Managing Resource Revenues in Developing Economies

Published: 21 July 2009

Volume 57, pages 84–118, (2010) Cite this article

IMF Staff Papers

Aims and scope →

Notes

1. Democracy and resource rents also appear to interact badly (Collier and Hoeffler, 2009). Democracies with no natural resource rents tend to grow more rapidly than autocracies, resource-rich democracies grow more slowly than autocracies. The degree of electoral competition determines the process by which a government acquires power, whereas the number of checks and balances determine the limits on how it can use power. Electoral competition damages the democratic process, whereas checks and balances are beneficial. The evidence suggests that resource rents gradually weaken checks and balances. The governance challenge for resource-rich Africa may thus be to strengthen checks and balances in the face of pressures to weaken them.

5. And if $r^D = r^*$ we return to the world of the permanent income hypothesis.

6. Only if the resource discovery is very large will it also be optimal to build up a permanent savings fund which will be smaller than under the permanent income hypothesis.

7. This section draws on Commission on Growth Development (2008).

8. For this calculation, we ignore the contribution to private sector investment from foreign sources. Foreign direct investment would be one category.

9. Note that the taxonomy links the discussion of resource revenue to that on

12. If the interest rate and rate of time preferences are zero and the utility function displays constant absolute risk aversion, then a back of the envelope calculation shows that the optimal share of windfall revenue to save is $\varepsilon\upsilon^2/2$, where ε is the coefficient of relative risk aversion and υ the coefficient of variation of oil prices. The 95 percent confidence interval for the predicted oil prices of Hamilton (2008) suggest mean oil price of $137 per barrel and a standard deviation of $37.5, so that $\upsilon=0.27$ over a one-year period. Given that a reasonable range for ε is $1-2$, it is optimal to save between 3.75 and 7.5 percent of the windfall. If the windfall is expected to last much longer than a year, oil prices are much more unpredictable as the coefficient of variation increases with the square root of the length of the forecast period, so it is optimal to have a larger share of the windfall as a precautionary buffer. In an intertemporal context, the size of the precautionary buffers will have to be larger the more persistent shocks to commodity prices are;

Turned into a Blessing? Role of Trade Policies and Institutions," IMF Working Paper 07/55 (Washington, International Monetary Fund).

Barnett, S., and R. Ossowski, 2003, "Operational Aspects of Fiscal Policy in Oil-Producing Countries," in Fiscal Policy Formulation and Implementation in Oil-Producing Countries, ed. by J. Davis, R. Ossowski, and A. Fedelino (Washington, International Monetary Fund).

Google Scholar

Barro, R.J., 1979, "On the Determination of the Public Debt," Journal of Political Economy, Vol. 87, No. 5, pp. 940–971.

Article Google Scholar

Book Google Scholar

Collier, P., and B. Goderis, 2007, "Prospects for Commodity Exporters: Hunky Dory or Humpty Dumpty?" World Economics, Vol. 8, No. 2, pp. 1–15.

Google Scholar

Collier, P., and B. Goderis, 2008, "Commodity Prices, Growth and the Natural Resource Curse: Reconciling a Conundrum," (unpublished; Oxford, Centre for the Study of African Economies, University of Oxford).

Collier, P., and A. Hoeffler, 2009, "Testing the Neocon Agenda: Democracy in Resource–Rich Societies," European Economics Review, forthcoming.

Gupta, S., R. Powell, and Y. Yang, 2006, Macroeconomic Challenges of Scaling Up Aid to Africa. A Check List for Practitioners (Washington, International Monetary Fund).

Book Google Scholar

Hamilton, J.D., 2008, "Understanding Crude Oil Prices," (unpublished; San Diego, Ca, University of San Diego).

Hartwick, J., 1977, "Intergenerational Equity and the Investing of Rents from Exhaustible Resources," American Economic Review, Vol. 67, No. 5, pp. 972–974.

Google Scholar

Ossowski, R., M. Villafuerte, P.A. Medas, and T. Tomas, 2008, Managing the Oil Revenue Boom: The Role of Fiscal Institutions, IMF Occasional Paper 260 (Washington, International Monetary Fund).

Ploeg, F. van der, 2008, "Challenges and Opportunities for Resource Rich Economies," Oxcarre Research Paper 2008-05 (University of Oxford).

Ploeg, F. van der, 2009, "Aggressive Oil Extraction and Precautionary Saving: Coping with Volatility," Oxcarre Research Paper 2009-21 (University of Oxford).

Ploeg, F. van der, and S. Poelhekke, 2009, "Volatility and the Natural Resource Curse," Oxford Economic Papers (University of Oxford).

Sala-i-Martin, X., and A. Subramanian, 2003, “Addressing the Natural Resource Curse: An Illustration from Nigeria,” IMF Working Paper 03/139 (Washington, International Monetary Fund).

Stern, N., 2006, Stern Review on the Economics of Climate Change (Cambridge, U.K., Cambridge University Press).

Google Scholar

Weitzman, M., 2007, “The Stern Review on the Economics of Climate Change,” Journal of Economic Literature, Vol. 45, No. 3, pp. 703–724.

Article Google Scholar

thank Rolando Ossowski for sharing his data on fiscal policies and hydrocarbon revenues with us, and thank Nicolas van de Sijpe for his able research assistance.

Rights and permissions

About this article

Cite this article

Collier, P., Van Der Ploeg, R., Spence, M. *et al.* Managing Resource Revenues in Developing Economies. *IMF Econ Rev* **57**, 84–118 (2010). https://doi.org/10.1057/imfsp.2009.16

Published Issue Date