

## **Report for Thesis by Oleg Sidorkin “Essays in Economics of Innovation”**

This is a very interesting empirical microeconomics dissertation which studies both aspects in the economics of innovation and also political economy. Throughout the thesis, it is easy to see that Oleg is very knowledgeable in econometrics, and that he puts a lot of care and rigor to his econometric analysis. In my view, the dissertation satisfies the content requirement of a PhD thesis in economics and I strongly recommend it for a PhD defense.

Chapter 1 uses micro-level data from the World Bank’s Enterprise Surveys to address a very important question in the economics of innovation: did the degree to which firms suffered during the crisis depend on the intensity with which they were performing R&D activities? The question is far from solved and this paper adds very interesting insights into the debate. In particular, we learn from the results of this paper that there was a nonlinear effect. In particular, firms that pushed themselves too much on the innovation front experienced a stronger negative response during the crisis. While from a social welfare perspective one might want firms to go “all-in”, this paper shows that firms precisely pursuing those policies ended up worse off than other firms that behaved in a more prudent way before the crisis. This paper is clearly suitable to be published in peer-reviewed international journals.

Chapter 2 studies how the quality of management practices influence innovation (both input and output) in emerging countries using the MOI Survey (Management, Organization and Innovation). Even though this paper is more descriptive and I think will not be published as well as chapter 1, it still has some interesting insights. In particular, the quality of incentive management is intimately connected with innovation performance, while targeting management quality and operations do not seem to drive the results.

I will devote most of my attention to chapter 3, the political economy chapter. I find the topic very interesting. I knew about the electoral cycles by which politicians strategically adjust both the level and the type of public investment when facing elections, but I did not know that the same could also be the case for corruption. Furthermore, their finding is non-obvious: the result does not accord with patterns in fiscal behavior of politicians found in the political business cycles literature. The data they use is informative and the hypotheses outlined reasonable. I hope the comments below can make the paper even more appealing to a good international journal.

1. Your survey provides firms belonging to 27 different industries. You could explore variation in how much government procurement there is per industry. For example, industries like infrastructure or defense will have high levels of procurement. I expect that the allocation of public contracts is a clear way in which one can observe corruption in survey data.
2. I understand your reasoning for using “percentage of time passed” as your regressor of interest. Still, I think one could additionally also show results on other measures like “number of months until the term finishes”.
3. Related to point (2), why do you use a polynomial of second order instead of the more usual logarithmic transformation? I think it would also be good to show results with this other measure. Apart from a methodological standpoint, I also wonder whether it can be of guidance for another aspect of the paper: why do we observe high corruption right after elections? I do not think this is very consistent with your model, but I could be wrong. Is this result simply due to the functional form assumption? Could you also perhaps have dummies with time ranges, in a more non-parametric style instead of polynomials or logarithms?
4. In section “3.3. Results”, the first page just talks about methodological aspects without providing a single result. Either you have a separate subsection on methodology or you present some results much earlier in that section. Mentally, when people read a section called “Results” they want to see results pretty quickly.
5. In your main regressions, you could explore how your baseline results change as a function of firm size or whether firms are foreign owned.
6. Regarding the main result you write about on page 67, is this change in the perception of corruption driven by a few firms (or industries) reporting huge increases in corruption levels, or is it rather due to a very general result in which many firms throughout many industries report slight increases? My goal is to understand low concentrated corruption is across industries or types of firms.

7. Do you have any personal information on these governors? Could you perhaps split by the median of governmental experience or closeness to President Putin? Closeness to President Putin could be defined as: (i) they were born in same region; (ii) they studies in same university; (iii) geographical distance between each region and Moscow. I want to understand whether the region fixed effects coefficients correlate with President Putin in a systematic way. In Section 3.4 you refer to Reuter and Robertson (2012). Could you perhaps use their data to get some mileage regarding variation in governor characteristics?
8. Relate to point (7), on page 70 you talk about “governors’ meetings with the president”. Apart from it being another measure that can proxy for the intensity of the relationship with the president, I would also like to see descriptive statistics on this variable. I think it is a very interesting variable and you should make the most of it.
9. Am I right that in the model the probability of remaining in office is independent of corruption? Even if it is descriptively, it would be nice to show this in the data. Also, show how these descriptive statistics change when you split the sample by the median of closeness to the president. In other words, perhaps it does not matter if you are corrupt as long as you are friends with the president.