



10 November 2023

External Report on Doctoral Dissertation: “Essays on International Migration” by Davit Adunts

Dear Professor Anatolyev,

You asked me to write a report on the Doctoral Dissertation of Davit Adunts. I enjoyed reading this dissertation. It represents a very solid piece of work, which in my view, meets the requirements for a PhD thesis in Economics. In this report, I briefly summarize the dissertation and contributions to the literature. For each chapter, I provide a few specific suggestions that Davit may consider as he revises his papers to submit to journals. However, there are no changes that I would insist on before his thesis defense.

Summary: This dissertation investigates the links between international migration and human capital in origin communities that operate through different channels: actual migration, the potential for migration, and the return of money earned through migration (remittances). Each chapters asks and empirically answers a specific research question about how international migration affects education (human capital) in countries of origin, focusing on the Ukraine and Armenia.

Migration researchers always face challenging identification concerns, because migration is never randomly allocated. The researcher must therefore think through potential strategies that can help to counter the confounding effects of migration selection (both in the leaving, and the returning migrant groups). It is clear from reading these chapters that the candidate knows how to tackle the issue of migrant selection and has developed and implemented convincing identification strategies to answer questions of key public policy relevance. This dissertation represents a significant contribution to our understanding of the effects of international migration in the Ukraine and Armenia, and has broadened what we know about how and why international migration affects human capital attainment in sending regions.

Chapter 1: “Paternal Circular Migration and Development of Socio-Emotional Skills of Children Left Behind” examines the impact of missing migrant fathers on children left behind in origin communities. Davit implements an interesting experiment among about 3,000 middle school students to measure perseverance or “grit” using a series of incentivized tasks. While the experiment is modeled after a recent experiment in the literature (Alan et al 2019), the innovation in this chapter is to focus on the performance of children in households with migrant workers. The main empirical test asks whether children who have fathers who are current migrant workers (and away from home) do better or worse than children who have fathers who are recent migrant workers (and have recently returned home). This comparison takes care of migrant selection concerns. Davit also argues that it allows him to separate the effect of absent migrant workers from remittances that might be returning to the households, since remittances received should be very similar between migrant households with current versus recent migrants.

The findings are intriguing: children with still-absent migrant fathers perform significantly worse on the tests of grit relative to children with recently-returned migrant fathers; and these effects appear larger for boys. The results are strong – and suggest that the family disruption caused by international migration may have negative effects on the development of softer human capital skills.

This paper would be of interest to migration journals, and potentially development economics journals. There are a few things I suggest to strengthen the paper:

- Provide some evidence that remittance levels/flows are the same across current and recent migrant workers households
- Add a test for the boy-girl differences; I am not sure that the boy-girl differences would be statistically significantly different. If they are not, you should probably tone down your interpretation of the difference in the point estimates.
- A journal will want to see a bit more discussion of the experiment: how were schools and students recruiting? What was the response rate for students? How did the experiment work in the classroom and who ran the experiment? How were students instructed to respond in the task experiments?
- It would be nice to see summary statistics for the full sample of students, to understand how the students with migrant worker fathers look different from the other students (or not).

Chapter 2: “Migration opportunities and human capital investment decisions: Evidence from Ukraine” examines how high school students change their schooling investment decisions in the wake of visa liberalization between the EU and Ukraine. The data used in this chapter are impressive, and allow Davit to explore whether students change their choices of subjects in which to take school-leaving exams. He builds a standard difference-in-differences model to compare the share of students taking (for example) math as a subject before and after the visa liberalization. To hone in on whether regions with pre-existing high levels of demand for international migration respond to the liberalization, the pre-post comparison is combined with a cross-region comparison of high versus low migration aspirations areas. The main finding is that there is a differential and positive shift in the share of students taking math (and a reduction in those taking Ukrainian history) across high versus low migrant-aspiring regions after the visa liberalization, relative to before. Davit explains that this is likely a reaction to the much lower cost of migration after the policy change, under the assumption that math is a more international subject relative to Ukrainian history (which seemed reasonable).

This paper would be interesting to the same sorts of journals as the first chapter, although Davit may want to do a bit more work convincing the referees that the comparison across high versus low migrant aspiration rations is not just comparing poorer versus richer areas. I think the IV strategy does help here, but you should probably show some evidence to help us think about whether the high migrant-aspiration regions are really just poor on a set of obvious variables.

There is also a question of whether migrant aspirations themselves changed in response to the policy change; it seems like you may have enough data to look at these trends in aspirations from before to after the change?

Specific questions that you should address for before journal submission:

- Clarify whether the subject exams are graded on a curve or normed; I am wondering whether the improved performance of some students (in some areas) would imply reduced scores for others.
- In figure 2, you should add standard error bars around your lines
- You should add the reference to Chand and Clemens 2023 “Human capital investment under exit options: Evidence from a natural quasi-experiment”, *Journal of Development Economics*, which also speaks to how individuals invest in education when they face higher probabilities of needing to leave a country. Your outcomes, and your natural experiment are different; but the flavor of results are the same – once individuals think they are more likely to be able to/to be forced to leave, they start investing in mobile human capital.

Chapter 3: In “Remittances, exchange rate shocks, and human capital in origin countries”, Davit asks whether changes in the value of remittances, triggered by an external shock, impact school test scores in Armenia. To identify the effect of the remittance shock, other researchers like Dean Yang have used variation in exchange rate shocks across destination countries to generate cross-sectional variation in exposure to remittance shocks, and combined that with time variation to estimate difference-in-differences type models. Davit instead uses the pre-post variation in the overall national exchange rate shock in Armenia in combination with spatial variation in regions that were more or less exposed to the shock through pre-shock rates of international migration. Using national test score data and subject choices from Armenia, Davit estimates significant declines in the math performance of 12th grade students (mainly males).

This is a nice paper, and given the large literature on remittances in development economics, would probably be a good fit at a development economics journal. Before submitting to any journals, you might want to consider adding information you could get on the region-specific declines in remittances from before to after the devaluation. This would help with your mechanism, and would also allow you to scale the effect on test scores relative to the amount of lost remittances.

A couple of smaller points:

- Figure A.3.3. has a typo in the title.
- Figure 1 is nice; but can you show the share of high school-aged students who live with a migrant worker in the household, by region?

Conclusion: I think this is a solid thesis that demonstrates the candidate understands and can appropriately tackle empirical challenges around estimating the impact of international migration on households and communities of origin. I particularly appreciate that the three chapters hang together thematically. I believe this thesis satisfies the formal and content requirements for a PhD thesis in economics and I recommend the dissertation for a defense.

Yours sincerely,

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