Essays on Natural Resource Impact

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Dissertation

Abstract

This dissertation consists of three essays on the impact of natural resources on economic and fiscal performance. The first chapter investigates the resource impact on economic growth using a non-parametric minimum-distance matching method. Countries are matched according to their observable characteristics, and the relative growth rates of GDP of each matched pair are computed. In this way, it is possible to analyze the impact of the resources on relative growth rates, rather than on absolute growth rates as has been done in previous studies. Assuming a correlation between observables and unobservables, the matching based on observables may control for unobservables as well. If this assumption is satisfied, matching allows us to control for more variables and to single out the direct effect of the resource abundance variable. The study uses different measures of resource abundance to check the robustness of such a relationship. The empirical results suggest that there is a strong negative relationship between the relative abundance of exhaustible resources and economic growth. For non-exhaustible resources, the results are mixed, with a frequent positive impact on relative growth. The contrary evidence found in Sala-i-Martin et al. (2004) is discussed, and the differences in methodology and estimation, which potentially may create differences in the results, are highlighted.

The second chapter analyzes fiscal policy procyclicality in resource-rich countries. A strong U-shaped relationship between the procyclicality of government capital expenditures and the resource richness measure comprised of the mineral exports share in total merchandise exports is obtained for developing countries. Such a relationship is robust to different methodologies and various checks. Two hypotheses have been considered: first, the political economy hypothesis, and second, the borrowing constraints hypothesis. Empirical observations appear to be consistent with the hypotheses. A model has been built that is able to generate a U-shape effect combining political economy and borrowing constraint hypotheses. Arguably, with a model of simple settings such a U-shape relationship can be obtained and interpreted.

The third chapter investigates the role of natural resources in Azerbaijan's post-transition development using structural break analysis. In comparison to resource poor countries of the South Caucasian countries, Armenia and Georgia, the study finds that indeed Azerbaijan has thus far been able to use its oil and gas resources to outperform its neighbors in terms of per capita income growth. The results have also been confirmed using regression estimation. Further, fiscal procyclicality in these countries has been compared. Findings are consistent with the borrowing constraint alleviation and political economy hypotheses layed out in Chapter 2.

The dissertation contributes to the resource curse debate in the literature confirming the existence of the curse in developing countries. Despite the negative impact on economic growth and on fiscal procyclicality through political economy channels, the dissertation establishes the positive role of resource abundance on fiscal procyclicality through borrowing constraint alleviation. This is a new result, which has not been found in the previous literature on the subject.