

<p>Institution: University of Oxford</p>
<p>Unit of Assessment: 18 - Economics</p>
<p>Title of case study: Managing Natural Resource Revenue In Developing Economies</p>
<p>1. Summary of the impact Countries with substantial non-renewable natural resource wealth face special opportunities and challenges. Research undertaken by Oxford economists has contributed to understanding these challenges and to improving policies for resource management, particularly in developing economies. The key impact is based on a central component of the research - resource revenue management, including long-run decisions about saving, investing, and consuming revenues, and short- and medium-run management of instability. Oxford research has been influential in shaping policy positions of the International Financial Institutions, particularly the IMF, and in influencing the policy debate in-country. It has thereby influenced policies for resource revenue management, particularly in the newly resource-rich countries of Africa.</p>
<p>2. Underpinning research Research on the performance and management of resource-rich economies has been led by Professors Frederick van der Ploeg and Tony Venables, co-directors of the Oxford Centre for the Analysis of Resource Rich Economics (OxCARRE). The centre was established in 2008 with funding from BP. Venables joined Oxford in 2007 as BP Professor of Economics and van der Ploeg joined in 2008 as Professor of Economics. Work has also involved Professor Paul Collier (Professor of Economics and Public Policy) of Oxford's Centre for the Study of African Economies (CSAE).</p> <p>The research has covered a broad agenda (OxCARRE has produced over 120 research papers) including the relationship between resource wealth and conflict, the impact of volatility [R3], trade issues [R2], and the experience of particular countries [R1, R7]. A focus has been the management of the foreign exchange windfall generated by resource revenues. At the aggregate level, these revenues can be used for three things: current expenditure; domestic investment; and the acquisition of foreign assets (e.g. a Sovereign Wealth Fund). The balance depends on factors including: the ethical weighting of income accruing to different generations; constraints on public funds and the supply of capital; the need to avoid an inflationary resource boom, exchange rate overvaluation, and 'Dutch disease'; the country's capacity (institutional and economic) to absorb extra spending; the need to insulate the economy from volatility; and the need for choices to be robust to environments with difficult political economy. Analysis of how best to manage the trade-offs between these factors is the subject of much of the research of van der Ploeg and Venables [R5, R6], together with [R1, R3, R4].</p> <p>OxCARRE's research on the use of natural resource revenues challenges the conventional wisdom of following the permanent income hypothesis (PIH). The researchers construct a dynamic model of a developing economy which is capital constrained (households and government unable to borrow at the world interest rate) and on a growth path towards development. They show that in this setting the optimal policy is not to follow the PIH prescription of using revenues to build long-run foreign assets, but rather to balance higher investment in the domestic economy (particularly infrastructure) with a relatively large increment to current consumption, to address the poverty of the current generation [R5]. The research addresses issues relating to short- and medium-run economic management, analysing the impact of resource revenue on economic structure, its implications for the exchange rate, and policy to manage this [R6]. Other work focuses on the problems associated with volatility [R3, R4].</p> <p>Together, this body of research outlines a strategy for resource revenue management which prioritises investment in physical (and human) assets in the domestic economy, supplementing these with foreign savings vehicles designed to mitigate the effects of volatility and in which revenues can be 'parked' until absorptive capacity problems are solved. They also outline the importance of concurrent domestic reform (preparing the economy to overcome absorption</p>

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constraints and handle a resource boom), and the micro-economic detail of interaction between the public and private sectors. The importance of the work lies in the fact that the core analysis suggests a use of revenues quite different from the PIH prescriptions that underpinned the policy advice of the IMF (Fiscal Affairs Department) and influential donors (the Norwegian Oil for Development programme).

3. References to the research

[R1] Collier, P., F. van der Ploeg, A.M. Spence, A.J. Venables, 2010, "Managing Resource Revenues in Developing Economies", *IMF Staff Papers*, 57, 84-118 (previously published as OxCARRE Research Paper 15, January 2009).

[R2] Ruta, M. and A. J. Venables, 2012, 'International trade in natural resources; practice and policy', *Annual Review of Resource Economics*, vol. 4, 331-52 (previously published as OxCARRE Research Paper 84, March 2012).

[R3] T. Van den Bremer and F. van der Ploeg, 2013, "Managing and harnessing volatile oil windfalls," *IMF Economic Review*, 61(1), 131-167.

[R4] Van der Ploeg, F. and S. Poelhekke, 2009, "Volatility and the natural resource curse," *Oxford Economic Papers*, vol. 61, 727-760.

[R5] **Van der Ploeg, F. and A. J. Venables, 2011, "Harnessing Windfall Revenues: Optimal Policies for Resource-Rich Developing Economies," *The Economic Journal*, 121, 1–30.

[R6] **Van der Ploeg, F. and A. J. Venables, 2013, "Absorbing a Windfall of Foreign Exchange: Dutch Disease Dynamics," *Journal of Development Economics*, 103, 229-243.

[R7] Venables, A.J. 2011, "Economic Integration in Remote Resource Rich Regions". R. Barro and J.W. Lee (eds), *Costs and Benefits of Economic Integration in Asia*, Oxford: Oxford University Press (previously published as OxCARRE Research Paper 22, April 2009).

Research quality

Annual Review of Resource Economics is a leading scientific journal in resource economics.

Economic Journal is a leading general-interest economics journal and is the UK's top economics journal. It was rated as "4*" by the ESRC-RES International Benchmarking Review of UK Economics in 2008 and is classed as "AA" in the Combes-Linnemer (2010) ranking.

IMF Economic Review (formerly IMF Staff Papers) publishes peer-reviewed academic research on open economy macroeconomics.

Journal of Development Economics is the top field journal for development economics. It was rated as "4*" by the ESRC-RES International Benchmarking review of UK Economics in 2008 and classed as "A" in the Combes-Linnemer (2010) ranking.

** denotes publication returned as part of REF 2014.

The Oxford Centre for the Analysis of Resource-Rich Economies was established in 2008 with core funding from BP.

4. Details of the impact

This research has had significant impact on policy advice provided by the international financial institutions. It has influenced the policy debate within a range of countries (through advice offered to ministers and engagement in debates within civil society and NGOs) and hence shaped policy.

1) International financial institutions and the development policy community:

A key point of influence has been the International Monetary Fund (IMF), in particular the Fiscal Affairs Department and also the Low-Income Countries Strategy Unit and the IMF Research Department. The IMF undertook a thorough review of its policy advice on revenue management leading to a 2012 policy paper for the IMF Executive Board setting out a new macro-fiscal

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framework and policy advice for resource-rich developing countries [C1]. This draws heavily on Oxford research (citing 9 research papers including [R1], [R5] and [R6], and consulting Van der Ploeg and Venables in preparation of the paper). Accompanying the Executive Board paper, the IMF published a background paper [C2] and Staff Discussion Note [C3] drawing on the research and designed to ensure policy reaches IMF staff and country offices. The Deputy Director of the Fiscal Affairs department at the IMF has confirmed that the IMF Board paper has had a major impact on the Fund's policy advice to resource-rich countries, particularly in the context of the scaling of public spending [C4]. Van der Ploeg subsequently taught a course at the IMF Institute attended by 50+ professional economists from within the IMF (The Economics of Natural Resources, IMF Institute, 2010).

OxCARRE research [R1, R7] has also been used by the World Trade Organisation in their flagship 2010 World Trade Report [C5], which focused on trade in natural resources. The World Bank (WB) has used the research in their policy dialogue with the government of Iraq (a model based on their research [R2] and provided by Venables and Van der Ploeg forms chapter 2 of the Iraq Country Economic Memorandum [C6]); and in their Governance of Extractive Industries Initiative (GOXI), and their Extractive Industries Sourcebook designed to provide senior government officials and policymakers with a guide to good practice [C7].

2) Policy in Country:

Impact on the policy within countries has been achieved through two main mechanisms. The first is interaction with policy makers through high-level conferences and meetings. Examples include government conferences in Ghana, Uganda, South Sudan, Sierra Leone, Tanzania, D. R. Congo; IMF conferences including a joint IMF – WB conference in March 2012; the annual conference of the Extractive Industries Initiative (2011); and the Global Development Network ('Natural Resources and development' 2009). These events, attracting ministerial and in some cases presidential audiences, have contributed to a greater awareness of the policy alternatives and the dissemination of good practice (for example see [C8]). Extractive industries legislation (or draft legislation) in newly resource rich countries in Africa now generally contains explicit clauses on the use of resource revenues, including investment in the domestic economy and limited use of off-shore funds (in line with the policy recommendations from [R1, R5]). For example: Ghana's Petroleum Revenue Management Act (2011) and associated Stabilization and Heritage funds [C9].

The second mechanism by which the research has informed and influenced policy is the **Natural Resource Charter** (NRC), established in 2009 by an independent team of experts to provide a guide to the management of natural resources. The NRC is "a set of economic principles for governments and societies on how to best manage the opportunities created by natural resources for development." It is organized around twelve core precepts that offer guidance on key decisions; beginning with whether to extract natural resources, and ending with decisions that determine how resource revenue can produce maximum good for a country's citizens. Collier and Venables were members of the team that launched the initiative and continue as members of the Technical Advisory Group, with Oxford providing the intellectual base for the NRC. Oxford research on revenue management (including [R1], [R4], [R5]) directly informs precepts 7, 8, 9 and 10 of the charter [C10]. The NRC has been adopted or otherwise endorsed by a broad range of organizations/governments/NGOs: the World Bank, the IMF, Norway, Australia, Zimbabwe, African Development Bank, and the African Progress Panel. The UK government gave its support to the the NRC in the 2009 Department For International Development white paper Eliminating World Poverty: Building Our Common Future [C11]. In 2012, Nigeria was the first country to benchmark its performance against the 12 precepts of good practice set out in the Charter [C12].

5. Sources to corroborate the impact

[C1] Policy paper for the IMF Executive Board: Macroeconomic Policy Frameworks for Resource-Rich Developing Countries <http://www.imf.org/external/pp/longres.aspx?id=4698>
(See: pages 11 to 14 and footnotes, and references.)

[C2] Background paper for the IMF Executive Board : Macroeconomic Policy Frameworks for Resource-Rich Developing Countries - Background Paper 1

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<http://www.imf.org/external/pp/longres.aspx?id=4699>

(See: Part 1: Stylised Facts, footnote p. 6; references p17; references p.23.)

[C3] IMF Staff Discussion note SDN/12/04, Baunsgaard et al, (2012) 'Fiscal Frameworks for Resource Rich Developing Countries', <http://www.imf.org/external/pubs/ft/sdn/2012/sdn1204.pdf>
(See: Acknowledgements, p.9 and references.)

[C4] Corroboration from the Deputy Director, Fiscal Affairs Department, IMF that OxCARRE research, through the IMF Executive Board papers and accompanying papers, has had substantial impact on the Fund's policy advice to resource-rich economies (email on file).

[C5] "World Trade Report 2010; trade in natural resources" WTO Geneva
http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report10_e.pdf
(see: section II.D.6, pp 141-174; also Acknowledgements and Bibliography.)

[C6] Iraq Country Economic Memorandum (2012 internal WB document: public release date tbc).

[C7] World Bank Governance of Extractive Industries Initiative: <http://goxi.org/>
and www.eisourcebook.org/693_81FiscalRulesforSavingsvsSpending.html

[C8] IMF conference *Management of natural resources in sub-Saharan Africa*, 21-22 March 2012
<http://www.imf.org/external/np/seminars/eng/2012/kinshasa/index.htm> (for evidence of ministerial level engagement).

[C9] Revenue Watch Institute, "Comments on Ghana Petroleum Revenue Management Bill, August 2010. http://www.revenuewatch.org/sites/default/files/Ghana_revenue_management_brief_final.pdf
Further corroboration may be obtained from the President, Revenue Watch Institute, New York 2006-12.

[C10] Natural Resource Charter: <http://naturalresourcecharter.org/content/about/history>
(go to <http://naturalresourcecharter.org/precepts> for details of the twelve precepts).

[C11] DFID (2009) Eliminating World Poverty: Building Our Common Future, CM 7656, (July, p78.
http://consultation.dfid.gov.uk/whitepaper2009/files/2009/03/white-paper_building_our_common_future_hi-res.pdf

[C12] Nigeria Natural Resource Charter: Benchmarking Exercise Report December 2012
<http://naturalresourcecharter.org/content/nigeria-assessment>