Referee Report on Asel Isakova's CERGE-EI Dissertation
"Monetary Policy, Inflation and Dollarization in the
Economies of Central Asia"
Martin Cihak

General

Overall, I find this a competent piece that merits a dissertation defense, after the author has taken on board my comments, which are provided below.

The dissertation consists of applied, policy oriented research work. The author's objective is "to study the policy developments and the topics relevant to the issue of monetary policy in the Central Asian region." The dissertation does not contribute to the literature by, for instance, improving econometric techniques or elaborating on economic theory. The contribution consists in taking (rather standard) empirical techniques that have been used for other economies, and applying them to the three (or two) Central Asian economies. This kind of work does not break new ground, but it could still be useful.

I have four general comments on the dissertation.

First, I urge the author to provide a **clearer motivation** for the presented case studies (both in the overall summary and in the introduction to each study). In particular, what is the reasoning behind the choice of the three countries (or two, in the case of the final chapter)? What makes them interesting as a case study? Why these three and not other emerging markets? There are substantial differences among the three economies (in terms of size, natural resources, financial developments, policy frameworks, etc.) that could be used as an argument against putting them into one basket. (As the author acknowledges, "recent years of economic transition show that differences in the mineral resource base, initial conditions and political situation have affected significantly recent economic achievements" of these economies.) So, what are the arguments for studying these three economies in a combined case study? Also, why should one focus on these countries' monetary policy rather than, for example, fiscal policy or structural policies?

Second, the author should highlight more clearly any **broader lessons for transition economies**. The author states that the studies in the dissertation "contribute to the overall understanding of the monetary policy effects in the context of transition." I have some doubts as to the extent to which the findings of the case studies can be generalized, given the peculiarities of the three countries involved. Nonetheless, if there are any broader lessons for transition countries, they need to be drawn out more explicitly. In that context, I urge the author to put the findings from these studies more clearly in the context of the findings of previous studies. For example, when a key parameter is estimated to have a certain value, is this value in line with previous studies for other countries, or is it an outlier? If it differs from

previous findings, what may explain the difference? This comment applies across the board, i.e. for all the three chapters in the dissertation.

Third, and related to the previous point, does the analysis bring new **interesting/surprising findings**? I found the findings of the study somewhat disappointing in that most of them are very predictable and some even almost tautological (e.g., there is strong exchange rate pass-through in economies that are highly dollarized, residents gain from holding foreign currency when foreign currency is stable relative to domestic currency, oil prices have an increasing impact in a country that exports more oil, and so on). These findings are fine and reasonable, but is there something that the studies reveal that is surprising or unexpected, something that is not obvious to the naked eye and requires the use of the techniques used in this dissertation?

Fourth, the policy relevance of this dissertation would be increased if the studies included more recent data. This would allow the author to provide some, even though preliminary, observations on the **impact of the global financial crisis** on the economies of Central Asia.

Chapter 1

I have seen various versions of chapter 1 in my role of editor at the *Czech Journal of Economics and Finance*. But I still have some comments, some of which were mentioned in the review process and I understood the author would tackle them in follow-up work:

- It would be extremely useful to extend the input data beyond 2006. Data for 2007-08 should already be available. This could allow to provide some preliminary evidence on the performance of the economies during the global crisis.

- In an appendix, the author should include the estimations for the different subperiods, mentioned in footnote 27. It was fine for those to be excluded given the journal's space constraints, but it should be included here.

- I urge the author to include in the paper tables with accumulated responses of inflation and output growth to nominal depreciation shocks (I recall that the tables have already been prepared as part of the review process at the CJEF, even though they have not been included in the CJEF version due to space constraints).

- The introductory section (and the overview of the dissertation) could describe better the monetary policy framework of these Central Asian countries. It is only on page 16 that the reader is told that the economies have floating exchange rates. Later, in the conclusion (page 23), this is tempered by acknowledging that the central bankers do in fact adjust the exchange rate "whenever it is necessary to support the stability of national currencies and to keep competitiveness vis-à-vis their major trade partners."

It would be better to provide a clear description of the monetary policy framework early on.

- Relatedly, the estimates should include a variable capturing the foreign exchange intervention.

- The study's objective is "to estimate the impact of monetary policy on the output growth and price levels in these economies" (page 10). However, the question arises how aligned this line of inquiry is with actual objectives of the monetary policy, given that the primary goal of the central bankers in these economies is "maintaining price stability through keeping control over inflation" (page 77). A comment on the analysis and its relationship to the monetary policy framework would be useful.

- "The results about the bank lending channel do not allow to make a satisfactory conclusion" (page 10). What does that mean in terms of statistical significance? Also, the author adds that the finding "can be explained by the fact that financial sectors .. remain weak an underdeveloped." However, that is not formally a part of the estimation.

- "Higher and more volatile rates on bank loans could reflect the willingness of the banks to hedge themselves from the risk of bad loans." (page 18) Why? Higher and more volatile lending rates are in fact likely to make more loans go bad (relatively to a situation with lower/more stable rates). There are certainly better techniques for mitigating credit risk.

- A more detailed discussion of the regression variables would be useful. For example, is industrial production a good proxy for output (footnote 21 suggests that it is not)? Is the bilateral exchange rate (vis-à-vis the U.S. dollar) a good proxy for nominal effective exchange rate? (it is far from perfect, given the movements in the exchange rate of the dollar to the other currencies, and I recall from the CJEF review that the author planned to work on obtaining the NEER data.)

- Is the VAR model on aggregate data an appropriate way to test the bank lending channel? For an appropriate analysis, doesn't one need decomposed data by bank size etc.

- Clarify what is meant by the "change in depreciation rate" (page 15 and elsewhere)? Perhaps this refers to the change in the exchange rate.

- Why is the GMM not used in this study? It would be able to better address several issues, including the potential nonlinearity of the underlying relationships. Footnote 18 alludes to these issues, but the paper relies instead on the VAR/ARDL models.

- The author states that "In heavily dollarized economies, the scope for an independent interest rate policy can be limited. Central banks are constrained in their ability to control domestic interest rates that appear to be influenced by interest rates on dollar denominated assets. The analysis of the completeness of the interest rate channel has however confirmed the nearly complete pass through from official rates to other interest rates. Limited real effects of the interest rate policy are related to weak financial intermediation and low sensitivity of economic agents to changes in cost of borrowing." However, the ARDL model used to analyze this issue essentially looks only at correlations between the policy rate and the (domestic) market rates, and does not allow distinguishing to what extend the interest rates on dollar denominated assets are the real driving force of domestic interest rates.

- What is meant by "second-tier banks" (pages 21 and 52). If it refers simply to all commercial banks, that term could be used instead to prevent confusion. (If it were something else, it would warrant an explanation.)

- "Overall, the empirical analysis confirms previous studies' findings about the monetary transmission in transition and developing economies with a dominant exchange rate pass through and a weak interest rate channel." (page 23) That begs the question: is there anything that stands out and can be presented as contribution to the literature?

- The policy conclusions could be better tied to the analysis. "Further development of financial sectors in the Central Asian countries. Deeper financial markets, developed financial intermediation and competition will promote effective (sic!) of the interest rate and credit channels of monetary transmission" None of this is explicitly analyzed.

- "Stabilization brought a decline to the exchange rate channel" (page 22). What is the mechanics of this decline? Is it due to a decline in dollarization? Other factors?

- "Limited real effects of the interest rate policy are related to weak financial intermediation" (page 22). This is possible, but it seems to be the author's speculation rather than a direct result of the econometric estimates in this paper. In any case, it should be made clear.

- What can explain the 2006 number for remittances in Tajikistan? It exceeds the other numbers for Tajikistan (also high) as well as those for the other two countries by an order of magnitude.

- It would be useful to mention that (a version of) the chapter has appeared in the *Czech Journal of Economics and Finance*.

Chaper 2

- I am rather uneasy about the notion put forward in this chapter that dollarization/currency substitution is welfare generating (page 65 and elsewhere). Sure, when domestic currency is unstable, households are relatively better off if they hold more foreign currency. But that is rather obvious—that is why we see dollarization. The real issue is that the unstability of the domestic currency, which drives this dollarization, tends to be associated with substantial welfare loss (and other problems for policy making). It is highly unlikely that overall, there is any welfare gain. (To take an extreme example, think about the welfare of Zimbabwe's residents during the recent hyperinflation period.)

- As in the other chapters, this is a relatively straightforward exercise: take a methodology that has been used elsewhere in the literature for other countries, and apply it to the three Central Asian economies.

- The author states that "[t]here is important evidence that foreign currency is still being used by the population" (page 42). If there is evidence on currency being used to settle domestic transactions, it could be provided. Relatedly, the author mentions foreign capital flows as part of the evidence for the existence of dollarization; however, these two are not necessarily linked. For example, the Czech Republic is one of the transition countries with the highest capital flows, and it is also one with the lowest levels of dollarization.

- The distinction between dollarization and currency substitution is introduced, only to be dismissed (bottom of page 43) on the grounds that "these two phenomena are interconnected and correlated in these countries." If there is evidence to support this claim, it should be provided. Otherwise, it might perhaps be better to stick with using one term, dollarization.

- Section 4 seems to describe the standard model. If the author had any contribution to the model, it should be highlighted.

- The theoretical model is highly stylized and requires rather strong assumptions about the markets. A discussion of the appropriateness of this model for Central Asia could be included.

- The abstract, as well as the "Introduction" of the dissertation, should more clearly convey the policy implications of the paper.

- An important issue related to dollarization is the fact that it may create challenges for financial stability. For example, if it is widespread for domestic credit to be denominated in (or linked to) foreign currency, it could imply substantial exchange-rate credit risk in the domestic economy, and large exchange rate movements could

lead to destabilizing impacts on domestic financial sector. This could be at least acknowledged in the discussion on the impacts/challenges of dollarization.

- Page 66: how to interpret the finding that the elasticity of substitution between the currencies is greater than unity? How does this compare to other studies for other countries?

- Why is the exchange rate expressed only vis-à-vis the U.S. dollar rather than vis-à-vis a basket of currencies (i.e., why a bilateral exchange rate instead of the nominal effective exchange rate)?

- In the GMM procedure, why are lagged values used as instruments? Are there no other possible instruments?

- Given the importance of exchange rate depreciation highlighted in the text and in the analysis, the chapter should include a chart on exchange rate developments.

- Why are the estimates run country by country rather than as a panel? If there is a reason for analyzing the three countries together in one paper, why not also analyzing them together in one estimate?

- The discussion on significance of parameter estimates in Table 1 could be elaborated. For example, the author makes the statement that the value of the beta estimate is lower than the value of 0.98 usually assumed in literature, and that the beta estimate for Tajikistan is lower than 0.9. Are these differences significant, i.e. is the beta estimate significantly lower than 0.98 (or 0.9 in Tajikistan)? Table 1 does not answer these questions, as it is focused on differences from 0.

- The estimation of seigniorage revenue presumes the existence of a money growth rule. Do the authorities actually have one?

- The seigniorage calculations (page 58) assume parameter values that do not appear consistent with the previous estimates. For example, the assumed value of beta is 0.98, although in the discussion on the estimates, the author emphasizes that the value of the beta estimate is lower than the value of 0.98 usually assumed in literature, and that the beta estimate for Tajikistan is lower than 0.9.

- Given the difficult-to-interpret negative parameter of relative risk aversion (page 53), can the presented estimates be trusted? Why?

Chapter 3

- Why is Tajikistan excluded from the analysis in this chapter? (This goes back to the general comment about better motivating the studies. There is presumably a good

reason for selecting the three Central Asian economies for the other two chapters; why is the focus narrowed down to two countries here?)

- It would be useful to provide some explanation as to why the author uses the model by Goujon rather than other models. What are the pros and cons of this model compared to other approaches?

- Relatedly, the author needs to be clearer whether the paper is an application of the Goujon model, or an extension of it. The discussion on page 77 mentions that the present study "is an attempt to account for the shortcoming of previous studies". The question in my mind is which of the shortcomings are addressed already by Goujon, and which of them are addressed in this paper by the present author.

- When discussing previous literature, the author needs to be more specific on who says what rather than just mentioning "some authors" (page 78).

- The introduction states that the primary goal of central bankers in these economies has been "maintaining price stability through keeping control over inflation." (page 77). However, the author also says elsewhere that the central bankers have in fact been trying to influence the external value of the currency (the exchange rate) via interventions in the foreign exchange market (for example, page 23 mentions hat the central bankers do in fact adjust the exchange rate "whenever it is necessary to support the stability of national currencies and to keep competitiveness vis-à-vis their major trade partners").

- The author should provide a clearer discussion of the estimated elasticity of substitution between domestic and foreign currency. In particular, how to reconcile the finding that the elasticity of substitution is very high with the fact that "dollarization remained at rather important levels" (page 80) despite economic stabilization?

- How to reconcile the model for inflation presented in this chapter with the VAR estimates in Chapter 1, which also cover inflation as one of the variables? Why using one approach here and another in the other chapter? Are the results of the two consistent, both qualitatively and quantitatively?

- Page 88, second sentence below the heading: in the average deposit rate, what is the average calculated over?

- "[T]he system estimation could have helped restore the importance of the inflation inertia in Kyrgyzstan." (page 94, top). This is an awkward formulation that needs to be clarified.