

Foreign Mining, Labor Welfare and Local Trust: Evidence from Kyrgyzstan Gold Mine

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Introduction

The impact of foreign investment in natural resources on worker welfare and host country politics is controversial. This paper explores this issue by analyzing Kyrgyzstan's dominant foreign-invested gold mine, which in 2020 accounted for 12.5% of Kyrgyzstan's GDP. A key finding is that mines with foreign ownership isolate local communities from the benefits of the mining industry. Using geolocation data from Kyrgyzstan household panel surveys from 2010 to 2016, the study shows Kumtor, the country's largest foreign mine, offers only mine-related workers better social benefits. Mining industry wealth is associated with economic grievances of the non-mining sector and social division. Kumtor's higher corporate earnings result in higher levels of inequality and less trust in local leaders by mine workers.

Background



- Kumtor: Largest company in Kyrgyzstan. Foreign owned gold mine.
- 10% employment. 90% of the country's gold production. 12.5% of Kyrgyzstan's GDP in 2020. (EITI report)
- Centerra (Canadian) holds a 100% interest in the Kumtor Mine.
- State owned enterprise Kyrgyzaltyn holds 32.75% share of Centerra
- General tax 13% percent of gross income.

There have been **multiple protests** around Kumtor over the years in support of nationalizing the mine and raising environmental concerns and allegations of corruption.

- 10 large uprisings in 15 years (Kumtor News Release 2005 - 2020)
- Two national uprisings related to Kumtor
- Low social trust, who against who unknown

Date	Description
October 6, 2020	Kumtor Mine continue uninterrupted following the recent political unrest in the Kyrgyz Republic.
May 30, 2013	National grid power supply to the Kumtor mine has been disrupted by local protesters. The road leading to the mine also continues to be blocked.
February 14, 2012	Unionized employees at its Kumtor operation in the Kyrgyz Republic remain on strike. operation is currently suspended.
December 5, 2011	The transfer of diesel fuel and other supplies from the Kumtor yard to the mine has been interrupted due to roadblock.
April 8, 2010	Kumtor mine continue uninterrupted and are currently unaffected by the unrest in the country.
October 1, 2010	Unionized employees of its Kumtor Mine in the Kyrgyz Republic commenced strike action.
May 7, 2007	A small group of villagers (50-70 people) is blocking the road to the Kumtor mine demanding the Government and the Company make further compensation payments in relation to the May 1998 cyanide spill.
December 19, 2006	Mine department and some support services personnel have begun work stoppage.
February 23, 2005	Kumtor mine has been unable to move employees and supplies to and from the mine site due to roadblocks on public highways.
November 14, 2005	Kumtor mine is currently being restricted by illegal roadblocks. The action is related to the 1998 cyanide incident.

Main Question

Why? Because people not well treated? Not really!

The main question: if higher salaries paid, why local resistance?

Key finding: foreign-invested mine undermines the trust of the beneficiary mining industry in local communities.

Why? larger inequality and social division.

Beneficiaries: mining industry and state elites. **Victims:** local governments and local community. here.

Mechanism

Higher welfare of miners:

Large Foreign mining companies, high labor demand, high profit. **Higher salary** (Harrison and Score 2010).

Lower trust of miners in local leaders:

- Fiscal system highly centralized. Foreign companies pay more to the center (Luong and Weinthal 2010).
- State collects revenue and dividends from Kumtor.
- Local government collects tax indirectly.
- **State-Mining Sector:**
 - (Direct claimant of company revenue)
 - State elites and mining workers can benefit from mineral wealth through state ownership and revenue.
 - Lower trust in local leaders by miners.
- **Local-Non Mining Sector:**
 - (Indirect claimant of company revenue)
 - Local communities benefit from mineral wealth only through partial taxes.
 - Higher trust by other workers.

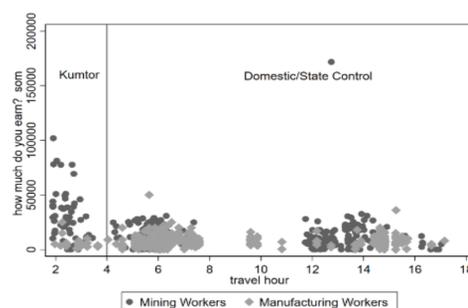
Data

Life in Kyrgyzstan

- The same 3000 households and 8000 individuals.
- All seven Kyrgyz regions (oblasts) and the two cities of Bishkek and Osh and are addressed.
- Five waves in 2010, 2011, 2012, 2013 and 2016.



- X-axis: Driving time from Mining Deposit to Workers' Household (Google Map) / Y-axis: Income of Workers
- Foreign × Mining



Empirical Specification

Hypotheses 1

- Mining workers who live closer to Kumtor mining pit have higher income and better social welfare.
- Non-mining working family who lives closer to Kumtor mining pit don't have higher income and better social welfare.

Hypotheses 2

- Mining workers who live closer to Kumtor mining pit have lower trust to local authority.
- Non-mining working family who lives closer to Kumtor mining pit have higher trust to local authority.

$$Y_{idt} = \beta_0 + \beta_1 \ln Distance_{idt} + \beta_2 Miner_{idt} + \beta_3 \ln Distance_{idt} \times Miner_{idt} + \theta_d + \gamma t + \epsilon_{idt}$$

Dependent Variable:

- $\ln(\text{income})$; trust in local authority(1-4); i.written contract, i.job training, i.social security.

Independent Variable:

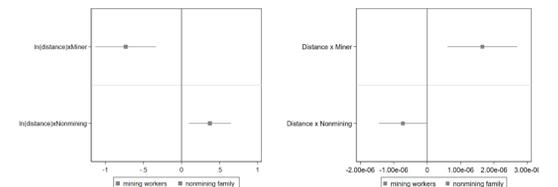
- $\ln Distance_{idt}$: $\ln(\text{distance to Kumtor})$.
- $Miner_{idt}$: job identifier.
- $Nonminer_{idt}$: no one in household works in mining.

Control Variable: Year (t) and District (d) fixed effects, demographic characteristics

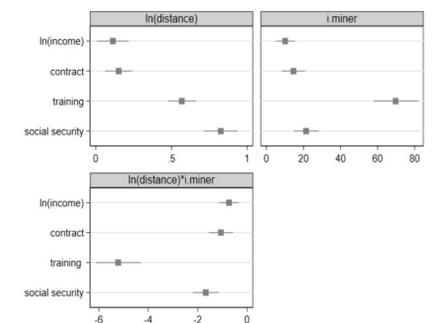
Logit regression if Y_{idt} is a dummy.

Results

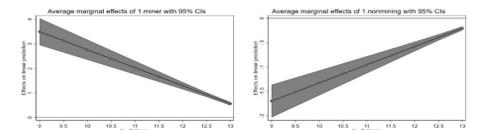
- Left: Welfare Effect (H1) $\beta_2 > 0$ $\beta_3 < 0$ (Miners) $\beta_2 < 0$ $\beta_3 > 0$ (Non-mining Family Workers)
- Right: Trust Effect (H2) $\beta_2 < 0$ $\beta_3 > 0$ (Miners) $\beta_2 > 0$ $\beta_3 < 0$ (Non-mining Family Workers)



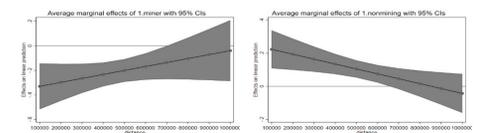
Coefficient plot of Kumtor's effect on miners' welfare



Marginal effect of distance on income



Marginal effect of distance on trust in local leaders



Identification and Robustness

- Self-selection problem: Propensity Score Matching. (Demographic characteristics and distance)
 - ✓ Consistent Result
- Gold prices and gold production as exogenous shock.
 - ✓ Consistent Result (In appendix)
- Evaluate lag effect of gold shock.
 - ✓ Consistent Result
- Distance to alternative domestic mines as a counterfactual.
 - ? In Progress, Preliminary consistent Result

Conclusion

Because the way of profit distribution, foreign mining creates alliances between non-mining workers and local authorities in opposition to mining workers and the state. Mining workers have higher wages, better social welfare, but lower levels of trust in local leaders. Non-mining workers had higher levels of trust in local leaders but worse social welfare. Local controversy is prominent around highly distrusted mining towns.

References

- Alexeev, M. and Zakharov, N. (2021). Who profits from windfalls in oil tax revenue? inequality, protests, and the role of corruption. *Arg on, F. M. and Rad, J. P.* (2013). Natural resources and local communities: evidence from a peruvian gold mine. *American Economic Journal: Economic Policy*, 5(2):1-25.
- Berman, N., Couturier, M., Rohner, D., and Theonig, M. (2017). This mine is mined! how minerals fuel conflicts in africa. *American Economic Review*, 107(6):1564-1610.
- Brück, T., Esenlino, D., Kroeger, A., Kudabayeva, A., Mirzaisimov, B., and Steiner, S. (2014). House-hold survey data for research on well-being and behavior in central asia. *Journal of Cooperative Economics*, 42(3):319-335.
- Collier, P. and Hoeffler, A. (2005). Resource rents, governance, and conflict. *Journal of conflict resolution*, 49(4):625-633.
- Dell, M. (2010). The persistent effects of Peru's mining mine. *Econometrica*, 78(6):1863-1900.
- Harrison, A., and Score, J. (2010). Multinationals and anti-ownership activism. *American Economic Review*, 100(1):32.
- Luong, P. J. and Weinthal, E. (2010). Oil is not a curse: Ownership structure and institutions in Soviet successor states. *Cambridge University Press*

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