

Policy Brief

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Policies for Managing Natural Resources in Low Income Countries

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Summary

The literature on resource dependency² in the last three decades is long on theoretical and empirical effects of natural resources on an economy, but short on practical policy prescriptions to deal with these effects. The recommended policies normally range from adjusting fiscal policy to deal with commodity volatility, adapting monetary policy to reduce the external shocks, and keeping the real exchange rate competitive. This paper³ makes the argument that these policies are targeted toward the symptoms of natural resource dependency, and not the underlying cause of concern about this dependency, which is, how to replace these resources when they are depleted. This point is all the more important considering that the poorest, resource dependent countries have negative genuine savings rate, i.e., they are living off their natural resource assets. Furthermore, traditional policies also miss another important feature of resource rich countries: the need to create jobs because the sector that generates wealth does not employ many workers.

In theory, the economic effects of natural resources are well-known and non-controversial. Hotelling (1931) derives the rate of resource extraction (Hotelling's rule), Hartwick (1977) demonstrates what to do to keep welfare constant (Hartwick's rule), while other authors show the various effects of natural resources on the national economies (Corden 1984, Winbergen 1984, Gelb 1988, Matsuyama 1992, Barbier 2005). However, the empirical evidence on whether natural resources are a curse or a blessing remains mixed. Most studies in the late 1990s and the early 2000s confirmed the pioneer work done by Sachs and Warner (1995, 1997, 2001), which shows a negative relationship between resource dependence and growth. Auty (2001) explains this oddity in terms of the political capture of rent, while Gylfason (2001) points to low investment in human resources.

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(2) Resource dependency is defined in terms of natural resource rents, a concept used by the World Bank (2011) or by primary exports, following Sachs and Warner (1995).

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Hausmann and Rigobon (2003) find that resource rich countries are affected by economic shocks, while Collier and Hoeffler (2005) find that resource rich countries are vulnerable to armed conflicts. Since the mid-2000s, a number of studies appear to run counter to previous beliefs on the resource curse. Many have isolated certain conditions and attempted to provide evidence that natural resources have a non-negative effect on growth (Alexeev & Conrad, 2009; Boschini, Pettersson, & Roine, 2013; Ebeke & Ngouana, 2015; James, 2015; Lederman and Maloney 2007, Mehlum, Moene, & Torvik, 2006; J.

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Stijns, 2005, 2006; Torvik, 2009; Williams, 2011). This led James (2015) to call the resource curse a statistical mirage. Most of this body of research was discussed in Frankel (2005) and Van der Ploeg (2011).

This paper (Dinh & Dinh, 2016) seeks to make three contributions to this body of knowledge. First, we focus the discussion on the policy options available to the low income countries where capacity is weak to see if the knowledge developed so far has offered any concrete guidance for policy makers. Second, the paper stresses the role of economic growth and job creation in poor countries abundant in natural resources. This growth and employment aspect can offer a key link to why natural resources often do not lead to higher prosperity for poor countries. The sector that offers the most exports and revenues typically employs very few workers, even at high wages. Third, we discuss a viable policy option aimed at directly addressing the key issue for these countries: how to replace natural resources when they run out. The case study of South Sudan is used to illustrate these contributions and also to show the gap between theory and practice.

« Natural resource wealth induces deindustrialization through the spending and resource movement effects (Corden 1984). It exposes countries to the volatility of the international commodity prices and makes macroeconomic management difficult.»

Resource rich countries are more vulnerable to commodity price volatility and exchange rate volatility. Such volatility acts as tax on investment in the production of tradable goods, mainly in agriculture and manufacturing. Resource wealth can also undermine governance and create a vicious cycle. Many resource rich countries are among those with high corruption and poor governance indicators, especially in the areas of freedom of the press, rule of law, property rights and restriction to civil liberties. Lack of reliable policy and strong administrative structure make government institutions incapable of transforming resource wealth into economic development. This worsens the public sector's inefficiency in managing the resource wealth, which in turn can lead to reckless and excessive spending.

The traditional policies to manage natural resources can be broadly grouped into four categories, although in practice, these categories often overlap. Some countries establish special fiscal institutions including sovereign

wealth funds, fiscal rules, and fiscal responsibility legislation to manage these resources. The majority of these institutions failed to address the problem, while some others even produced adverse impact. Other resource rich countries use exchange rate and monetary policies to manage natural resources, again with limited or disappointing results. The third approach, the permanent income, is an attempt to even out the fluctuations in savings and aims at addressing intergenerational equity between the current generation and future generation when resources are exhausted, reducing the volatility in export receipts, and reducing the adverse effects of the Dutch disease. This approach has been criticized recently as unduly restrictive and even wrong on theoretical grounds. Finally, a number of advanced countries create risk sharing institutions focusing on absorbing the shocks and limiting adverse impacts from price volatility. This last approach also has many problems and its implementation requires technical skills beyond the reach of most poor developing countries.

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With some exceptions in recent years, the approaches above focus more on the volatility aspects of natural resources rather than on long term economic growth. For low income economies that are starting out in the development process, these theories neglect two important aspects: sources of economic growth so that the economy can be sustained after natural resources run out, and job creation so that the economy's full potential can be achieved.

More specifically, the traditional recommended (or adopted) policies for low income, resource rich countries suffer a number of weaknesses, including realism (keeping money in a fund or sending it abroad in search of highest return while the country is mired in pervasive poverty), "one size fits all" (the same policies are recommended for low and high income countries, or regardless whether natural resources are discovered before or after the country has become developed), and most importantly, failing to find sources of growth for the economy when natural resources run out. Unlike in the developed countries, these resources should be used not for the "rainy day", but for the "disaster day" when resources are exhausted. Furthermore, these policies ignore a special characteristic of resource rich,

low income countries in that the sector that brings wealth itself employs very few people. Oil accounts for over 80 percent of South Sudan GDP and 99 percent of its exports. Yet less than 1.4 percent of the labor force is employed in the petroleum sector. Similarly, copper and copper related products account for more than 70 percent of Zambia exports, but less than 2 percent of the work force is employed in the mining sector.

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Recently, Collier, van der Ploeg, Spence, and Venables (2010) called for a modification of the permanent income approach which, to them, is not only unduly restrictive, but wrong on theoretical grounds. While they recognize that consumption in natural resource abundant countries should be smoothed out, the key issue is how to use resource revenue for faster growth. And this, they stress, can be done through raising the marginal product of capital, both private and public. Public capital efficiency can be enhanced through improved procedures, while private capital can be improved with the provision of public investment.

But in practice, to be useful as a guide for the developing countries, the modified permanent income approach needs to be framed in a comprehensive development strategy rather than a vague reference to investment in productive sectors. As shown in the South Sudan case study presented in this paper (Dinh & Dinh, 2016), the elaboration of a coherent long term development strategy is required. Furthermore, the modified permanent income approach needs to address the high level of unemployment or underemployment in these countries. Job creation can resolve the tension between domestic pressures for consumption spending and the country's long term growth objective. It also resolves the political economy issue of leaders trying to commit spending before the next ones come along. Many political leaders may feel that job creation is a way to consolidate their power and therefore are more likely to enthusiastically support it.

Managing natural resources in low income countries should first follow a coherent development strategy, which,

according to the new structural economics, depends on the individual country's initial condition, its endowment structure, and the resulting comparative advantages in production (Dinh and Lin 2014). These countries need to follow diversification strategies that are consistent with their latent (and evolving) comparative advantage. If the resource rich country has a small population, it could focus on growing the activities that are tradable. For instance, if the country is blessed with beautiful scenery, developing the tourism sector should provide the long term foundation for growth when natural resources run out. Similarly, if the country is endowed with good geographical location, it could develop services such as air transport (as the UAE has done). And if the country is endowed with skilled labor, it could develop into advanced, high technology industries or services.

For low income countries that are endowed with unskilled labor and are at the beginning of the industrialization process, the strategy is to focus on private sector jobs in labor intensive, simple light manufacturing. In an economy with a large surplus of unskilled labor, job creation will be maximized if the economy is first opened up for FDI induced assembly types. Later on, when the economy has grown and the education system has improved, policies can focus more on how to raise value added through promoting backward and forward linkages between the foreign invested enterprises and the domestic ones. It should be noted that in these economies, even though there are natural resources, the downstream industries associated with those resources tend to be very capital intensive and require high technology only available from abroad. Hence at the beginning there are very few domestic, high-value added jobs created in those sectors.

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Furthermore, the development needs for a low-income country are vast, as illustrated in the South Sudan case. Even if all natural resources from the country are devoted to development needs such as infrastructure or education, or improving public investment appraisal capacity (as the modified permanent income approach calls for), it would still take decades to make any dent in progress. Therefore, to be successful, resource rich, low income countries need to tackle the sequencing

problem through step-wise and selective investment in specific areas needed for the current development strategy only. For example, instead of providing roads or electricity for the entire country, priority should first be placed on providing these investments in the areas or sectors needed for factories or free trade zones. Similarly, investment in human capital should be devoted to producing the right kind of workers to supply the domestic industries and not to the advanced training system which produces graduates who cannot find the right jobs and have to migrate abroad. Thus one could envisage a situation where during the first ten years after resources are discovered and exploited, the focus of public investment in infrastructure is on building roads, port, electricity needed for a number of industrial parks needed to produce light manufacturing goods (both for domestic and exports needs). Public investment in education during this period should be focused on improving the enrollment and quality of primary education and low level vocational education. As the economy grows and moves up the development path, emphasis of public investment should be shifted to higher value added products while the education system should focus more on secondary and tertiary education. In this way, the investment program aims to create both the demand and supply of workers.

« The conventional approach of leaving everything to market forces could lead a country to a vicious circle where the resource curse drags down economic growth leading to further dependency on natural resources.»

As argued by Collier et al. (2010), both consumption and investment increases associated with natural resource windfall should rise gradually. This allows the absorptive capacity (i.e., bottlenecks in investment, especially in non-tradable sectors where imports cannot be used to relieve the supply constraints in the short run) to expand. Another reason is that the volatility in export receipts can be accommodated. In the worst case, cuts in investment can be made without affecting the entire economy. Our proposed approach allows for current consumption to increase via private income. It represents a more concrete step in the direction that Collier et al. suggests, and includes the job creation aspect of

development economics which has been neglected so far. The proposed approach aims to help low income countries in general and those rich in natural resources in particular create a diversification development strategy. As illustrated in the South Sudan case, it does so by identifying concrete packages of specific, feasible, and inexpensive policy initiatives that can maximize a country's opportunity to jump-start its growth in production, employment, and exports of the tradable sectors. Focusing on specific industries highlights the constraints that exist and provides valuable information from which we may base targeted recommendations.

The conventional approach of leaving everything to market forces could lead a country to a vicious circle where the resource curse drags down economic growth leading to further dependency on natural resources. This paper (Dinh & Dinh, 2016) recommends poor countries endowed with natural resources to focus on structural and microeconomic policies aimed at boosting the competitiveness of the tradable sectors, including manufacturing and services. These policies are expected to complement the building up of human resources over time and would have a long lasting impact on economic development. More specifically, the approach calls for a diversification strategy focusing on job creation leading to a "learning by doing environment" that would foster potential industries and services that could replace natural resources when they are exhausted.

Using the specific example of South Sudan, the paper (Dinh & Dinh, 2016) examines the conditions in poor developing countries such as political instability, limited financial and physical infrastructure, low human resources, and failing institutions. It discusses how these conditions limit policy options. The policy problem for these countries is particularly serious because in addition to the usual problem of dealing with growth and development issues typical of all developing countries, they have to deal with compounded issues caused by natural resource dependence. Because the resources available from natural resources are dwarfed by competing development needs, priorities have to be determined and trade-offs made. As expected, the additional list of problems arising from natural resources is overwhelming, far beyond the capacity of any omnipotent government, let alone that of the least developed countries.

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