International Trafficking in Persons and Global Health Security: Evidence from Two Modern Pandemics

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October 27, 2022

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Trafficking, COVID-19, & Italy





1. China \rightarrow North Macedonia

2. North Macedonia \rightarrow Italy

Source: CTDC (Counter-Trafficking Data Collaborative) (2017)

Trafficking, H1N1, & Switzerland



Source: CTDC (Counter-Trafficking Data Collaborative) (2017)

- Mexico \rightarrow Switzerland
- Switzerland lowest population, highest confirmed cases per population

Thailand case study



International labour trafficking: A neglected social origin of COVID-19

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Open Access
Published: March 02, 2021
DOI: https://doi.org/10.1016/j.lanwpc.2021.100121

"Economic hardships abroad and border restrictions in Thailand during the pandemic have contributed to a spike in labour trafficking of international migrant workers"

International labour trafficking: A neglected social origin of COVID-19 (Rojanaworarit and El Bouzaidi 2021)

- **This paper:** Examines the connection between trafficking in persons & public health security

- Data:

- Human Trafficking Indicators 2000–11 (Frank 2013)
- Coastlines (Central Intelligence Agency 2020)
- UNODC, UNHCR, WB WDI, Polity IV, Gurevich and Herman 2018, Abel and Cohen 2019, Parker 1997, Acemoglu et al. 2001

- Empirical approach

- Coastlines as instrument for trafficking inflow risk
- Use fatality as placebo outcome

- Mechanism

- Vulnerable circumstances of trafficked persons
- Less likely to quarantine \rightarrow higher contact rate
- SIRD simulation of infection rates & real case numbers

Data

- Two modern pandemics:
 - H1N1 (2009 Swine Flu Pandemic Tables)
 - COVID-19 (Johns Hopkins University)
- Human Trafficking Indicators 2000–11 (Frank 2013)
- Coastlines (Central Intelligence Agency 2020)
- Economic & health variables (World Bank 2019)
- Gravity measures (contiguity, common language, PTA, distance, Gurevich and Herman 2018)
- **Others:** Polity IV, UNODC, UNHCR, Abel and Cohen 2019, Parker 1997, Acemoglu et al. 2001, Easterly and Levine 1997, La Porta et al. 1999, Clark and Regan 2016, Max Roser, Hannah Ritchie and Hasell 2020

Measuring trafficking risk



- *D_{ct}* = destination indicator
- *S_{ct}* = source indicator
- Higher <u>Relative TIP inflow</u> = higher (relative) risk of trafficking inflow

Relative TIP inflow_c =
$$\frac{1}{T} \sum_{t} (D_{ct} - S_{ct})$$
 (1)

Trafficking risk and public health security



Trafficking risk and public health security

- Main analyses uses numbers by the 3rd month into pandemic
- $\,pprox\,$ 150 countries x 2 pandemics

(cases per population)_{id} = $\alpha + \delta_d + \text{region}_i + \beta(\text{Relative TIP inflow})_i + X_i + G_{id} + \varepsilon_{id}$ (2)

- *i* = country
- d = disease (COVID-19, H1N1)
- δ_d = COVID-19, H1N1
- X_i are country-specific covariates
- **G**_{id} are gravity-type controls to pandemic source country

	Dep. var. is log cases per population					
	(1)	(2)	(3)	(4)	(5)	(6)
Relative TIP inflow	0.53***	0.46***	0.45***	0.41***	0.41***	0.46***
	(0.06)	(0.06)	(0.05)	(0.07)	(0.07)	(0.06)
Covid-19 dummy	4.06***	4.43***	4.09***	4.58***	4.72***	4.47***
	(0.27)	(0.23)	(0.28)	(0.39)	(0.30)	(0.35)
Contiguity dummy			-1.21 [*]	-1.20**	-0.97	-1.49***
			(0.63)	(0.59)	(0.61)	(0.54)
Common lang. dummy			1.05*	1.30	1.34	0.59
			(0.57)	(0.80)	(0.88)	(0.65)
Distance			-0.08**	-0.08	-0.06	-0.12***
			(0.04)	(0.05)	(0.04)	(0.04)
PTA dummy			-0.92***	-0.46	-0.41	-0.48
			(0.34)	(0.52)	(0.44)	(0.53)
Region dummies		Yes	Yes	Yes	Yes	Yes
F-test: Regions=0		14.87***	12.86***	16.39***	16.68***	14.5***
F-test: Gravity=0			4.14**	2.5**	2.4**	3.57**
R^2	0.48	0.66	0.68	0.68	0.73	0.70
Weighted by				Cases	Deaths	Fatality
Countries	172	172	172	172	172	172
Observations	301	301	301	301	301	300

Magnitudes of estimates

- Est. of 0.45 implies
- 25th \rightarrow 60th percentile (Bulgaria \rightarrow Bosnia) = 1.35x
- 60th \rightarrow 75th percentile (Bosnia \rightarrow Belgium) = 1.66x

 $y_{id} = \alpha + \delta_d + \gamma_i + \beta (\text{Relative TIP inflow})_i + X_i + G_{id} + \varepsilon_{id},$

Approximating causal interpretation

- What are the problems?

- Moving to opportunity? Richer countries more inflow (legal + illegal)
- Richer countries, more connectivity
- Relative TIP inflow risk \leftarrow measurement issues
- Approach
 - Coastlines as IV for trafficking risk
 - Fatality rate as placebo

Coastlines as IV

- Longer coastlines (relative to land area) \rightarrow more porous
- International waters & trafficking (U.S. Department of State 2001), e.g.
 - Hong Kong police force "continuously patrols land and sea boundaries to ensure border integrity and aggressively investigates triad involvement in organized migrant smuggling" (p. 20)
- Trafficking by sea is a real policy concern, e.g.
 - Finland helped create an anti-trafficking curriculum for "trafficking victim identification for passenger ferry personnel in the Baltic Sea" (U.S. Department of State 2018, p. 188)
 - Ireland is "Amend the atypical working scheme for sea fishers to reduce their risk of labor trafficking" (U.S. Department of State 2019, p. 251)
 - Swedish Coast Guard, police, and customs officials participated in similar "joint regional intelligence operations in trafficking cases involving travel by sea" (U.S. Department of State 2019, p. 440)

Coastlines as IV: Mediterranean Sea case study



- Mediterranean Sea: trafficking networks exploit this route to bring illegal migrants into Europe (U.S. Department of State 2018, p. 407)
- Spain, for instance, have their victims "moved by sea into Southern Spain" (U.S. Department of State 2018, p. 394)

Coastlines as IV: Reduced form

H1N1 -4 VGB CAN тса PAN KNA СНІ DMA ESE ITA VIR VCT



COVID-19

Coastlines as IV & placebo tests



IV results robust to different checks

- Health & institutions
- Social & cultural
- Cross-country movement factors
- Geographical factors
- Leave-one-out by regions
- Overidentification tests with drug trafficking flows as alternative IVs

IV results robust to different checks



- Repeating the analysis for different months
- Using destination indicator only

Contact rate as mechanism

- Vulnerable circumstances of trafficked persons (Bojorquez et al. 2021; Rojanaworarit and El Bouzaidi 2021)
 - Bypass cross-border medical screens
 - Less likely to seek medical aid to avoid legal consequences
 - Lower health literacy
 - Occupational health risk (less likely to quarantine)
- SIRD setup

$$\log(C_{t+1} - C_t) = \log(\beta_t) + \log(I_t).$$
(3)

- Augmented SIRD setup

$$log(C_{t+1} - C_t) = log(\tilde{\beta}_t) + \underbrace{log(1 + \tau T)}_{\substack{\text{augmented effect}\\ \text{of trafficking on contact rate on case dynamics}} + \underbrace{log(I_t)}_{\substack{\text{simulated using}\\ \text{values of}\\ \text{recovery rate,}\\ \text{reproduction}\\ number\\ \text{mortality rate}}$$

- Key simplifying assumption: $S_t = N$
- $\beta_t = \tilde{\beta_t} (1 + \tau \mathbf{T})$

(4)



- Weekly COVID-19 numbers
- *i* = country
- t = week of year

Health security, migration & disease spread

- Determinants of trafficking patterns (e.g. Akee et al. 2014; Bales 2007; Cho et al. 2013; Hernandez and Rudolph 2015; Jakobsson and Kotsadam 2013)
- Travel restrictions and mobility influences the spread of COVID-19 (Chinazzi et al. 2020; Fang et al. 2020; Kraemer et al. 2020; Li et al. 2020; Kuchler et al. 2020)
- Economic activity & spread of diseases:
 - Expansion of transportation infrastructure increases disease spread (Adda 2016)
 - Emigration flows to places with high HIV prevalence increases HIV prevalence in origin country (Cunningham et al. 2020)
 - Probability of HIV higher for individuals residing close to roads (Djemai 2018)
 - Increases in exports increases HIV incidence in places with higher HIV prevalence (Oster 2012)

Final remarks

- Trafficking \rightarrow public health security
- Approximate causal interpretation using placebo tests and IV
- Identifying vulnerable places is a first-order policy concern
- Evidence from contact rate as mechanism ties back to vulnerable circumstances of trafficked persons
- Vulnerability of trafficked persons during pandemics is also an important public health concern

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