



Resource Rents, Redistribution, and Halving Global Poverty: The Resource Dividend

Paul Segal¹

Oxford Institute for Energy Studies
Department of Economics, University of Oxford

Oxford Institute for Energy Studies

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Abstract

This paper considers the proposal that each country distributes its resource rents directly to citizens as a universal and unconditional cash transfer, or *Resource Dividend*, and estimates its potential impact on global poverty. Using a global dataset on resource rents and the distribution of income, I find that if every developing country implemented the policy then the number of people living below the World Bank's \$1-a-day global poverty line would be halved. Moreover, the policy provides an incentive to informal workers to register with the fiscal system, and may ameliorate the resource curse in resource-rich countries. Administrative and political challenges are discussed, and it is argued that the policy would be easier to implement than most existing social policies.

Keywords: global poverty; inequality; natural resource curse; resource wealth; informality; income distribution

“The meek shall inherit the Earth, but not its mineral rights”

J. Paul Getty

1. Introduction

In this paper I ask what would happen if, contrary to J. Paul Getty’s prediction, mineral rights were in fact distributed more equitably. In particular, I consider the scheme under which each country taxes the rents due to their natural resources, and distributes the proceeds directly and unconditionally back to every adult citizen on an equal basis. I call this scheme the Resource Dividend (RD). Versions of it have appeared in different literatures going back to Thomas Paine in 1795, with recent proposals including the distribution of oil revenues in Iraq. But two developments make its more general application of particular current relevance. First, resource nationalism and resource ownership rose in importance amid the dramatic rise in resource prices up to mid-2008. Second, the first Millennium Development Goal, adopted by the United Nations in 2000, is to halve global poverty at the \$1-a-day line from its 1990 level by 2015.² I estimate the global impact of the policy on poverty and find that if enough poor countries were to adopt the RD then it would be sufficient to achieve the first Millennium Development Goal: extreme global poverty would be cut by half.

While I estimate its global impact, the RD is a national, not international policy, and in recent years versions have been proposed for Iraq (Palley 2003, Birdsall and Subramanian 2004), Nigeria (Sala-í-Martín and Subramanian 2003), and Bolivia (Durán et al. 2007). Sandbu (2006) discusses the scheme in more general terms. These authors cite the possible advantages of the policy in the context of substantial resource wealth, where direct distribution of revenues may help to alleviate the resource curse. In addition to this argument I discuss potential advantages for all countries, including those with modest resource wealth. First, as already mentioned, it would substantially reduce poverty. Second, by being levied only on rents, the scheme implies

² The “\$1” global poverty line was in fact \$1.08 in 1993 PPP international dollars. Using data from the 2005 International Comparison Program this has been updated to \$1.25 in 2005 PPP international dollars (Chen and Ravallion 2008). When I refer to the \$1-a-day poverty line I will be referring to this line of \$1.25 at 2005 prices.

none of the economic distortions or efficiency loss that other redistributive schemes may risk. Third, it provides an incentive to informal workers and individuals with little or no formal interaction with the state to register with the fiscal system. Finally, there is a moral and legal argument that by the nature of rents, no individual has a special claim to them, so the only morally defensible distribution is an equal distribution.

The distribution of resource rents is always and everywhere a political decision, not an economic outcome. Unlike the value of most output, there is no one to whom they “naturally” accrue. Put another way, in other sectors taxes and transfers act on a pre-intervention distribution, but there *is* no pre-intervention distribution of resource rents. In practice most countries have assigned ownership of resources to the government, making the government the recipient of resource rents. This political decision is followed by political decisions regarding expenditures of these rents, which have a direct distributional impact. It is less obvious but equally important that if resource rents substitute for other taxation then individuals benefit according to how their actual tax bill compares with the counterfactual situation of the absence of the resource. Thus the elimination of taxation of the private sector, as in some resource-rich countries, should not be mistaken for a distribution-neutral tax policy. The RD is therefore no more political a policy than any other distribution of resource rents.

The policy may appear radical, and its global implementation would indeed have a dramatic effect. But as a redistributive policy it is relatively modest in magnitude compared with existing policies in Europe. I show that cash benefits in the EU15 comprise 6.6 percent of GDP, while resource rents comprise under 6 percent of GDP in most countries, including those that account for most of the global poverty reduction under the Resource Dividend.

The calculations presented here engage with broader debates on poverty reduction. The finding that the RD can halve global poverty challenges the widespread view that efforts to reduce poverty must focus exclusively on aggregate growth. Versions of this view are to be found in Dollar and Kraay (2002) and Collier (2007), in addition to much of the popular press. I do not dispute the view that growth is important and can reduce poverty, but my findings demonstrate

that even a moderate and non-distortionary redistributive scheme can have a major impact on poverty, independently of aggregate growth.

This is important for two reasons. First, the scheme therefore offers hope to those countries that have struggled to grow. While many countries have found growth to be an “elusive quest” (Easterly 2001) and face a variety of traps and challenges to growth (Collier 2007), the RD is in principle a simple policy choice. Second, it also offers hope to those countries in which growth has had little or no impact on poverty. For instance, in India, according to the World Bank (Chen and Ravallion 2008), there were 421 million people living below the international \$1-a-day poverty line in 1981, and 456 million in 2005 – over one-third of the global total – despite per capita incomes in India growing by 135 percent over the period.³ Given population growth, this represents a decline in the poverty headcount from 60 to 42 percent, but the failure of growth to reach 450 million people has to be of great concern. For these poor people growth has not been the solution to poverty, and additional measures are required. I find that the RD in India would reduce poverty from 42 to 20 percent, a dramatic drop despite India’s relatively modest natural resource base.

I do not ask whether the RD is the optimal way to spend resource revenues. Van der Ploeg and Venables (2008) estimate the optimal spending of a windfall when citizens are credit-constrained and the interest rate is increasing in the amount of foreign debt. While I do not consider alternative ways of spending resource revenues, the poverty-reduction benefits described here set a threshold for other policies in the sense that other expenditures can be optimal only if they improve social welfare by more than the Resource Dividend. The RD itself would be expected to raise social welfare as long as the social welfare function is concave in individual incomes, or poverty reduction is valued as a goal in itself.

³ There is some debate on levels of poverty in India (see Deaton and Kozel, 2005). Using a different poverty line, Sundaram and Tendulkar (forthcoming) estimate the number of poor to stay constant over 1983 to 1993/94, but to decline from 287 million to 274 million over 1993/1994 to 1999/2000 (the data collection procedure changes in 1993/94 making the estimates for 1983 and 1999/2000 not directly comparable). A decline this modest would not undermine the proposition that growth has had an unacceptably small impact on poverty.

The RD also has a convenient “automatic stabilizer” property. High natural resource prices tend to coincide with high food prices, partly through the increased cost of inputs. High food prices tend to increase extreme poverty, and in mid-2008 the World Bank (2008a, b) estimated that increased food prices could undo seven years of poverty reduction, pushing another 100 million people into “deeper poverty”. But the fact that food prices rise with natural resource prices implies that the magnitude of the RD is likely to rise with food prices, and that the RD would therefore be greatest when most needed.

In the next section I briefly discuss the history of the idea and in the process make the philosophical and moral argument for the scheme. Section three presents the data and results. Section four discusses the feasibility of the policy and how it might be administered, and a range of practical arguments for and against it. Section five concludes.

2. On The Idea of the Resource Dividend

The idea that natural resources belong to all the citizens of a nation, and that no individual or privileged group of individuals should have the exclusive right to enjoy rents from natural resources, has a long pedigree. An early and important contribution to the debate is Thomas Paine’s pamphlet *Agrarian Justice*, written in 1795 and frequently cited today by advocates of a basic income (e.g. van Parijs 2004). Paine started from the premise that “the earth, in its natural, cultivated state was, and ever would have continued to be, *the common property of the human race*. In that state every man would have been born to property” (emphasis in original). Paine argues that the institution of private property, while leading to massive increases in the productivity of land, at the same time “has dispossessed more than half the inhabitants of every nation of their natural inheritance, without providing for them, as ought to have been done, an indemnification for that loss.” He accepts that land owners should enjoy the benefits of the investments they have made in productivity improvements, but argues that they owe a *ground rent* on the land to indemnify non-land owners for their loss of the use of the land. But in contrast to the prevailing fate of resource revenues today, his conclusion is not that the government should receive this rent. Instead, he argued that the ground rent paid by land owners be used to

fund a payment of a lump sum to every individual when they reach age 21, and an annual pension for everyone from the age of 50, in recognition of their loss of property.

The idea that natural resources belong to all citizens of a nation has been behind the battles for nationalisation of oil and gas resources in numerous countries and, more widely, the fact that in almost all countries' national governments own subsoil resources (Mommer 2002).⁴ It is also codified in numerous international human rights treaties (Wenar 2007, p. 14). Both the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social, and Cultural Rights state in their Article 1 that "All peoples may, for their own ends, freely dispose of their natural wealth and resources." Of 192 UN members, 151 have adopted at least one of these treaties. The African Charter on Human and Peoples' Rights and the (US-approved) Iraqi constitution of 2005 also include comparable articles assigning ownership of natural resources to "the people".

The special nature of rents also leads to both an ethical argument and an efficiency argument for the Resource Dividend. Rents are, by definition, the value of output that remains after factor inputs have been paid their market price. This implies that no individual has a special moral claim to them, since those who helped to produce the rents have already been paid their market rate. It is therefore plausible that the only fair distribution of resource rents is an equal distribution between all owners of the resource. But the nature of rents also implies an efficiency argument: taxing rents has no impact on behaviour, and is therefore non-distortionary, unlike most forms of taxation. Taxing rents is therefore an efficient means of raising revenue.

The first proposal I have come across for a scheme like the RD for oil revenues was made by the Financial Times journalists Samuel Brittan and Barry Riley (1978, 1980), responding to the discovery of British North Sea oil. They wrote, "The simplest and also the wisest answer to the question 'What should we do with the state's oil revenues?' is 'Give them to the people'" (1980, p. 1). Brittan and Riley's proposal, which they called the *people's stake*, was to offer each British

⁴ The only major exception is the USA, where subsoil resources on private land belong to the landowner. Even in the USA, subsoil resources on federal land and offshore belong to the federal government.

citizen an equal share in oil revenues. The rights to this share in the income stream would be transferable, and therefore capitalisable on the stock market.

The RD considered here differs from Brittan and Riley's *people's stake* in that the rights to the revenue stream are not saleable, and they end when a person dies. While one would presumably be able to borrow on the strength of the revenue stream, its termination at death ensures that future generations receive a share as long as the revenues last. It is thus a basic income, an unconditional regular cash transfer, funded by resource revenues. The policy has been proposed for Nigeria by Sala-i-Martin and Subramanian (2003) and for Iraq by Birdsall and Subramanian (2004), while a scheme to distribute one-third of gas revenues has been proposed for Bolivia by a group of Bolivian economists and policymakers (Durán et al. 2007). The closest existing scheme is Alaska's Permanent Fund Dividend. The Permanent Fund receives at least 25 percent of all revenues received by the state government from mineral extraction in Alaska, and a dividend from this fund is given to all those who have resided in the state for at least one calendar year. The dividend is calculated as half of the Fund's income averaged over five years, divided by the number of eligible recipients. In most years it has lain between \$600 and \$1,500.⁵ I have not found any research that relates the Dividend to poverty rates in the state, but in 2007 Alaska had the joint second lowest poverty rate (with Hawaii) of all the states of the USA, behind only New Hampshire, despite having only the 19th highest per capita personal income.⁶

A related, but far more radical, idea is Pogge's (2001) *Global Resource Dividend* (GRD). Under the GRD a small (and unspecified) share of the value of natural resources *globally* is taxed in order to fund a targeted program of redistribution towards the global poor. The idea behind the scheme is that "those who make more extensive use of our planet's [limited natural] resources should compensate those who, involuntarily, use very little" (p. 66). In contrast, the RD that I consider here is strictly a national policy, although the hope is that many countries would adopt

⁵ Alaska Permanent Fund website, "The Permanent Fund Dividend":

<http://www.apfc.org/home/Content/alaska/dividendPrgrm.cfm>.

⁶ Poverty data from US Census Bureau, "Poverty 2007" [www.census.gov/hhes/www/poverty/poverty07/state.html].

State personal income from Bureau of Economic Analysis, State Annual Personal Income

[www.bea.gov/regional/spi/].

it. Compared with the present scheme, Pogge's GRD has three drawbacks. First, since it is intended to target the poor, it would face enormous administrative challenges in determining who the poor are. Later I discuss the relative merits of universal and targeted transfers. Second, it would require international coordination, which is also administratively very difficult. Third, and perhaps most importantly, it faces the political challenge of persuading countries to give up ownership rights of the natural resources on their territory, which rights, as we have seen, are enshrined in numerous international human rights treaties.

There is no conflict between the view that natural resources belong to all citizens of a country and the view that private actors who realise the value of natural resources, through exploration, extraction and processing, should be paid for their efforts. It is therefore not the *revenues* from the natural resources that properly accrue to all citizens, but the *rents*, defined as revenues less the competitive price of inputs required to realise that value. In the data I use below on resource rents the cost of extraction and a normal return to capital employed are subtracted from total revenues. As I discuss later, different forms of taxes, bonuses, concession fees, royalties, equity shares and other mechanisms for splitting revenues are possible.

3. Data and Results

3.1 The Data

Calculating the effect of the RD requires two types of data: for each country one needs estimates of the value of resource rents, and the distribution of income. The World Bank provides estimates of resource rents as a share of GDP up to 2006, covering 15 different natural resources,⁷ where rents are calculated as price minus average extraction cost, times the quantity extracted (Bolt, Matete and Clemens, 2002).

Data on distributions of per capita household income or consumption are from the World Bank's Povcalnet website; for convenience I shall refer to both income and consumption distributions as

⁷ Data downloaded from the World Bank's *Adjusted Net Saving* website [<http://go.worldbank.org/3AWKN2ZOY0>]. The resources are natural gas, hard coal, lignite, oil, forestry, bauxite, copper, gold, iron ore, lead, nickel, phosphate, silver, tin and zinc.

income distributions.⁸ This website provides distributional data for 115 developing countries, based on income groups derived from household surveys.⁹ The website uses the software program Povcal¹⁰ which estimates Lorenz curves using the Generalized Quadratic (GQ) method and the Beta method (Datt, 1998); when both estimates are valid, it chooses the curve with the better fit. For countries with fewer than 50 million inhabitants I use the income deciles reported by the website. For the 17 countries with populations greater than 50 million I use the estimated Lorenz curve to divide the population into 1000 income groups.¹¹ The largest income groups in the overall distribution therefore contain under 5 million people, or less than one thousandth of the total population of 5.18 billion of my sample of countries. These comprise 96 percent of the population of all low- and middle-income countries in 2005.

I use the World Bank's "\$1-a-day" poverty line, which is Purchasing Power Parity (PPP) \$1.25 at 2005 PPP prices, or PPP\$38 per month (Chen and Ravallion 2008).¹² Chen and Ravallion estimate that 25.2 percent of the population of the developing world lives below this poverty line in 2005. The data I use from Povcalnet are based on the same sources as Chen and Ravallion, but while Chen and Ravallion are able to use unit record data, the Povcalnet data are based on coarser aggregations of income groups. On the basis of the Povcalnet data I find that 25.6 percent of the population are below the poverty line, suggesting that the relative coarseness of the data makes only a small difference in the aggregate.

⁸ <http://iresearch.worldbank.org/PovcalNet/jsp/index.jsp>, downloaded December 2008. The mixing of distributions produces unavoidable non-comparability; see Anand and Segal (2008) for discussion of this and other problems in global distributional data, and Anand, Segal and Stiglitz (forthcoming) for their application to global poverty measurement.

⁹ The website states that it covers 116 countries, but the list contains only 115.

¹⁰ Povcal was written by Shaohua Chen, Gaurav Datt, and Martin Ravallion. It can be downloaded from <http://go.worldbank.org/YMRH2NT5V0>.

¹¹ The 17 countries are Bangladesh, Brazil, Democratic Republic of the Congo, China, Egypt, Ethiopia, India, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, Russian Federation, Thailand, Turkey, Vietnam. China, India and Indonesia are further divided into rural and urban areas. Following Chen and Ravallion (2008b), I use different PPPs for rural and urban households, calculated on the basis of price differences implicit in domestic rural and urban poverty lines.

¹² Chen and Ravallion (2008b) choose this poverty line because it is "the mean of the national poverty lines for the poorest 15 countries in terms of consumption per capita" (p. 5), at 2005 PPP\$.

Incomes in the poverty data are benchmarked to 2005, but estimates of resource rents go up to 2006. Following the Alaska Permanent Dividend Fund, I calculate the RD on the basis of average rents over a five-year period, and I use the most recent rents data by taking the average share of rents in GDP over the period 2002–2006. Since incomes are for 2005, I multiply this share by per capita GDP in 2005 (at 2005 PPP\$) to calculate the Resource Dividend. The median value of the 2002–2006 average for all 115 countries is 1.6 percent. Of the 115 countries in my dataset, 81 have non-zero resource rents, and their median rents share is 5.1 percent of GDP.

What is the effect of using incomes in 2005, while the rent-share of GDP goes up to 2006? Commodity prices rose over the period, and since resource rents are positively correlated with commodity prices, the RD would be smaller if it were calculated over the period 2001–2005. However, if we are interested in the potential impact of the RD today and in the near future, the more recent rent share is closer to likely current values. Writing in mid 2009, commodity prices remain historically very high even in the midst of a major global slowdown. The IMF commodity price index in US\$ peaked at 203 in the second quarter of 2008, falling to 118 in the fourth quarter of 2008. But even after this fall it remained double its 2001 level of 58. The five-year average for 2002–2006 is 85, far lower than the much-reduced level at the end of 2008. This suggests that it will be a better approximation to the value the RD would take today and in the near future than the 2001–2005 average;¹³ indeed, it suggests that reduction in poverty that I estimate will have a significant downward bias compared to the impact the RD would have today.

3.2 Calculations

I perform two exercises in addition to estimating current poverty. First, I simply add the RD to everyone's income and count the number of people falling below the poverty line.¹⁴ As I discuss below, however, if a government is already taxing resource rents then the expectation will be that

¹³ This is equally true if one uses the IMF's commodity price index in terms of IMF Special Drawing Rights rather than US\$, although the precise numbers differ.

¹⁴ I envisage the Resource Dividend being paid only to adults, so dividing resource rents among all people including children is equivalent to assuming that on average the poor have the same household composition as the non-poor. To the extent that poor households have a lower adult to child ratio, the impact on poverty will be overestimated.

other taxes will be raised to compensate for the lost resource revenues. The first calculation therefore assumes that all extra taxes are levied on those who were above the poverty line before the policy was implemented. Since the very poorest rarely pay any taxes this is not an entirely unreasonable assumption. But as a robustness test I also perform a calculation where each person is assumed to pay taxes proportional to their post-RD incomes, at a rate equal to the share of rents in GDP.¹⁵ So if rents are 4 percent of GDP and this implies a RD of PPP\$10 per month, then in this second calculation I add PPP\$10 to each person's income and subtract 4 percent from the total. The global and regional results are presented in Table 1, and kernel density estimates of the three global (developing country) distributions are in Figure 1.¹⁶

I estimate that 1327 million people, or 25.6 percent of the population of the developing world, live below the extreme poverty line. Assuming that the poor do not pay taxes, the RD cuts the number by 55 percent to 600 million, or 11.6 percent of the population. If the poor pay tax proportional to income as described above, the number is 741 million or 14.3 percent, a drop of 44 percent. Thus depending on the assumption, the RD cuts poverty by between 44 and 55 percent. The World Bank (Chen and Ravallion 2008) estimate global poverty in 1990 at 1813 million, or 41.6 percent of the population; thus either assumption implies immediately achieving the first Millennium Development Goal of halving poverty from its 1990 level (either in numbers or as a share), and indeed may halve poverty from its much lower 2005 level.

The reduction in poverty is dramatic. Nine countries reduce poverty by more than 10 million people with the Resource Dividend.¹⁷ Of these, five have resource rents comprising less than 6 percent of GDP. These five – Brazil, China, India, Pakistan and South Africa – account for 54 percent of the total population of all developing countries and 67 percent of the poverty

¹⁵ The two calculations may equally be interpreted as assuming the government does not recoup the revenue loss, where in the first calculation the poor do not suffer any loss of government benefits (in cash or kind) and in the second calculation the loss of government benefits is distributed proportionally to income.

¹⁶ The second peak in the global distribution with the RD is due to Iran and Russia, with RDs of respectively PPP\$311 and PPP\$319.

¹⁷ Brazil, China, India, Indonesia, Nigeria, Pakistan, South Africa, Uzbekistan and Vietnam.

reduction due to the Resource Dividend. Poverty reduction due to the RD is therefore not primarily due to resource-rich countries.

That such a large reduction in poverty can be produced by redistributing a relatively modest share of GDP may seem surprising. However, it should not be. Consider the impact of social spending in the European Union (including benefits such as child benefit and unemployment insurance that do not have poverty reduction as a specific aim). At national poverty lines, 16 percent of the population of the EU15 were living in poverty in 2003. In the absence of social payments other than pensions (which can be considered intertemporal rather than interpersonal transfers), it would have been 25 percent; also taking out pensions, it would have been 39 percent (Guio 2005, p. 4). Cash benefits excluding pensions in these countries comprised 6.6 percent of GDP,¹⁸ slightly higher than the cost of the RD in the five countries that account for two-thirds of the poverty decline. In terms of relative size, therefore, for most countries there is nothing particularly radical about the RD as a redistributive policy.

Table 1 and Figure 2 also show poverty by region. Among the three regions with the most poor, the proportional impact of the RD is largest in East Asia and the Pacific, next in South Asia, and smallest in Sub-Saharan Africa. It does not, however, change the ordering of the numbers of poor in these regions. South Asia remains the region with the largest number of poor, Sub-Saharan Africa that with the largest proportion. Table 2 provides country-specific estimates for seven large countries that contain large numbers of poor people. While the impact of the RD is large in most of these countries, resource rents per capita in Bangladesh are too small to have a substantial effect. Figures 3 to 5 provide kernel density estimates of the three countries with the largest numbers of poor – China, India and Nigeria – which I now discuss in more detail.

¹⁸ According to European Commission (2008), in the EU15 in 2005 total means-tested cash benefits were €40,635m and non means-tested cash benefits €1,680,355m (p. 24). Old age payments (pensions) were €1,138,041m (p. 62). GDP was €10,326b (p. 142) so total cash payments comprised 17.6 percent of GDP, while non-old age cash payments comprised 6.6 percent of GDP.

3.3 India, China and Nigeria

Figure 3 shows the income distributions for India. From the point of view of reducing global poverty, India is the single most important country in the world. It contains the largest number of poor people – I estimate it at 455 million, or 34 percent of the world's total – and, according to Chen and Ravallion (2008), the number of poor people in 2005 was slightly higher than their earliest estimate in 1981. This is all the more surprising given that per capita incomes in India grew by 135 percent over the period.

India is not a resource-rich country. The World Bank estimates that resource rents comprised an average of 4.2 percent of GDP over the period 2002–06, due mainly to oil, coal, gas, and iron ore, in descending order. This amounts to a RD of only US\$2.6 per person per month. Yet even at this very modest level, I find that the RD reduces poverty by 51 percent, from 41.6 percent of the population to 20.4 percent. If the poor pay increased tax, poverty drops by 41 percent to 24.4 percent of the population. The dramatic impact of the RD despite its very low US\$ value is due to its much greater value in real terms when spent in India, where US\$2.6 is equivalent to PPP\$10 in rural areas and PPP\$6.6 in urban areas. Thus this modest redistributive measure would achieve far more in terms of poverty reduction than 24 years of rapid growth.

Figure 4 shows the income distributions in China, the most populous country in the world and the country with the second largest number of poor. Rents are dominated by oil, with modest amounts of coal and gas, and in all they comprise 5.2 percent of GDP. Like India, China is not a resource-rich country. Yet whether the poor pay increased taxes or not, the RD virtually eliminates poverty in China, which I estimate at 16.2 percent in 2005.

Figure 5 shows the income distributions for Nigeria. Rents comprise 51 percent of GDP because Nigeria is both a large oil producer and a very poor country, with a poverty rate of 64 percent. These rents amount to PPP\$49 per person per month, which is more than enough to eliminate extreme poverty. However, when I simulate the RD being recouped by the government in tax, this implies a 51 percent tax. In practice, it is not plausible that the Nigerian government either could or should take such a large share of GDP in tax. Reliable data on the value of Nigerian oil output, and the quantity and composition of actual government expenditure, are not available, so

one cannot be sure how much of this estimated 51 percent rents is currently going to the government, or how it is spending it. But if Nigeria were to implement the RD and to raise some quantity of taxes from the economy, one would expect it to raise less than 51 percent of GDP. I calculate that if the tax were no more than 30 percent of income, then the RD with tax would also result in the elimination of extreme poverty. In this case the RD with tax would result in a global poverty rate of 13.0 percent, or a reduction of 49.4 percent.

4. Discussion

We have seen that the RD can have a large impact on poverty, and in Section 2 I referred to legal, philosophical and efficiency-based arguments for the policy. But while these points indicated the attractiveness of the RD in the abstract, its implementation would involve a number of challenges, to which I now turn. Ross (2007) expresses scepticism regarding “direct distribution” proposals such as the RD, stating that (p. 243–4) “a direct distribution plan would work only if it were managed in ways that are uncharacteristic of most oil-rich developing country governments: with strict adherence to the law, intertemporal stability, and immunity from political and rent-seeking pressures.” Contrary to this view, I argue that the policy would be feasible, and moreover would itself help to overcome the difficulties highlighted by Ross.

4.1 Administrative feasibility and weak government

The most obvious doubt regarding the RD is its feasibility. Implementing the policy would involve both collecting resource rents, and distributing them. I envisage the two processes being managed by an independent government agency whose sole purpose is to collect rents and disburse them to individuals, and I now briefly discuss how such an agency could operate.

How are rents extracted from natural resources? Some resource-rich countries already have national oil or gas companies that manage exploration, extraction and processing. But in most cases these companies act with some form of partnership with foreign companies, which provide technology, management capacity, and risk sharing. The extraction of resource rents thus involves some form of taxation of these companies. The standard way to ensure that companies do not keep rents is through an open and competitive bidding process (see Winer and Roule,

2003, p. 166 for a discussion). If the process is fully competitive then taxes, bonuses, concession fees, royalties, equity shares and other mechanisms will ensure that rents remain with the owner of the resource, i.e. the state. While in many cases bidding processes are not fully competitive, in practice most international oil and mining companies make no more than normal profits, suggesting that in most cases countries are successful in retaining risk-adjusted rents.

There are, of course, cases where developing country governments lack the capacity to set up such a process and to bargain effectively with large international companies. Countries with very weak governments may therefore require external assistance, but these are in the minority.

The disbursement of the Dividend is potentially more challenging. Many developing countries lack administrative capacity across much of their territory; these “Swiss-cheese states” have little or no legal or bureaucratic presence in certain areas (the holes in the cheese). O’Donnell (1993, p. 1359) cites examples in Latin America including the highlands in Peru, Amazonia in Brazil, and parts of the centre and northwest of Argentina, where prevailing rules and institutions have little connection with the national government. UNDP (2007, p. 34) similarly argues that the Bolivian state has “holes” in which the state “negotiates legal authority with social, indigenous, local and regional organizations.”¹⁹

That the state is barely present in parts of a country’s territory might suggest that it would be difficult to distribute a universal cash benefit. But with recent technological advances the RD requires relatively little infrastructure. Many people in very poor countries use inexpensive cell phones to manage bank accounts, particularly for remittances from relatives abroad. As Ratha et al. (2007, p. 5) report in a World Bank study, “mobile banking and partnerships with cell phone companies can potentially extend remittance services to millions of people in remote, rural areas,” where they cite cases in the Philippines, Kenya, and India.

¹⁹ In the cases of Bolivia and Peru the division between the national state and the “holes” is associated with ethnic divisions, but this is less clear-cut in Brazil, and is certainly not the case in Argentina. Thus ethnic divisions may help to fragment the state, but they are not necessary.

With this technology it would be cheap and uncomplicated to give citizens bank accounts into which their Dividend could be deposited. Beyond this infrastructure, all that is required is a secure list of citizens, such as an electoral roll. Most countries, including many undemocratic countries, have such a roll. The administrative requirements of the RD are thus minimal.

Indeed, motivating the government to fill in the administrative holes in its territory in what are typically highly informal economies is a positive advantage of the RD. Moreover, individuals in the informal sector are often reluctant to join the formal sector because it would entail having to pay taxes. The RD provides a positive incentive to enter the fiscal system, extending the scope of the state and facilitating future reforms of the fiscal system more broadly.

The RD may also make a difference to the amount of leakage between the receipt of revenues and their being spent. Management by an independent agency would imply that resource revenues would be kept separate from government expenditure budgets. They would therefore not be subject to many of the usual mechanisms of corruption, such as over-bidding for government contracts. But more importantly, transparency implies that all citizens could see how much money is being taken in, and therefore how much money should be coming out, allowing them to hold the agency to account.

Here an experiment in Uganda gives reason for optimism.²⁰ The Ugandan government found that only 20 percent of the money that was being sent to primary schools, other than for teachers' salaries, was reaching the schools. They came up with a novel plan: when the government released money for schools it informed the local media and sent a poster to each school stating what it should receive. Three years on they found that 90 percent of the money was getting through. It appears that when people know what they are due, it is much harder for corrupt individuals to keep it from them. This is one argument for the current wave of transparency initiatives, including the Extractive Industries Transparency Initiative. The RD ties in with this

²⁰ The author heard this anecdote from Emmanuel Tumusiime-Mutebile, the Governor of the Bank of Uganda, in 2002; it is also described in Collier (2007, p. 150).

trend well: the quantity of the RD would be public knowledge, published in the popular press, and individuals would know if they were being short-changed.

A further challenge for resource revenues concerns their high volatility. For countries with large resource revenues this volatility often proves a challenge to rational expenditure policies, as expenditures planned during periods of high prices become difficult to reverse when prices and revenues fall. Revenue volatility is difficult to manage for both the public and private sectors, but Collier and Gunning (1996, 1999, 2000) argue that private agents (households and businesses) deal with price volatility better than governments. They find that private agents save out of windfalls as much as governments, while governments are prone to the additional risk of making very low-return investments, and committing themselves to unsustainable budgets that turn into problematic deficits. Allowing households to manage price volatility does not, of course, mean that the government can wash its hands of the affair: macroeconomic policy will still have to take account of the ebb and flow of resource revenues in the private sector, and the resulting tax receipts (for discussion see Collier and Gunning, 1999, pp. 37–42).

One potential difficulty for the RD must be acknowledged. The discussion has assumed that governments would be able to recoup lost resource revenues through other taxes. But raising taxes is difficult. Baunsgaard and Keen (2005) examine countries that have lost tax revenues by liberalising trade, and ask how much of the lost tax has been recouped through other sources of government revenue. They find that middle-income countries typically recoup 45–60 cents for each dollar of lost trade tax revenue, while low-income countries typically recoup no more than about 30 cents per dollar. This would be a challenge for a government that relied substantially on resource revenues. On the other hand, as we saw in the case of Nigeria, if resource rents comprise a very large share of GDP then the government probably should not be collecting tax revenues to the full value of the resource rents in any case.

4.2 Political feasibility

Even if the RD is administratively feasible, the question remains whether it is politically feasible. The scheme is a potentially significant redistribution, in the first instance from the government to individuals. If it is compensated by non-regressive tax increases then it effectively becomes a

transfer from those with income above the mean to those with income below the mean, which are necessarily in the majority (given non-zero initial inequality). If it is not compensated by tax increases then it is a transfer from whoever received the benefits of government spending to everyone else, and in most developing countries such benefits accrue disproportionately to those higher in the income distribution. The scheme will only fail to benefit a majority in the unlikely case that the majority are already benefiting from government expenditures by more than they would benefit from the RD, and the RD causes these expenditures to be cut. This is a reason to expect the policy to be politically popular.

Incumbent governments, on the other hand, are likely to be reluctant to give up an easy-to-collect source of revenue. It therefore seems likely that it could only be implemented in countries where the political system responds positively to popular demands. In a democracy, for instance, an opposition party may decide that losing resource revenues for the treasury is a price worth paying to win an election. But even most non-democratic governments depend on a substantial amount of popular support, and under some circumstances such a government may decide that such a popular measure may increase the chance of political survival. As a first cut, however, one would expect it to be more likely in a democracy than a non-democracy.

In resource-rich countries (discussed further below), the common sentiment of resource nationalism may increase the popularity of the RD, beyond the fact that the Dividend would be higher in such countries. Most oil exporters, for instance, have experienced difficult conflicts with foreign oil companies (and their home governments in rich countries) over control of oil reserves in the process of nationalisation, and their people thus feel a strong sense of ownership. The sentiment that it is “our” oil leads many oil-rich countries to subsidise petroleum products, and the withdrawal of such subsidies is often met with violent popular resistance. The RD, as a transparent form of distributing revenues to everyone, would satisfy this sense of entitlement.

Indeed, if it makes it politically easier for governments to withdraw inefficient and regressive fuel subsidies then this would be a further argument in favour of the Resource Dividend.²¹

On the other hand, in some cases resource-rich countries experience conflict between resource-producing regions and other regions. In Bolivia, for example, the wealthier eastern Departments of the country, where gas production is concentrated, have been demanding greater independence. The driving force behind these demands is probably the desire for a larger share of gas revenues, but the political argument is made in terms of “autonomy”. If the RD were an option on the table it would be more difficult politically to argue that “autonomy” should involve retaining a larger share of gas revenues, because it would become transparent that it meant that individuals in these Departments were demanding higher per capita rents than individuals in the rest of the country. Producing regions might, of course, demand compensation for environmental or other damage caused by resource extraction. But any such payments should properly be viewed as costs of production, to be paid along with other costs before rents are collected and divided among the population.

4.3 The Resource Dividend and the Resource Curse

The present proposal is not intended solely for countries with large resource sectors, but it is of obvious applicability to those countries. Moreover, the RD may help such countries by eliminating some of the mechanisms behind the “resource curse” (Palley 2003, Sala-i-Martin and Subramanian 2003, Birdsall and Subramanian 2004, Sandbu 2006). The “resource curse” is the finding that a large natural resource sector is associated with poor rates of growth (e.g. Sachs and Warner 1995, 1997, Sala-i-Martin and Subramanian 2003).²² There are two dominant explanations for this poor growth, one economic in the traditional sense, and the other “institutional”. According to the first, resource wealth causes “Dutch disease”: exports of natural

²¹ In Bolivia, for instance, Requena et al. (2004, p. vi) write that “the elimination of hydrocarbons subsidies is one of the policies that has met with the fiercest opposition from society and is therefore avoided by the government, in view of the repercussions this may have on the population and productive sectors.” Coady et al. (2006) show that fuel subsidies are typically regressive; they and Bacon and Kojima (2006) discuss the politics of removing fuel subsidies more generally.

²² Stijns (2005) finds that there is no statistical association between measures of *reserves* of mineral resources and slow growth in the 1970s and 1980s, but this does not contradict the Sachs and Warner finding that high levels of production or export of natural resources are, on average, bad for growth.

resources crowd out the production of other tradable goods, including manufactures, by raising the real exchange rate and making non-resource tradables uncompetitive. If the manufacturing sector has a higher rate of growth than the resource sector, owing to learning-by-doing, positive spillovers, and so on, then deindustrialisation will imply a lower rate of aggregate growth (van Wijnbergen 1984, Sachs and Warner 1995, 1997). The RD does not bear on this part of the resource curse and I say no more about it here.

The institutional explanation for the resource curse is that resource wealth often leads to poorly developed government institutions (Karl 1997). Resource-rich governments may be rich, but they typically have weak control over the economy and society. The reason, Karl argues, is that the ease of extracting revenues from the natural resource implies that governments do not need to do the hard work of creating bureaucracies, administrative capacity, and systems of conflict resolution that are required to collect taxes from the non-resource economy.²³ This follows the historical argument of Tilly (1975) that state formation in Europe was driven by the need to raise taxes, itself due to the need to fund their frequent wars.²⁴ Resource-rich countries are thus likely to be extreme cases of the Swiss-cheese state discussed above.

In addition, the lack of taxation helps to sustain non-democratic and rent-seeking governments because untaxed citizens are less likely to demand government accountability. This argument is often described as “No representation without taxation” (see Ross 2004a for discussion). The two elements combine in slowing economic development: with poor institutional capacity, governments are unable to provide the public goods required for development; without healthy accountability, they have little incentive to do so.

Wright and Czelusta (2004, 2007) also view the resource curse as a problem of institutions, but argue that “minerals themselves are not to blame for problems of rent-seeking and

²³ In particular, Karl argues that the problem arises when a country has a large natural resource sector during a period in which the state and its institutions are themselves developing. This occurred, she argues, in Venezuela, Algeria, Iran, and Nigeria, while Indonesia suffered less from the resource curse because “neither modern state building nor regime formation completely coincided with oil’s domination of the economy” (Karl 1997, p. 208). She explains Norway’s success similarly.

²⁴ As Tilly (1990, p. 14) puts it, “state structure appeared chiefly as a by-product of rulers’ efforts to acquire the means of war”.

corruption. Instead, it is largely the manner in which policymakers and businesses *view* minerals that determines the outcome” (2004, p. 36, emphasis in original). Similarly, Mehlum, Moene and Torvik (2006) and Boschini, Pettersson and Roine (2007) argue that the effect of natural resources depends on existing institutions: natural resources in the context of “grabber-friendly,” i.e. rent-seeker-friendly, institutions lower growth, while natural resources in the context of “producer-friendly” institutions do not. For these authors, the problem is an interaction between pre-existing institutions and natural resources. This view is different from, but not inconsistent with, Karl’s (1997) argument that natural resource dependence is itself likely to make the institutions worse. In support of Karl’s view, Sachs and Warner (1997, p. 23) find that “resource abundant countries have poorer scores on a variety of measures of institutional quality.”

Thus three aspects of the institutional resource curse arise out of the literature: weak institutional capacity, weak accountability, and rent seeking and corruption. By withdrawing resource revenues from the government and thereby requiring it to tax households and businesses, the RD could ameliorate the first two. The requirement to collect taxes would provide an incentive to develop institutional capacity, and taxed citizens would be more likely to hold the government to account. Regarding rent seeking, I argued above that a transparent and independent institution of the state could be less open to corruption than existing arrangements. The simple fact that income is not focused on any single recipient (e.g. the government) will at least reduce the scope for corruption. Gelb et al. (1988, p. 17) write that “a large rent component in national income, if not rapidly and widely dispersed across the population, is liable to divert scarce entrepreneurial talent away from commodity production into ‘rent-seeking’ activities.” The RD is the most direct way to disperse rents rapidly and widely across the population.

Finally, resource abundance also appears to be associated with civil wars and other conflict, which in turn hinders development (see Ross, 2004b for a survey). Natural resources often fuel conflict by providing funding for civil wars. They also provide a strong incentive for violent coups: a coup leader faces the promise of great wealth as soon as he or she takes control of the government, and this prospect makes it easier to fund a coup in the first place. Collier and Hoeffler (2004) find a strong, though non-linear, association between natural resource exports

and civil war.²⁵ Under the RD, taking over the government would not automatically provide a coup leader with revenues. Revenues might be confiscated, but a population used to receiving a resource income might offer more resistance than a population used to seeing revenues absorbed anonymously into government budgets.

4.4 Targeted versus universal benefits

Substantial poverty reduction would be one of the advantages of the Resource Dividend. But if poverty reduction were the primary goal, then the obvious alternative to a universal and equal payment is a benefit targeted at the poor. Here I briefly describe the main issues and the practical arguments in favour of universal schemes, purely from the point of view of poverty reduction (for a fuller discussion focused on the experience of high-income countries see Atkinson 1995).

With a given quantity of money to distribute, holding all else equal, an accurately targeted scheme will have a greater impact on poverty than a universal scheme. But all else is not equal. Two types of error are usually considered in evaluations of benefits: errors of *exclusion* are the failure to reach intended beneficiaries; in errors of *inclusion*, unintended individuals receive the benefit. There is a trade-off between the two types of error, as more rigorous testing will in general reduce errors of inclusion and increase errors of exclusion. At two extremes, errors of inclusion can be maximally avoided by giving no one the benefit, while errors of exclusion can be maximally avoided by giving everyone the benefit, i.e. through a universal scheme.

The first argument in favour of universal schemes is that they minimise errors of exclusion. Cornia and Stewart (1993) survey benefit schemes in nine developing countries and find that targeted schemes such as food stamps have significantly higher errors of exclusion than universal schemes such as general food subsidies. Lindert, Skoufias and Shapiro (2006) find that in 2002 in Latin America's four largest countries – Argentina, Brazil, Colombia and Mexico – social assistance programs reached less than half of the poorest 20 percent. Soares et al. (2007) analyse the two highly regarded conditional cash transfer schemes in Brazil and Mexico, respectively

²⁵ Collier and Hoeffler (2004, p. 567) explain the non-linearity of the relationship by suggesting that governments in countries with an extremely large natural resource sector, with exports above 33 percent of GDP, may be so well financed that rebellion is infeasible.

Bolsa Familia and *Oportunidades*, in 2004. They find that both are highly progressive with the poorest 20 percent receiving nearly 60 percent of the total benefits, but both suffer from large errors of exclusion: in Brazil only 41 percent, and in Mexico 30 percent, of poor households were reached by the relevant program. Ravallion (2007) analyses the impact of a targeted cash transfer scheme, called *Di Bao*, across 35 cities in China. He finds that “the cities of China that are better at targeting this program are generally not the ones where the scheme came closest to attaining its objective” of poverty reduction. Perhaps most surprisingly, he finds that better targeting is not associated with cost effectiveness in reducing poverty.

The RD, in contrast, can be expected to reach a far higher proportion of the poor, along with the non-poor. Moreover, while the RD makes no attempt at targeting the poor, it is nonetheless more progressive than many other transfers in developing countries. Coady et al. (2004) find that in 21 of the 85 programs they analyse from developing countries around the world, the poor receive less than their population share of the benefit (e.g. the poorest 20 percent of people receive less than 20 percent of the total benefits). This is to be expected, for instance, of price subsidies for any goods that the rich buy more of than the poor (that is, most goods).²⁶ While a universal unconditional benefit like the RD is less progressive than a well-targeted conditional program, it is evidently better focused on poverty than these schemes.

Second, universal benefits have lower administrative costs for the simple reason that no bureaucracy is needed to establish whether any conditions have been met. However, in practice the costs of conditional schemes may still be low. In *Bolsa Familia*, for instance, administrative costs comprise only 2.6 percent of the program budget. But the trade-off of low administrative costs is higher errors of inclusion, and in *Bolsa Familia* about 20 percent of recipient families are not in the poorest quarter of the distribution (Lindert et al. 2007, p. 47).

²⁶ Coady et al. (2004) describe such benefits as regressive, but they may in fact be progressive in the usual relative sense that the poor receive more *relative to their incomes* than the rich, even if in absolute terms they receive less per capita. However, some common subsidies are regressive even in the stronger relative sense: e.g. gasoline subsidies, often described as being implemented for the benefit of the poor, benefit the rich more than the poor even in relative terms because the rich spend a higher *share* of income on gasoline than do the poor (Coady et al., 2006).

Third, behavioural responses to benefits that are conditional on income levels imply high effective tax rates, leading to disincentives to increase incomes and thus creating a poverty trap (for discussion see Atkinson 1995, pp. 59–63). Unconditional benefits have an income effect, but no substitution effect on the opportunity cost of leisure, and therefore would be expected to have less of an impact on work incentives (to which I return below).

Fourth, universal schemes typically enjoy more political support than targeted schemes and are therefore more likely both to be successful, and to survive. As Titmuss (1968, p. 134, quoted in Jackson and Segal, 2003, p. 43) argued some decades ago in Britain, “services for poor people have always tended to be poor quality services.” Cornia and Stewart (1993, p. 473) find that “mostly, it seems that the switch [from general to targeted subsidies] also leads to reduced real value of the subsidy over time (as in Zambia, Sri Lanka). Less strong political support for the targeted schemes probably accounts for this.” In Sri Lanka a universal food subsidy was replaced by targeted subsidies in 1979, against strong political resistance. Yet once the change had been made, the government encountered much less resistance in reducing the value of the targeted scheme. In 1984 a report by the International Labour Office found that “people are more willing to contribute to a fund from which they derive benefits than to a fund going exclusively to the poor. The poor gain more from universal than from income-tested benefits” (International Labour Office 1984, cited by Atkinson 1995, p. 28). Similarly, Skocpol (1991, p. 263) argues that in the USA “the most successful measures – Civil War pensions and social security – have been those that ensured entitlements to broad categories of people.” Gelbach and Pritchett (2002) formalise this with a model of the government budget where the executive chooses a universal or a targeted scheme, subject to majority voting. In equilibrium the majority assign so little of the budget to a targeted scheme that the poor are better off under a universal scheme.

Fifth, conditional transfers are more open to corruption: providing an official with the right to decide whether or not someone satisfies a set of conditions provides that official with leverage with which to extract payments. Similarly, it increases the likelihood of clientelism, in which a benefit is given not for pecuniary gain but in return for political support.

The above does not imply that an unconditional universal benefit like the RD will indeed be the optimal benefit from the point of view of poverty reduction. But it does indicate that other types of benefits are not obviously more cost effective in terms of poverty reduction.

4.5 General equilibrium: economic effects on households and prices

We saw that unconditional benefits produce less of a disincentive to work than conditional benefits, as they do not have a substitution effect on the opportunity cost of leisure. But they still have an income effect: if you are richer, consumer theory predicts that you may choose to spend more on leisure, i.e. to work less. Could this be a problem?

Three points should be made about this argument. First, any behavioural response to an increase in income signals an increase in welfare or well-being. If people choose to work less then it is because it makes them better off. One needs a good reason to object to this choice. Second, if people work less then it will have only a *level* effect, potentially reducing GDP, but not a *growth* effect: there is no reason to think that reduced labour supply will reduce the savings rate, investment, technology adoption, or any other determinant of growth. Third, consumer theory predicts that the labour supply effect will be largest for those with the lowest opportunity cost of leisure – i.e., the least productive members of the workforce. The smaller the RD is relative to your wage, the less likely it is to reduce your desired work hours. Thus the effect on national product will be smaller than the effect on total hours of labour supplied.²⁷

While there may be a negative impact on labour supply, a rise in income for the poor and the credit constrained may increase their productivity. First, according to standard static efficiency wages arguments, workers who are undernourished are less productive. Second, the poor cannot make high-risk, high-reward investments for fear of falling below subsistence. Third, credit constraints can imply that even low-risk/high-reward investments such as schooling are impossible for the poor because they cannot afford not to send their children to work. Such arguments are developed in the literature on the relationship between growth and inequality, but

²⁷ Lindert (2004) makes the argument that the effect of high unemployment on European GDP is very low because it is typically the least productive who are unemployed.

it is the level of income of the poor and the credit constraints they face, rather than inequality per se, that lead to the inefficiencies (see Ravallion, 2003 for discussion).

Empirically, there is limited evidence. Skoufias and Maro (2006) find that *Oportunidades* in Mexico has had no significant impact on labour supply. Standing (2008) surveys cash transfer schemes in developing countries and argues that “far from breeding dependency and passivity, they foster independence and activity.” For instance, US government relief operation in Ethiopia in 2003 gave cash grants to households, and found that the grants

“presented a flexible assistance alternative that contributed to the rehabilitation of livelihoods. Cash grants also proved to be an important component in promoting linkages between relief and development, as a majority of beneficiaries invested a portion of their money in productive assets. In addition, the distribution of cash allowed individuals and communities to begin making a series of decisions, giving them the power to prioritize needs for their families and presenting them with a creative way to receive relief assistance with dignity.” (USAID 2004)

However, emergency relief and price shocks are both temporary windfalls that, according to standard consumption theory, one would expect to be saved. They give reason to be optimistic about the capacity of households to smooth volatile incomes (following Collier and Gunning 1999), but they do not tell us what to expect as a response to a permanent increase in income, such as that due to the permanent component of the RD.

Unfortunately there is no clear evidence on the effect of a permanent and unconditional benefit on labour supply because few such benefits exist (I have found no such research on the Alaska Permanent Fund Dividend). However, a study of the South African social security system, which provides pensions, child support, and other grants, found that:

“(1) Social grants provide potential labor market participants with the resources and economic security necessary to invest in high-risk/high-reward job search. (2) Living in a household receiving social grants is correlated with a higher success rate in finding employment. (3) Workers in households receiving social grants are better able to improve their productivity and as a result earn higher wage increases.” (Samson et al., 2004, p. 4)

Thus one cannot predict the effect of the RD on output with confidence. Static consumer theory predicts a decline in labour supply, but efficiency wage arguments and household investment models predict a rise in productivity; there is some empirical support for the latter.

Finally, in general equilibrium the RD would change relative prices because people at different income levels consume different goods in different proportions. Thus Engel's Law states that poorer people spend a higher share of their incomes on food than richer people, so a transfer of income from richer to poorer people will increase demand for food, and thereby raise its price. This could undo some of the poverty reduction of the Resource Dividend. In practice, however, this effect is likely to be very small: the total amount of income distributed under the RD in the global calculations amounts to 3.5 percent of global GDP. This 3.5 percent is distributed across both rich and poor people so, for example, the poorest 20 percent of the population of RD countries receive on average only 20 percent of the total RD. Thus the RD is likely to have only a very small impact on the composition of aggregate global demand.

4.6 Dependency on the state

One argument against the RD is that it may produce dependency on the state. If people receive a large share of their income directly from the state then this may reduce their autonomy, their liberty, and their ability to hold the state to account. But this intuitive argument rests on an equivocation. The state comprises different institutions, and by definition a citizen is dependent on the state in certain senses. Thus the judiciary and the monetary authority are both arms of the state, and it would be neither possible nor desirable for citizens to be independent of them.

However, both of these arms of state may themselves be independent of the executive and the legislature, and without this independence they may deliver very poor outcomes. Similarly, citizens should not be dependent in a way that reduces their ability to hold the government to account. This is the problem of clientelism: a politician who distributes public funds or employment to supporters makes it more difficult for citizens to hold him or her to account, as citizens who oppose the politician risk losing their livelihoods. Similarly, a one party state or political class might maintain undemocratic control of the population through their ability to reward obedience and punish opposition.

The RD does not create this type of political dependency. The institution that manages the RD should be independent of other arms of government, and its very simple remit would be difficult to manipulate. Moreover, the fact that the RD is unconditional and equally distributed removes the possibility of clientelism. Indeed, in discussions of the Republican view of the state among political theorists it has been argued that a *basic income* more generally, including the RD, can increase individual freedom and autonomy from the state (Petit 2007, Casassas 2007).

5. Conclusion

The intuitive idea that the patrimony of a country belongs to all citizens has a long history. In this paper I presented a version of this idea in which it is the *rents* due to natural resources to which all citizens have an equal claim, and this claim is satisfied by a universal, unconditional cash transfer that I called the *Resource Dividend*. The policy faces challenges in developing countries with low administrative capacity, but I argued that these challenges would not be insuperable in any but the very weakest states. Indeed, the RD would provide incentives to governments and individuals to reduce informality and could help to strengthen state capacity. Through this avenue it may also ameliorate the institutional causes of the resource curse, while it could reduce corruption by removing resource revenues from regular government budgets and by being a particularly easy policy to make transparent.

I also argued that the policy would be politically popular and would therefore have a reasonable chance of being adopted, particularly in democracies. While removing resource revenues from government budgets would not be in the interests of incumbent governments, opposition parties may decide that giving up direct control over resource revenues may be a price worth paying to achieve power.

The primary benefit of the Resource Dividend would be a dramatic reduction in poverty. If all developing countries adopted it, global poverty at the World Bank's PPP\$1-a-day poverty line would be cut by half. In India and China, the countries with the largest populations and the largest numbers of poor people, poverty would be respectively halved, and eliminated. While the impact of the Resource Dividend would be dramatic, for most countries it would comprise a

redistributive policy more modest, relative to GDP, than cash benefits currently paid in the European Union, which also play an important role in poverty reduction.

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Table 1: Global and regional poverty estimates

Region	Poverty, millions (%)					
	Current		With RD		With RD and tax	
World	1,327	(25.6%)	600	(11.6%)	741	(14.3%)
East Asia and the Pacific	307	(17%)	35	(2%)	48	(3%)
EAP without China	113	(22%)	29	(6%)	35	(7%)
Eastern Europe and Central Asia	20	(4%)	5	(1%)	6	(1%)
Latin American and the Caribbean	46	(9%)	9	(2%)	10	(2%)
Middle East and North Africa	10	(4%)	0	(0%)	0	(0%)
South Asia	579	(40%)	317	(22%)	369	(26%)
Sub-Saharan Africa	364	(53%)	233	(34%)	308	(45%)

Source: Author's calculations

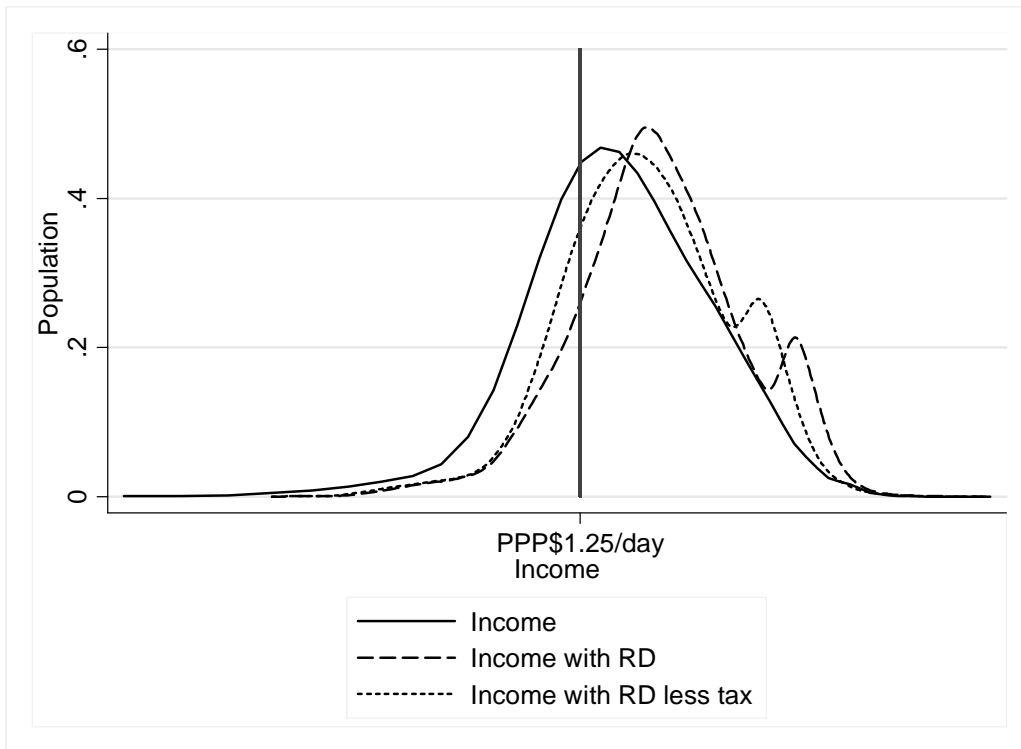
Table 2: Poverty estimates, selected countries

Country	Rents share of GDP 2002–06, %	Resource Dividend (monthly), 2005 prices		Poverty headcount PPP\$1.25 a day (PPP\$38 a month), millions (%)		
		PPP\$	US\$	Current	RD, no taxes	RD, with taxes
Bangladesh	3.2	PPP\$2.7	US\$1.1	70.4 (49.6%)	61.5 (43.4%)	65.7 (46.3%)
Brazil	4.6	PPP\$28.1	US\$18.1	14.5 (7.8%)	0 (0.0%)	0 (0.0%)
China	5.2	rural: PPP\$20.5 ^a urban: PPP\$15 ^a	US\$7.5	211.9 (16.2%)	10.7 (0.8%)	18.9 (1.4%)
India	4.2	rural: PPP\$10 ^a urban: PPP\$6.6 ^a	US\$2.6	455.4 (41.6%)	223.0 (20.4%)	266.6 (24.4%)
Indonesia	11.4	rural: PPP\$34.5 ^a urban: PPP\$24.5 ^a	US\$12.4	47.3 (21.5%)	0.1 (0.0%)	0.9 (0.4%)
Nigeria	50.9	PPP\$49.4	US\$29.1	91.1 (64.4%)	0 (0.0%)	68.6 (48.5%)
Pakistan	4.8	PPP\$8.1	US\$2.9	35.2 (22.6%)	13.7 (8.8%)	18.2 (11.7%)

^aRural and urban PPP\$ values for the RD differ because of price differences. Prices are generally lower in rural areas, so the real value of a given cash RD is higher.

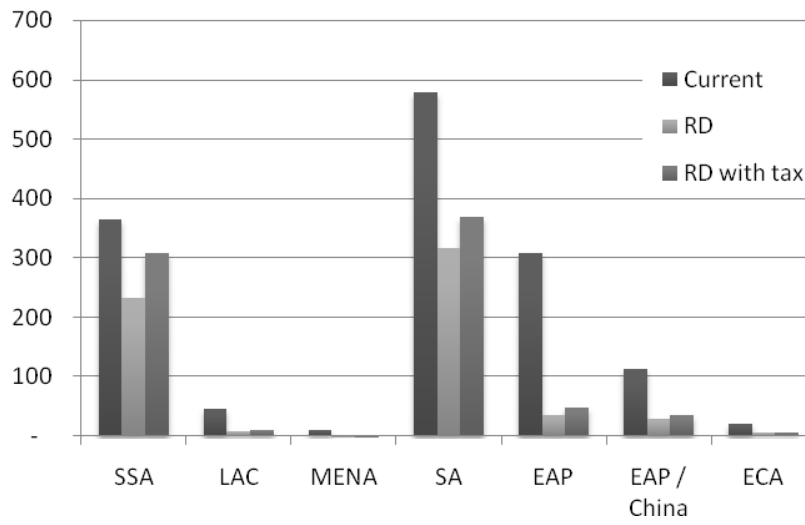
Source: Author's calculations.

Figure 1: Log income distributions for all developing countries



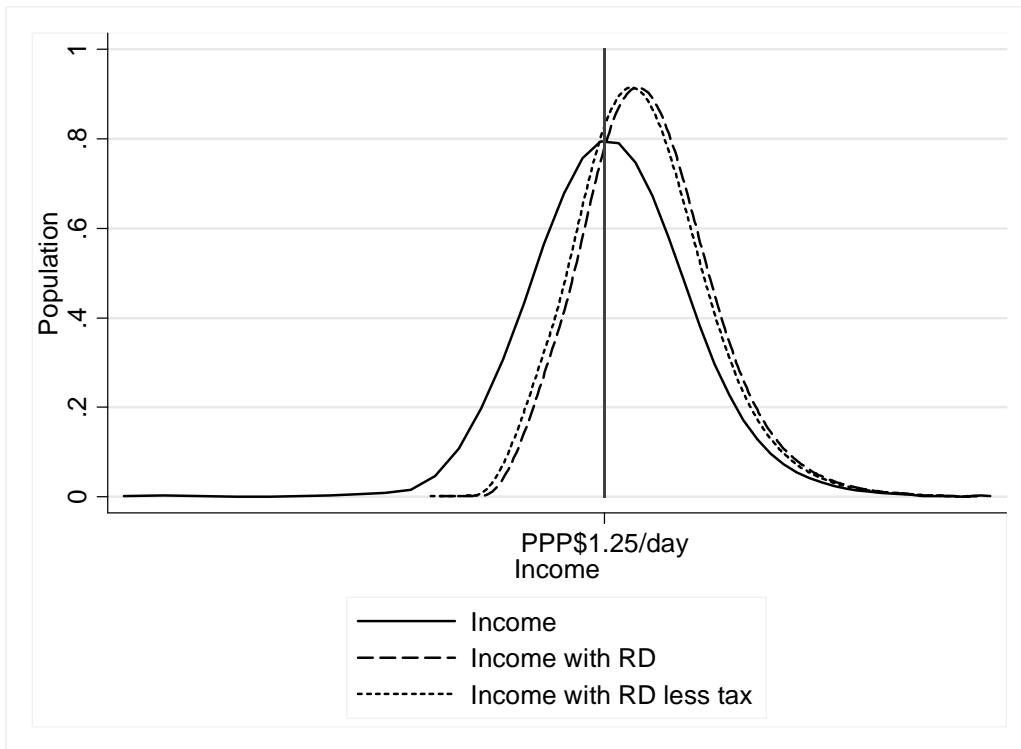
Note: Kernel density estimation using Epanechnikov kernel.

Figure 2: Regional breakdown of poverty at PPP\$1.25-a-day, millions of people



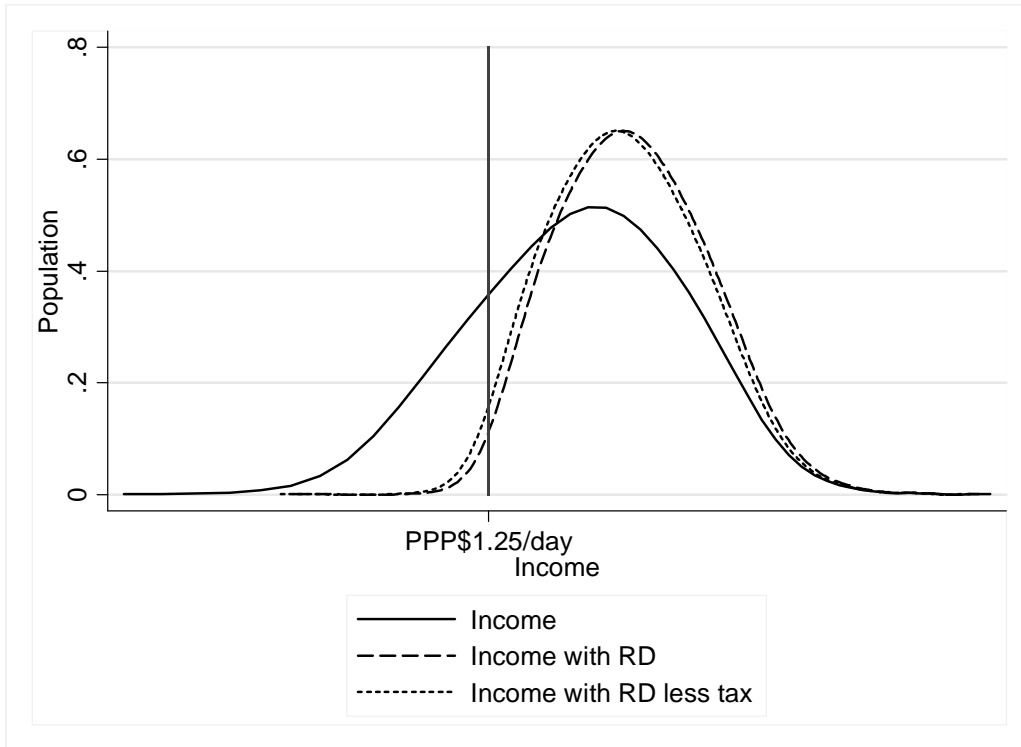
Source: Table 1.

Figure 3: India log income distributions



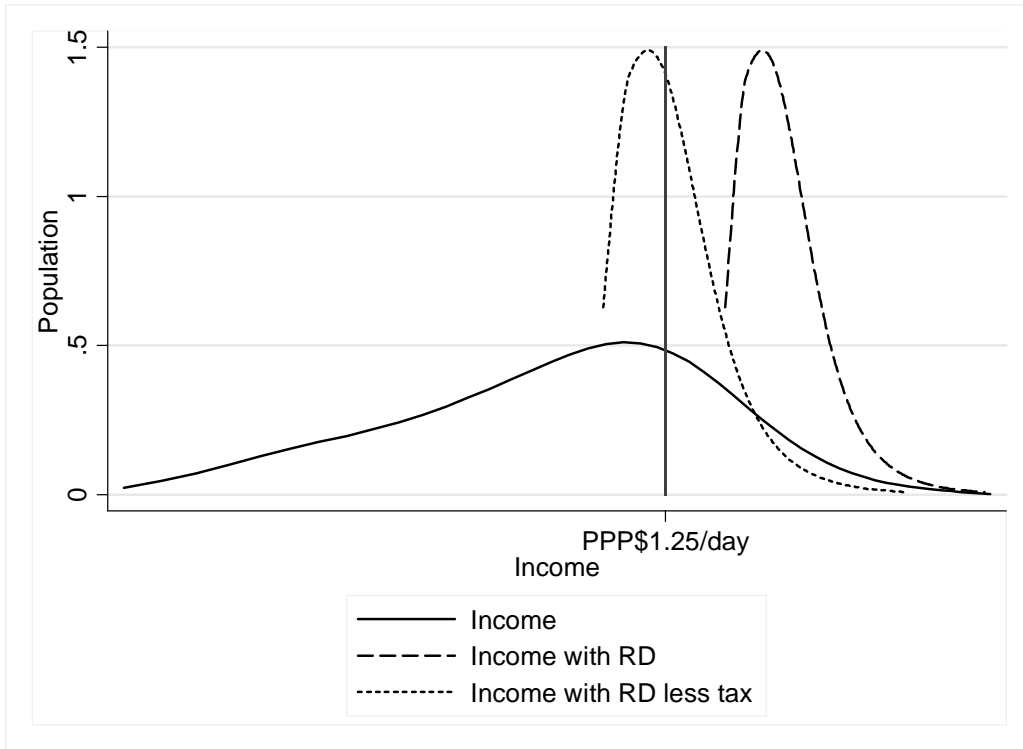
Note: Kernel density estimation using Epanechnikov kernel.

Figure 4: China log income distributions



Note: Kernel density estimation using Epanechnikov kernel.

Figure 5: Nigeria log income distributions



Note: Kernel density estimation using Epanechnikov kernel.