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Victoire Girard, Nova School of Business and Economics
Alma Kudebayeva, KIMEP University and CERGE-EI
Gerhard Toews, New Economic School (NES)
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The Expectation Boom: Evidence from the Kazakh Oil Sector

This policy brief shows that an oil price boom may trigger dissatisfaction with one's income and that this dissatisfaction is independent of the effect of the boom on real economic conditions. Unique data from Kazakhstan allows us to quantify the impact of the recent oil price boom on satisfaction with income. Compared to other households in the country, households related to the oil sector suffer a marked drop in their satisfaction with their income during the period of high oil prices. Based on our results, we argue that an oil price boom creates a gap between people's expectations of the benefits from the boom and the observed economic conditions. Our results call for researchers, policy makers and companies to devote more attention to the dynamics of satisfaction, not only during resource busts, but also during resource booms.

Local Impact of Natural Resources

Often, resource wealth is associated with a curse, slowing economic growth in resource-rich developing countries (Venables, 2016). While traditionally, this relationship has been explored across countries, more recently, the literature started exploiting plausibly exogenous spatial variation in resource wealth within countries (Cust and Polhekke, 2015). We now know that resources can generate local economic wealth (Aragon and Rud, 2013), while also attracting corrupted individuals to power (Asher and Novosad, 2018) and triggering local conflicts (Berman et al. 2017; Rigterink, 2018). But, up to now, we know very little about the impact of resource booms on individuals' perceptions. Since perceptions and behavioral biases may also drive actions, understanding whether and how resources affect perceptions is key in understanding the local impact of natural resources (Collier, 2017).

In a new working paper (Girard, Kudebayeva and Toews, 2020) we use Kazakhstan as a case study to shed more light on the importance of such perceptions. We document the conditions that preceded and presumably contributed to the violent conflicts in the oil rich districts of Kazakhstan in 2011. We show that periods of high oil prices can actually lead to a drop in reported satisfaction with income. This implies that due to mere changes in perceptions, which are not reflected in economic conditions, a large number of people may experience a significant drop in satisfaction with income, creating a fertile ground for conflicts.

The Zhanaozen Conflict

Our attention to the case of Kazakhstan is driven by the extreme events that took place in 2011 in the city of Zhanaozen, a booming oil town in the west of the country's desert. In May 2011, after several years of high oil prices, private sector workers in Zhanaozen demanded amendments to the pre-existing collective bargaining agreement asking in particular for a raise in wages. Difficulties in negotiating an agreement resulted in local oil companies dismissing more than 2000 employees in the summer of 2011 and oil production dropping by 7% in the first three quarters of 2011 relative to the same period in the previous year. At the conflict climax, the police tried to clear the central square of Zhanaozen for the upcoming preparations of the Independence Day, resulting in the killing of 17 and the injuring of over 100 people (Satpayev and Umbetaliyeva, 2015).

Oil Price Boom in Kazakhstan

Kazakhstan offers an ideal case study for our research question for two reasons. First, the government of Kazakhstan closely monitored citizens' satisfaction with income throughout most of the 2000s using a representative household panel survey. Using this data allows us to link variation in the price of oil to within household variations in satisfaction with income - conditional on household income, thus, capturing the changing perceptions of household heads regarding their income. Secondly, Kazakhstan is a small open resource rich economy, with sparsely populated and remote districts, whose economic activity nearly exclusively depends on the extraction of oil and gas. The fact that Kazakhstan is a small open economy implies that changes in the oil price may be treated as exogenous to households located in Kazakhstan. The spatial isolation of the oil rich districts allows us to consider the group of household heads employed in the private sector in the oil rich districts as either directly or indirectly involved in the extraction of oil and gas.

Figure 1. Kazakhstan

Source: Resource rich districts are indicated as treated. The information on the spatial identification of oil and gas rich district is taken from the Petroleum Encyclopedia of Kazakhstan and captures more than 90% of total oil and gas production in Kazakhstan (Munayshy Public Foundation, 2005).

Satisfaction With Income

To identify the effect of oil price fluctuations on satisfaction with income, we exploit three sources of variation: location of the household, sectoral employment and time. The group affected by the price of oil is the group of oil-related households. Oil-related households consist of households whose head is employed in the private sector of the oil rich districts of Kazakhstan, and who are thus the closest to the oil sector (by nature of their activity and place of residence). The differential evolutions in satisfaction of household heads employed in other sectors and households located in other districts – in other words, households which are more remote from oil and gas extraction than the oil-related households provide a plausible counterfactual.

The main results are depicted in Figure 2 which represents the relationship between income and satisfaction for 8 groups based on the three sources of variation: oil price (which was low between the years 2001 and 2004, and high between 2005 and 2009), place of residence as indicated in Figure 1, and sector of activity.

First, we note that the relationship between income and satisfaction is upward sloping: reported satisfaction with household income increases with income. This is intuitive. Focusing on oil poor districts that appear in the bottom panel, we observe that the relation between satisfaction and income is virtually the same across sectors and time periods of low and high prices of oil. This is, however, not true for oil rich districts, which are depicted in the top panel. Here, the relationship between income and satisfaction only remains unaffected across time for household heads who are not employed in the private sector. The picture changes if we turn to household heads employed in the private sector, who are the oil-related household heads. The satisfaction with income of oil-related household heads shifts downwards, compared to other households, in the period of high oil prices (years 2005-2009). This downward shift is even more striking since oil-related household heads valued their income relatively higher than other households during the period of low oil prices (2001-2004).

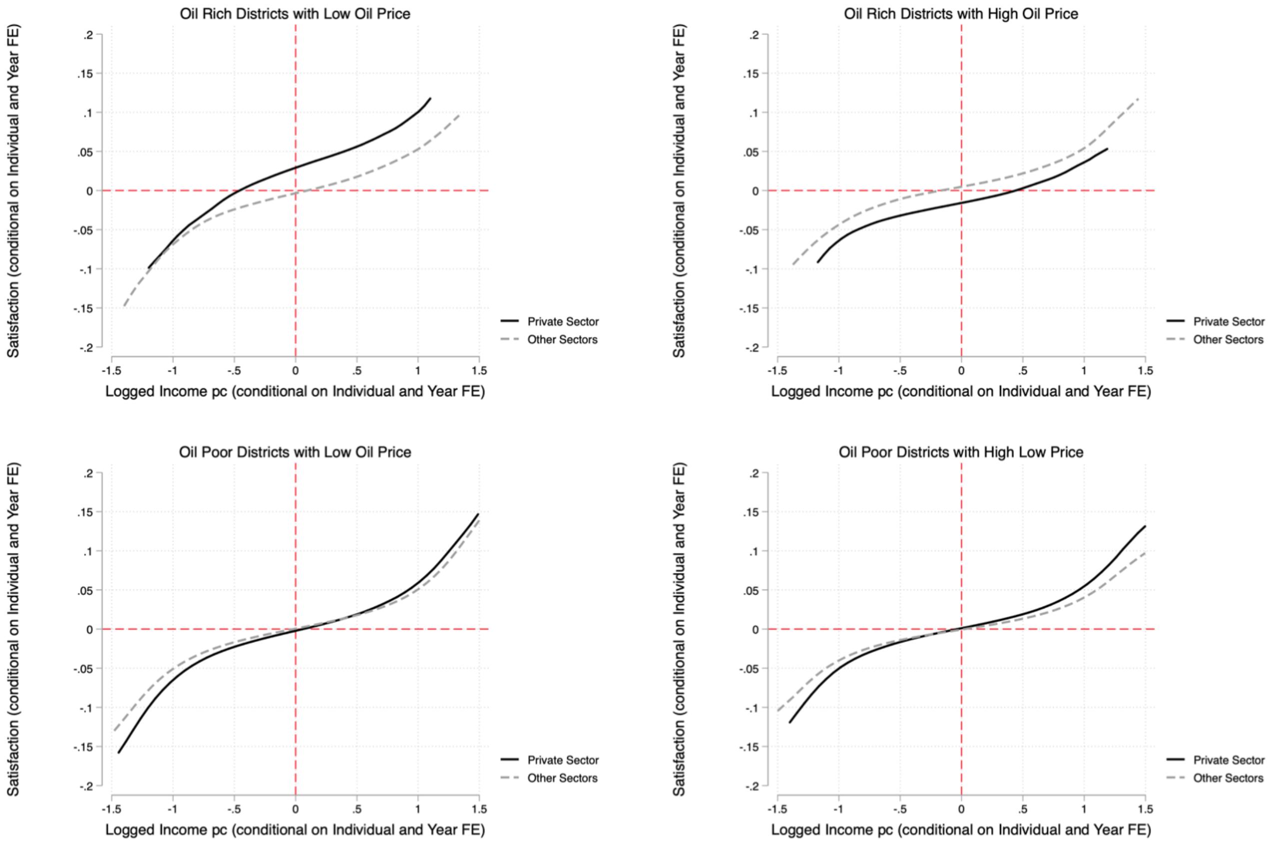

Figure 2. Satisfaction with Income

Source: Authors' calculations based on satisfaction with income and household income as reported in the Household Survey of Kazakhstan. The figures above depict the relationship between logged household income per family member and reported satisfaction with income by the head of the household on a scale from 1 to 5. The relationship is depicted conditional on household fixed effects and year fixed effects. The former account for time-invariant household specific characteristics such as individual biases. The latter account for Kazakhstan specific shocks affecting households in oil poor and oil rich districts simultaneously due to political and economic business cycles. As a result, the relationship between logged income per family member and satisfaction is normalized to zero in both dimensions.

Lastly, we document that the negative variation in satisfaction is related to the contemporaneous change in the price of oil. The satisfaction with income is not persistent, it is unrelated to past and future levels of the oil price.

Conclusion

Our results suggest that oil prices fluctuations can be linked to the individual's perception of income. The fact that oil-related household heads express a strong dissatisfaction compared to other household heads may help to understand what made December 2011 possible, when 17 people were killed and over 100 people were wounded in Zhanaozen. If generalizable, such dynamics of perceived satisfaction with income should be kept in mind by both policy makers and extractive companies not only during resource busts, but also during resource booms.

References

Aragon, Fernando M. and Juan Pablo Rud (2013). "Natural resources and local communities: evidence from a Peruvian gold mine." *American Economic Journal*: Economic Policy 5(2):1–25.

Asher, Sam and Paul Novosad (2018). Rent-seeking and criminal politicians: Evidence from mining booms. *Working Paper.*

Berman, Nicolas, Mathieu Couttenier, Dominic Rohner and Mathias Thoenig (2017). "This Mine Is Mine! How Minerals Fuel Conflicts in Africa." *American Economic Review* 107(6):1564–1610.

Collier, Paul (2017). "The institutional and psychological foundations of natural resource policies." *The Journal of Development Studies* 53(2):217–228.

Cust, James and Steven Poelhekke (2015). "The local economic impacts of natural resource extraction." *Annu. Rev. Resour. Econ.*, 7(1):251–268.

Girard, Victoire, Alma Kudebayeva and Gerhard Toews (2020). "Inflated Expectations and Commodity Prices: Evidence from Kazakhstan." *GLO Discussion Paper Series* 469.

Rigterink, Anouk S. (2020). "Diamonds, rebel's and farmer's best friend: Impact of variation in the price of a lootable, labour-intensive natural resource on the intensity of violent conflict." *Journal of Conflict Resolution* 64(1):90–126.

Munayshy Public Foundation (2005). "Petroleum Encyclopedia of Kazakhstan."

Girard, Victoire, Alma Kudebayeva and Gerhard Toews (2020). "Inflated Expectations and Commodity Prices: Evidence from Kazakhstan" *Working Paper.*

Satpayev, Dossym and Umbetaliyeva, Òolganay (2015). "The protests in Zhanaozen and the Kazakh oil sector: Conflicting interests in a rentier state." *Journal of Eurasian Studies* 6(2):122–129.

Venables, Anthony J. (2016): "Using Natural Resources for Development: Why Has It Proven So Difficult?" *Journal of Economic Perspectives*, 30, 161 - 84.

Victoire Girard

Nova School of Business and Economics

victoire.girard@novasbe.pt

https://sites.google.com/site/girardvictoire

Victoire is a researcher at Nova School of Business and Economics. She holds a Ph.D. in economics from Paris 1 Panthéon-Sorbonne University. Her research is in development economics and political economy, with a focus on inequalities, identities, violence and the local impact of natural resources extraction.

Alma Kudebayeva

KIMEP University and CERGE-EI

akudebayeva@googlemail.com

https://www.kimep.kz/faculty/en/2011/09/28/alma-kudebayeva/

Assistant Professor at the Department of Economics, KIMEP University and CERGE-EI teaching fellow, specializing on issues of poverty, inequality and labor economics. She did a post-doc position at the German Institute of Economic Research DIW in 2010 and she holds a doctorate in mathematics from al-Farabi Kazakh National University and in development economics from the University of Manchester.

Gerhard Toews

New Economic School (NES)

gtoews@nes.ru

https://sites.google.com/site/gerhardtoews/

Gerhard Toews is Assistant Professor at the New Economic School in Moscow and Research Affiliate at Oxcarre, University of Oxford, where he was Postdoctoral Research Fellow between 2014 and 2018.

Gerhard Toews, born in Kazakhstan, defended his Ph.D. at the Economics Department of the University of Oxford in 2014. His research interests include natural resources and energy economics, labor economics, international economics, political economy and economic growth.