope with the shortcomings in terms of information about international migrants in existing surveys in Vietnam. The DOTM sample was originally designed by the team of researchers that conducted the baseline survey in cooperation with the General Statistics Office (GSO) of Vietnam. The sampling strategy is described in detail in Dang et al. (2010) and can be summarized as a multistage stratified random sampling approach.

In the first stage, provinces in each region of the country – North, Center, and South of Vietnam - were stratified into metropolitan and non-metropolitan strata. Six provinces were selected, one in each stratum, out of 64 provinces with the selection probability proportional to their international migration density. Consequently, the selected provinces (Hanoi and Hung Yen in the North, Nghe An and Da Nang in the Centre, and Ho Chi Minh City and Can Tho in the South) were among the ones with the highest international migration rates within each stratum. The subsequent stages followed the same objective in the sense that particularly high migration density areas were selected into the sample. Given this strategy, the sample can be expected to be highly representative of households with international migrants in Vietnam.

In order to validate the representativeness of the DOTM data externally, I compared the sample characteristics to those from a nationally representative sample of international migrant households from the Vietnam Household Living Standards Survey (VHLSS) 2008, which included information about households' absent members, including foreign migrants (General Statistics Office, 2008). Using this data is convenient because it was collected the same year as the DOTM baseline sample. However, there are two drawbacks: First, the subsample size of households with international migrants in the VHLSS 2008 data set is only 143 (out of 9,189 in total). Therefore, the descriptive statistics compiled from it may suffer from small sample bias. Second, the survey did not collect any information on migrant individuals, which limits the comparison to household characteristics, but not migrant individual characteristics, such as the choice of destination country. The descriptive statistics from both samples can be found in Table A.3.

While the overall household size is somewhat smaller in the VHLSS sample compared to DOTM (3.6 vs 4.2 members), the differences are relatively balanced over the different age categories. In line with the DOTM sample, households in the VHLSS data are also comprised of three generations, on average. Furthermore, the two samples are similar in terms of their "migration opportunity set", which ranges between 2.4 and 2.9 individuals (i.e. the sum of young adults and adults). Also, in line with the DOTM sample, VHLSS households report their head being a senior member of around 50 years of age. In terms of

Table A.3: Comparison of Sample Characteristics

	DOTM	VHLSS
No. household nucleus members	4.23	3.61
thereof: children (<16y)	0.82	0.90
thereof: young adults (16-30y)	1.06	0.97
thereof: adults (31-64y)	1.88	1.43
thereof: elderly (>64y)	0.47	0.30
Age head of household	53.6	48.1
No. international migrants	1.28	1.08
No. domestic migrants	0.32	0.22
Household expenditure	3,222	2,790
Remittances received	868	6,777
No. observations	500	143

Source: Own calculations based on DOTM and VHLSS 2008 data. *Note*: Monetary variables are expressed in USD (PPP) per adult capita, i.e. adjusted by the number of permanent adult household members excluding children and migrants.

migration, both samples report similar numbers of international (1.28 vs 1.08) and domestic migrants (0.32 vs 0.22). In terms of expenditures, DOTM households are somewhat richer compared to those in the VHLSS. This is consistent with the DOTM sample over-representing urban provinces, which tend to be richer than the median province. Last but not least, VHLSS households report considerably higher remittance receipts compared to the DOTM sample, which even exceed their level of expenditures. This is partly driven by a small number of outliers in the VHLSS sample and excluding these outliers brings down the mean to roughly 5,348 USD. Nevertheless, even the trimmed mean still appears very high and implies (unrealistically) that expenditures were financed completed by remittances. This is at odds with household data I know from both Vietnam and other developing countries. The explanation for this may be a combination of small sample bias and some other inconsistency that I cannot explain.

In summary, this household sample comparison exercise confirms that the DOTM sample used in this article is quite similar to a nationally representative sample of households with international migrants as captured in the VHLSS 2008.

5 Robustness Checks

Table A.4: Balance test - Household and Migrant Observable Characteristics

	Coefficient	CRSE (p-value)	EDF (p-value)
Household head			
Gender	0.020	0.02	0.11
Age	-0.231	0.40	0.54
Marital status married (indicator)	-0.005	0.52	0.64
Highest educational attainment (indicators)			
Post-secondary	0.007	0.10	0.24
Secondary	-0.005	0.62	0.72
Primary	0.001	0.77	0.84
Less than primary	-0.003	0.59	0.70
Employment status (indicators)			
Employed	-0.002	0.54	0.66
Self-employed	-0.012	0.31	0.46
Unemployed	0.002	0.05	0.17
Retired	-0.006	0.45	0.59
Other	0.018	0.01	0.06
Occupation (indicators)			
Professional	0.005	0.27	0.43
White-collar	-0.0003	0.82	0.87
Services	0.018	0.05	0.17
Blue-collar	-0.046	0.01	0.06
Agriculture	0.008	0.00	0.01
Household composition & migration			
No. children (<16 years)	0.042	0.01	0.08
No. young adults (16-30 years)	-0.008	0.61	0.71
No. adults (31-64 years)	0.012	0.58	0.42
No. elderly (>64 years)	0.033	0.00	0.03
No. domestic migrants	-0.019	0.01	0.07
No. foreign migrants	0.07	0.00	0.00
Household finance			
Income	-24.07	0.76	0.82
Savings	44.92	0.83	0.88
Remittances	-46.86	0.11	0.26
Foreign migrant characteristics			
Gender	-0.005	0.75	0.82
Age	0.125	0.00	0.01
Highest educational attainment (indicators)			
Post-secondary	-0.019	0.03	0.16
Secondary	0.025	0.01	0.07
Primary	0.011	0.07	0.22
Less than primary	0.004	0.37	0.54
Time since departure (indicators)			
less than 1 year	-0.002	0.68	0.76
1-2 years	-0.013	0.18	0.34
2-3 years	-0.005	0.69	0.78
3-4 years	-0.003	0.56	0.67
more than 4 years	0.023	0.27	0.43

Source: Author's calculations based on DOTM cross-section data 2008. *Note*: Each line displays the β_1 coefficient for a separate regression based on the following equation: $X_h = \beta_0 + \beta_1 Shock_h + \gamma_{p(h)} + \varepsilon_h$. Sample size: 500 observations (balanced). Cluster robust standard errors (CRSE) in column (2). Bias corrected p-values based on the effective degrees of freedom (EDF) calculated using the "EDFREG" Stata module (Young, 2016) in column (3). Income, savings, and remittances are expressed in logarithmic USD (PPP) per capita, i.e. adjusted by the number of permanent household members excluding migrants. *** p<0.01, ** p<0.05, * p<0.1.

Table A.5: Placebo Tests

Panel A	Number of household					
Pretreatment trends	Nucleus members		Domestic migrants		Foreign labor migrants	
	(1)	(2)	(3)	(4)	(5)	(6)
Shock×Post (β_1)	-0.0327	-0.00895	-0.00739	0.00470	0.00875	-0.0157
	(0.0351)	(0.0330)	(0.0114)	(0.0204)	(0.0189)	(0.0267)
EDF (p-value)	0.305	0.773	0.469	0.806	0.603	0.535
Shock×Post×Rich (β_2)		-0.0267		-0.0283		0.0445
		(0.0560)		(0.0357)		(0.0267)
EDF (p-value)		0.629		0.431		0.124
$\beta_1 + \beta_2 = 0$ (p-value)		0.489		0.290		0.167
Household FE	√	√	√	√	√	√
Province-Year FE	√	√	√	√	√	√
Observations	1,000	1,000	1,000	1,000	1,000	1,000
Households	500	500	500	500	500	500
Cluster	26	26	26	26	26	26
R^2	0.917	0.918	0.670	0.673	0.819	0.821
Panel B	Number of household					
Non-migrant sample	Nucleus members		Domestic labor migrants		Foreign labor migrants	
	(1)	(2)	(3)	(4)	(5)	(6)
Shock×Post (β_1)	0.0324	0.00172	-0.0172	0.00326	-0.00291	-0.00767
	(0.0410)	(0.0649)	(0.0208)	(0.0486)	(0.00497)	(0.00985)
EDF (p-value)	0.385	0.976	0.366	0.938	0.516	0.383
Shock×Post×Rich (β_2)		0.0476		-0.0293		0.00855
		(0.0667)		(0.0448)		(0.00906)
EDF (p-value)		0.459		0.496		0.334
$\beta_1 + \beta_2 = 0$ (p-value)		0.284		0.138		0.777
Household FE	√	√	√	√	√	√
Province-Year FE	√	√	√	√	√	√
Baseline controls	√	√	√	√	√	√
Observations	652	652	326	326	652	652
Households	326	326	326	326	326	326
Cluster	66	66	66	66	66	66
R^2	0.853	0.854	0.581	0.589	0.553	0.555
Panel C	Total household					
Non-migrant sample	Home income		Remittances		Expenditure	
LOG US$ PC	(1)	(2)	(3)	(4)	(5)	(6)
Shock×Post (β_1)	0.0569	-0.0123	-0.0269	-0.0679	-0.00163	0.00222
	(0.0912)	(0.120)	(0.0345)	(0.0698)	(0.0236)	(0.0227)
EDF (p-value)	0.490	0.906	0.391	0.283	0.938	0.910
Shock×Post×Rich (β_2)		0.112		0.0733		0.00843
		(0.105)		(0.0668)		(0.0260)
EDF (p-value)		0.279		0.266		0.733
$\beta_1 + \beta_2 = 0$ (p-value)		0.319		0.800		0.670
Household FE	√	√	√	√	√	√
Province-Year FE	√	√	√	√	√	√
Baseline controls	√	√	√	√	√	√
Observations	652	652	652	652	652	652
Households	325	325	326	326	326	326
Cluster	66	66	66	66	66	66
R^2	0.733	0.735	0.551	0.554	0.740	0.776

Source: Author's calculations based on DOTM panel data 2003–2013. *Note*: Each column displays the result of a separate regression based on equation 4 and 5 respectively. I only report the shock coefficient interacted with the *Post* dummy for the follow-up wave 2013 (β_1 in equation 4 and 5) and the triple interaction term with the subgroup dummy (β_2 in equation 5). Panel A: The dependent variable in columns (3) and (4) is the total number of domestic migrants since it cannot be conditioned on labor migration due to missing data in the baseline survey. Panel B: For the same reason, the dependent variable in columns (3) to (4) is only cross-sectional. These coefficients are estimated as $Y_h = \beta_0 + \beta_1(Shock_h) + \beta_3(Shock_h \times Rich_h) + \varepsilon_h$. The estimates should therefore be interpreted as suggestive evidence, reflecting correlations instead of causal effects. Cluster robust standard errors in parenthesis. Bias corrected p-values based on the effective degrees of freedom (EDF) calculated using the "edfreg" Stata module (Young, 2016). Significance level based on EDF adjusted standard errors. *** p<0.01, ** p<0.05, * p<0.1.

Table A.6: Robustness to Shock Measure and Outcome Variable Specification

Panel A	Number of household					
Shock measure 2	Members		Domestic migrants		Foreign migrants	
	All	Labor	All	Labor	All	Labor
	(1)	(2)	(3)	(4)	(5)	(6)
Shock×Post (β_1)	0.120	0.00221	-0.0988*	-0.0816***	0.0995	0.113*
	(0.0969)	(0.104)	(0.0543)	(0.0222)	(0.0571)	(0.0563)
EDF (p-value)	0.218	0.982	0.090	0.007	0.101	0.067
Shock×Post×Rich (β_2)	-0.194**	0.0386	0.0915	0.0888**	-0.0177	-0.111*
	(0.0773)	(0.103)	(0.0655)	(0.0264)	(0.0478)	(0.0544)
EDF (p-value)	0.041	0.705	0.193	0.014	0.708	0.078
$\beta_1 + \beta_2 = 0$ (p-value)	0.467	0.647	0.902	0.853	0.076	0.973
Household FE	√	√	√	-	√	√
Province-Year FE	√	√	√	√	√	√
Baseline controls	√	√	√	√	√	√
Observations	996	996	996	498	996	996
Households	498	498	498	498	498	498
Cluster	26	26	26	26	26	26
R^2	0.805	0.715	0.711	0.589	0.798	0.708
Panel B	Number of household					
Shock measure 3	Members		Domestic migrants		Foreign migrants	
	All	Labor	All	Labor	All	Labor
	(1)	(2)	(3)	(4)	(5)	(6)
Shock×Post (β_1)	0.0436	0.0292	-0.0544	-0.0511**	0.0546*	0.0619**
	(0.0743)	(0.0667)	(0.0416)	(0.0206)	(0.0367)	(0.0336)
EDF (p-value)	0.478	0.594	0.135	0.013	0.095	0.047
Shock×Post×Rich (β_2)	-0.107*	-0.0150	0.0523	0.0588**	-0.00399	-0.0556
	(0.0565)	(0.0650)	(0.0487)	(0.0235)	(0.0326)	(0.0367)
EDF (p-value)	0.050	0.784	0.224	0.016	0.884	0.100
$\beta_1 + \beta_2 = 0$ (p-value)	0.283	0.813	0.953	0.736	0.109	0.877
Household FE	√	√	√	-	√	√
Province-Year FE	√	√	√	√	√	√
Baseline controls	√	√	√	√	√	√
Observations	1,000	1,000	1,000	500	1,000	1,000
Households	500	500	500	500	500	500
Cluster	26	26	26	26	26	26
R^2	0.805	0.715	0.710	0.588	0.798	0.706
Panel C	Number of household					
Net number (*changes*)	Members		Domestic migrants		Foreign migrants	
	All	Labor	All	Labor	All	Labor
	(1)	(2)	(3)	(4)	(5)	(6)
Shock×Post (β_1)	0.0998	0.00347	-0.0785**	-0.0565***	0.0708	0.0949
	(0.0765)	(0.101)	(0.0352)	(0.0169)	(0.0581)	(0.0571)
EDF (p-value)	0.187	0.970	0.042	0.008	0.214	0.105
Shock×Post×Rich (β_2)	-0.147**	0.0734	0.0472	0.0458*	-0.0223	-0.110*
	(0.0470)	(0.0903)	(0.0646)	(0.0237)	(0.0408)	(0.0559)
EDF (p-value)	0.012	0.409	0.455	0.076	0.573	0.072
$\beta_1 + \beta_2 = 0$ (p-value)	0.571	0.311	0.612	0.722	0.386	0.824
Household FE	√	√	√	-	√	√
Province-Year FE	√	√	√	√	√	√
Baseline controls	√	√	√	√	√	√
Observations	1,000	1,000	1,000	500	1,000	1,000
Households	500	500	500	500	500	500
Cluster	26	26	26	26	26	26
R^2	0.624	0.559	0.684	0.565	0.692	0.555

Source: Author's calculations based on DOTM panel data 2008–2013. Each column displays the result of a separate regression based on equation 4 and 5 respectively. I only report the shock coefficient interacted with the *Post* dummy for the follow-up wave 2013 (β_1 in equation 4 and 5) and the triple interaction term with the subgroup dummy (β_2 in equation 5). Cluster robust standard errors in parenthesis. Bias corrected p-values based on the effective degrees of freedom (EDF) calculated using the "edfreg" Stata module (Young, 2016). Significance level based on EDF adjusted standard errors. *** p<0.01, ** p<0.05, * p<0.1.

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