

Taxable Resource Revenue Distributions: A Proposal for Alleviating the Natural Resource Curse

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Countries with an abundance of natural resources have on average lower economic growth than resource-poor countries. They also have more poverty and more corrupt governing institutions. These negative outcomes in resource-rich countries are referred to as the the “curse of natural resources.” I propose a policy of *taxable resource revenue distributions* to individuals as a way of addressing the curse. Instead of resource rents being paid into the government treasury, they would be distributed equally to all individuals, and the government would then be allowed to tax them back. Letting the resource rents pass through the hands of the population would have two effects: an endowment effect and an information effect. The endowment effect would make individuals more willing to put pressure on the government to abide by principles of good governance, because they would feel the cost of waste and corruption as an out-of-pocket cost. The information effect would make them more aware of the magnitude of the revenue flows, and thus more knowledgeable about the government’s ability to improve their living conditions. Both of these effects could increase the pressure for good governance and encourage an institutional development conducive to economic growth.

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1. The “Paradox of Plenty”: A Curse in Need of Alleviation

Economists, historians, and political scientists have for centuries been fascinated by the “Paradox of Plenty”—the observation that the countries most richly endowed with the bounties of nature often do not see that abundance translate into prosperity and power, but suffer from stagnation if not outright decline. The classic case is that of Spain’s colonization of the New World, which brought the kingdom unheard-of quantities of gold and other precious metals that nevertheless did not long prevent the country from languishing in the political and economic backwaters of Europe. Indeed, many believe the decline happened not just in spite of, but because of immense wealth the Spanish extracted from America. In economic historian David Landes’ words:

“Ironically, the nations that had started it all, Spain and Portugal, ended up losers. Here lies one of the great themes of economic history and theory... [Spain’s] new wealth came in raw, as money to invest or spend. Spain chose to spend – on luxury and war... Spain spent all the more freely because its wealth was unexpected and unearned. *It is always easier to throw away windfall wealth...* Spain, in other words, became (or stayed) poor because it had too much money. The nations that did the work learned and kept good habits, while seeking new ways to do the job faster and better. The Spanish, on the other hand, indulged their penchant for status, leisure and enjoyment... By the time the great bullion inflow had ended in the mid-seventeenth century, the Spanish crown was deep in debt, with bankruptcies in 1557, 1575, and 1597. The country entered upon a long decline. Reading this story, one might draw a moral: Easy money is bad for you. It represents short-run gain that will be paid for in immediate distortions and later regrets.” (Landes 1999, p. 171-3)

After gold in Spain, the same paradox has accompanied many other commodity booms all over the world, from guano in Chile to phosphorus in Nauru, and of course oil in a range of countries. The failure of one natural resource exporter after another has given rise to the notion of a curse of natural resources. Recent academic research, which I review in section 2, convincingly demonstrates the negative relationship between natural resource dependence and economic growth, and provides evidence that the curse works by undermining the quality of a country’s governing institutions, thereby increasing the incidence of corruption and waste.

Much public and political attention is being paid to the natural resource curse at the moment, witness the large number of NGO reports that have recently been published on the subject (see *e.g.* Gary and Karl 2003). That attention is especially timely now that the Iraq war has put to the forefront the question of how to manage some of the world's greatest oil reserves, and now that new and inexperienced countries (such as the West African island state of Sao Tome and Principe) are entering the club of oil exporters.

This paper proposes a policy to lift the natural resource curse. It argues that resource-rich countries should implement a system of *taxable resource revenue distributions to individuals*, that is, a system in which the income from natural resource exploitation is given directly to citizens, before the government can tax it back. I describe the proposal in detail in section 3. The rationale for this roundabout flow of funds starts with the observation that government revenue raised through taxation does not have the same corrosive effects as rents which governments receive directly from natural resource exploitation. I argue that the psychology of human decision-making explains why this should be so: human beings are prone to care much more strongly about money that has passed through their hands (such as income taxes) than money that they simply never see (such as wasted or diverted natural resource rents). This *endowment effect* implies that the political pressures on the governments to manage public funds well are stronger when the source of those funds is taxation rather than resource rents. Taxable revenue distributions convert resource rents into tax revenues and thereby bring those stronger political pressures to bear also on the governments of resource-rich states. Moreover, the proposed system mimics the *informational effect* of taxation, by equipping the public with better understanding of the revenue stream from natural resources.

Section 4 discusses incentives that the endowment and information effects of taxable revenue distributions generate for the government, and argues that this will contribute to better management of natural resource revenues. Section 5 compares my proposal with proposals for direct distribution of oil revenues that have been made for Nigeria and Iraq. I there address the economic effects that might flow from either direct distribution or taxable distribution (provided the government in the latter system does not tax back the resource revenues in their entirety). Section 6 addresses objections to the proposal, and section 7 concludes.

2. The Curse of Natural Resources and Institutions

2.1. *Natural resources and economic performance*

As mentioned in the introduction, the notion of a curse of natural resources is not a new idea. The past decade, however, has seen a resurgence of empirical research on the subject, starting with an influential study by Sachs and Warner (1995) which showed that after controlling for other important factors, countries' rates of economic growth in the 1970 and 1980s were strongly and negatively affected by their natural resource dependence, measured as the share of primary commodities in exports. This result has since been reproduced by a series of studies (Leite and Weidmann 1999; Gylfason 2001; Gylfason 2001; Sala-i-Martin and Subramanian 2003). Gylfason (2001) shows that the same patterns hold if resource dependence is measured as the share of natural resource wealth (rather than exports) in total national wealth.

A study by Stijns (2001) claims that the Sachs-Warner regression results are not robust to replacing the primary share of exports by either the total stock of resource reserves or total production flows. It is not clear how significant this finding is for the presence of a resource curse. Stijns' analysis seems to measure reserves and production in absolute levels per capita, rather than in monetary value as a share of the GDP. He does not, therefore, capture the importance of resources relative to the size of the economy. Moreover, he does not control for the endowment of *other* resources, so he does not capture *relative* abundance, which is what matters for how the economy is affected.² The other studies use measures which reflect the countries' *dependence* on natural resources (rather than just their endowment), and they all find evidence of a "curse," manifest in slower economic growth, higher risk of violent conflict (Collier and Hoeffler 1998) and more severe poverty (Ross 2003). The estimates from the various regression studies cited above suggest that a one standard deviation increase in natural resource dependence as measured by Sachs and Warner is associated with an economic growth rate that is lower by one-half to one percentage point per year.

² Another difference between using measures of reserves and export dependence is that reserves capture future wealth potential, whereas many possible mechanisms through which a resource curse may operate depend on past, not future revenue flows. I thank Macartan Humphreys for this observation (personal communication).

2.2. The mechanics of the curse: Natural resources and governing institutions

The possible explanations of the natural resource curse largely fall into two classes: Economic factors and political or political economy factors. The economic phenomenon behind a negative growth effect of natural resource dependence is *Dutch disease*. Named after the negative effects on the Dutch manufacturing sector of Holland's natural gas revenues from the North Sea, is the contraction of other tradables sectors as a result of a boom in the natural resource sector. As natural resource revenues flow into the country, the real exchange rate appreciates, which increases the demand for services and other non-tradables, pushing up wages and making the (non-resources) tradables sectors less competitive vis-à-vis foreign imports. This *spending effect* can also be accompanied by a *resource allocation* effect, as the natural resource sucks in factors of production and bids up their rewards. The question is why this sectoral allocation of production factors should lead to lower growth in the long-run. The assumption made in much of the Dutch disease literature is that manufacturing has particularly high learning or externalities and therefore is a source of faster productivity growth (Krugman 1987; Matsuyama 1992). There is however little empirical evidence to prove that manufacturing is necessarily a more growth-producing sector than, say, the agriculture or natural resource sectors.³ A related problem of factor reallocation is that the dislocation in an economy which experiences rapid change can be very costly, and since fuel and mineral resources are exhaustible, there comes a time when the reverse reallocation has to happen. Unless the revenue flow is managed very prudently, this can cause much unnecessary pain in the adjustment process. Moreover, networks, supply chains and institutional memory can be lost when an industry contracts, and this will create large, perhaps prohibitive start-up costs in a later period.

As for political economy explanations, they centre around the interaction between the flow of rents from natural resource explanations and the quality of the institutional environment. The key idea in this class of explanation is that that easy money corrupts: Resource rents

³ Sachs and Warner attempt to estimate the Dutch disease effect by controlling for factors such as institutional quality and economic openness. They find that resource dependence is important even after such controls, and attribute this remaining effect to Dutch disease and a squeezed manufacturing sector. Their methodology, however, suffers from endogeneity problems. The paper by Sala-i-Martin and Subramanian, discussed below, uses a proper instrumental variable approach, and find no resource curse except through the effect of resource dependence on institutions.

remove the budget constraints on how those in power spend public funds, which encourages spending in wasteful but politically important projects, partly as a lack of resistance to pressure, partly to curry political favour and support. Terry Lynn Karl (1997) and Michael Ross (2001), to name two prominent students of the political economy of the resource curse, have shown how the availability of resource rents fuelled ever-increasing and unsustainable spending for patronage and political purposes in contexts as different as the Venezuela oil boom and the South East Asia timber boom.

These insights have led economists to model and test two kinds of hypotheses. First, that natural resources need not be a curse if institutions are good enough to discourage corruption and graft. Mehlum *et al.* (2002) present an elegant model in which the effect of resource abundance on growth depends on the quality of governing institutions. At low levels of resource abundance more resources help growth, but at sufficiently high levels, more resources hurt growth. As institutions become more “producer-friendly” and less “grabber-friendly” the threshold for a negative effect increases, so that natural resources are growth-enhancing for a wider range of abundance. To test the model they run Sachs and Warner’s regression enhanced with an interaction term between institutional quality and resource abundance. Their coefficient estimate implies that when institutions are sufficiently good, a larger share of primary commodities in exports is associated with *faster*, not slower growth. Røed-Larsen (2003) investigates whether Norway has suffered from a resource curse, and concludes that it has not (although he detects signs of a decline in the past few years).⁴ He attributes this success in part to the presence of strong governing institutions.

The second kind of hypothesis involves the effect of natural resource dependence on governing institutions *themselves*. The effect of resource rents on growth may depend on the strength of institutions, but the institutions may in turn depend on the existence of rents. The works of Karl and Ross cited above amply document how the increased magnitude of rents in the two resource booms led policy-makers to do what they could to dismantle institutional safeguards that would protect the rent. Ross calls this *rent capturing* – when rents are large, there are strong incentives to gain control over the process of allocating the rents,

⁴ Incidentally, the authors of the two cited papers which argue that resources need not be a curse are all Norwegian. That is perhaps fitting inasmuch as Norway is often cited as the example of a country that has managed to avoid it.

which can in turn produce incentives to weaken the institutional framework that regulates the use of public funds. Leite and Weidmann (1999) show in a model how a windfall gain can create this effect, and present econometric analyses suggesting that institutions are indeed negatively affected by natural resource dependence. Sala-i-Martin and Subramanian (2003) reproduce the Sachs and Warner results, and then include the share of primary commodities in exports in a first-stage regression so that resource dependence can affect economic growth in two ways: directly, or through its impact on institutions. They find a strong negative effect of natural resource dependence on institutional quality, but only in the case of fuel and mineral resources. Agricultural resources and land had little effect on institutions and direct effect on growth. Interestingly, the direct effect of natural resources on growth *disappears* when they are allowed to work through the institutional mechanism. Isham *et al.* (2002) get similar results. These large-sample econometric results lend strong support to the political scientists' observation that the nefarious effects of natural resource abundance works through a deteriorating effect on the governing institutions of the country, and not in the main through Dutch disease.

2.3. The role of taxes

Why, as Leite and Weidmann (1999) put it, does Mother Nature corrupt? What explains the finding that natural resource abundance reduces economic growth by undermining institutional quality and fostering corruption? A simple answer would simply be that the availability of natural resource revenues increases the incentives for the rent-seeking behaviour which rends the institutional fabric of a country. This, however, begs the question of why the same incentives do not occur in rich, but resource-poor countries. While important, the magnitude of resource revenues in many developing countries is not necessarily larger than the revenues rich-country governments control, even if they derive from other sources. The incentives for well-positioned individuals to seek control of these resources should be just as strong. One might reply to this that it is easier to divert natural resource rents than other government revenues, but once the resources are under government control, it is not clear why this would be the case. Finally, the share of the government in economic activity cannot explain the relationship. It is true that natural resource-rich countries often have bloated governments which control a large share of the economy, but this does not as a rule lead to worse institutions than the alternative. The

Scandinavian countries rank among the highest countries in the world in terms of both government share in GDP *and* transparency of government.

Instead, several scholars claim that the explanation must lie in the *source* of public revenues. For Terry Lynn Karl, “[w]hether states are predatory or developmental depends ... on the origins of their chief revenues” (Karl 1997). The characteristic factor of some natural resources, in particular fuel (oil and gas) and mineral resources, is that they are concentrated and almost always belong to the government. It follows that they generate high economic rents, which Sala-i-Martin and Subramanian (2003) claim “are regarded as manna from heaven which tends to corrupt institutions and lower the long-term growth prospects.”

If governments are indeed led to manage tax revenues better than non-tax revenues, a policy for addressing the resource curse suggests itself: Convert government revenue in resource-rich countries from natural resource rents into normal income taxes. The next section describes a system of taxable resource revenue distributions aiming at precisely that, and explains why such a transformation of government rents into tax revenues would have the desired effects.

3. Taxable Resource Revenue Distributions

The purpose of taxable distributions of natural resource revenues is to mimic a situation where economic income accrues to citizens and has to be taxed before the government has access to it. This can be achieved in the following way:

Instead of going straight into the government treasury, all of a country’s revenues from natural resource extraction are distributed to the population, then taxed at a rate determined by the government. The distribution is done by an independent agency—call it the Resource Revenue Distribution Agency (RRDA for short). The RRDA is charged with calculating the amount available for distribution in any given year. The aggregate amount includes current revenues net of any money transferred into savings or stabilization funds. The money to be distributed is kept in a separate government account controlled by the RRDA, not by the Ministry of Finance, which receives only the tax on the distributions.

At regular intervals, at least yearly but perhaps more often, the RRDA sends every eligible citizen a statement. The statement informs the recipient of the following quantities for the relevant time period:⁵

- The amount, in monetary per capita terms, of natural resource revenues for the country
- The magnitude, in monetary per capita terms, of the resource revenue distribution
- The difference between the above two amounts, being net transfers to any funds in monetary per capita terms
- The balance in the fund(s) and changes since the last period, in monetary per capita terms (this is the per capita accumulated and undistributed resource wealth of the country)
- The tax rate in percentage terms
- The amount, in monetary per capita terms, of the tax
- The remainder, i.e. the actual payout, in monetary per capita terms

Provided that the tax rate is less than 100%, the statement is accompanied by a cheque (or bank account transfer) from the RRDA account in the amount of the distribution net of the tax. The aggregate distribution tax is transferred from the RRDA account to the government's Treasury account for use in the budget.

The point of such a statement is to have the country's natural resource revenues be viewed as the income of individual citizens, just like other types of income. Like these other types of income, they can only finance government spending after being collected in the form of taxes. The regular statement both educates the citizenry of the magnitude and nature of resource revenues, and motivates them to understand the development of the industry and the relevant commodity markets, as well as how the government is spending the money it retains.

⁵ "Per capita" here refers to eligible individuals, not necessarily total population. The question of who should be eligible is described below.

Why would governments provide sounder management of resources that have “passed through the hands” of the population and taken the form of taxes, than of resources that come to the government as “manna from heaven”? A population is likely to pressure its government for better governance of tax revenues because of two effects that accompany the taxation of incomes: An *endowment effect* and an *information effect*.

The endowment effect is that people are more frustrated by losing money they feel they possess (that they perceive as part of their “endowment”) than by merely missing out on an opportunity for gain. The information effect is that people know better how much the government takes from them in taxes than how much they simply never receive from natural resource rents. These effects are absent or weaker in the case of natural resource rents that flow straight to the government. To the extent that the population’s grievances can at all be channelled into pressure on the government through political channels (not necessarily democratic ones), therefore, the existence of the two effects means that a government is more likely to be held to account for how it spends tax-based funds than revenues deriving from rents.

These two mechanisms provide an explanation both of why it is capital-intensive fuel and mineral resources extraction that seem to drive the curse (since these resources typically generate concentrated revenue flows straight into government treasuries, unlike land and agricultural resources), and of why the curse works through the deterioration of governing institutions (since they imply that the population exerts fewer pressures for good governance of money that is not raised through taxation). We now discuss each of effects in detail.

3.1. The endowment effect: The social psychology of taxation

Empirical and theoretical research over the past three decades has enormously increased our understanding of actual human decision-making and how it differs from the idealized models of neoclassical consumer theory. From the development of prospect theory by Daniel Kahneman and Amos Tversky in the 1970s, social psychologists and an increasing number of economists have uncovered patterns of behaviour that have prompted new theories of choice (see Kahneman and Tversky 2000). Three stylised facts about the decision-making of real people are relevant to the present topic:

- **Reference-dependence.** When evaluating monetary outcomes, people pay much more attention to *changes* in income levels than to those levels themselves (Kahneman and Tversky 1979; Tversky and Kahneman 1991). This could be due to the propensity of humans to adapt to the situation they find themselves in, or to have aspirations that are closely correlated with what they are used to (Kahneman and Thaler 1991; Kahneman 2000). The reference-dependence observed in choice behaviour has a parallel in self-reported happiness measures. A series of studies surveyed in Frey and Stützer (2002) suggest that incomes are judged relative to aspiration levels. Since aspiration levels tend to track actual incomes (as you get richer, the level of wealth that you inspire to increases as well), most longitudinal studies fail to find any effect of income on happiness over time. Another manifestation of reference-dependence is that most people have different attitudes to risk in the domain of losses than in the domain of gains. People tend to be risk-averse over gains—they will typically prefer \$3000 for sure to an 80% chance of winning \$4000 (and a 20% chance of receiving nothing). Yet they tend to be risk-loving in the domain of losses, as most people will prefer an 80% chance of losing \$4000 (and a 20% chance of losing nothing) to a certain loss of \$3000 (Kahneman and Tversky 1979).
- **Loss aversion.** If the first stylised fact of human decision-making is that people based their choices on changes more than on levels, the second is about *how* they evaluate changes from a reference point. In general, “losses loom larger than gains” when people make decisions. A loss of a certain size is more hurtful than a gain of the same size is beneficial, in terms of psychological satisfaction. Loss aversion applies even in choice situations where there is complete certainty. It implies that when people choose between two options that differ on several dimensions, the dimensions along which both options involve a loss relative to the reference point will be more important than the dimensions which constitute advantages. This is borne out by observed behaviour. For example, Tversky and Kahneman (1991) asked subjects in a study to choose between two jobs. Job *x* was described as involving “limited contact with others” and a 20-minute daily commuting time. Job *y*, on the other hand, was “moderately sociable” but had a longer 60-minute commute.

The subjects were also told what their present job was. When it was described as being “isolated for long stretches” but only taking 10 minutes to get to, 70% chose job x (with the smaller increase in commuting time). When it was instead described as involving “much pleasant social interaction and 80 minutes of daily commuting time,” on the other hand, only 33% chose job x (which now had the larger reduction in contact with others). Clearly, losses loom larger than gains.

- **Framing.** The third relevant phenomenon is that the reference points on which people base their decisions are extremely labile and susceptible to manipulation by framing. This means that the same outcome can be framed as a gain (if the frame involves a reference point that is worse) or as a loss (if the frame involves a reference point that is better). In a classic example (Tversky and Kahneman 1981), study subjects were asked to imagine “that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows: If Program A is adopted, 200 people will be saved. If Program B is adopted, there is one-third probability that 600 people will be saved and a two-thirds probability that no people will be saved.” When the subjects were asked which of the two programs they would favour, 72% chose program A. In a different group, the researchers changed the description to: “If Program A is adopted, 400 people will die. If program B is adopted, there is a one-third probability that nobody will die and a two-thirds probability that 600 people will die.” In this case, 78% of the subjects preferred program B! This astonishing reversal occurs even though the number of people who die from the disease is the same in both descriptions. Whether a change is framed as a loss (people dying) or a gain (people saved) makes all the difference.

These three phenomena go a long way to account for why tax revenue is different from natural resource rents. As a general matter, they imply that people feel differently about out-of-pocket losses and foregone gains. Put differently, they create an *endowment effect*:

Possession increases valuation. Studies have found that people are generally only willing to sell something they perceive as “theirs” at a much higher price than they would be willing to

pay to make it theirs in the first place — even when the object has only been in their possession for an instant.

This endowment effect is likely also to occur with earned income. Tax payments are generally perceived as a cost that people have to pay out of their earnings, and so people have an incentive to hold the government accountable for how it spends “their” money. As an anecdotal example, people often express annoyance at the sales tax added to the ticketed or menu price when paying for an item or a meal in the United States than they do at the VAT included in the stated prices in Europe, even though the latter is typically much higher than the former.

Natural resource wealth that is wasted, however, is more likely to be perceived as a foregone gain, since it has never passed through the hands of the population and therefore has never been “earned.” The endowment effect, however irrational it may be, implies that the motivation to hold the government accountable is less strong in the case of natural resource revenue than in the case of taxes.

Goldsmith (2002) provides an illustration of the endowment effect from Alaska, where a portion of oil revenues are paid out as a dividend to each Alaska resident on a yearly basis. The endowment effect would mean that once people come to see this money as theirs, they will be very unwilling to give it up, and thus a policy of direct distribution is politically irreversible. Apparently this is precisely what has happened: “Any politician who even suggests considering a policy that might adversely impact the size of the annual distribution had best look for another career.”

The goal of taxable distributions, then, is to change the “frame” with which the citizens view their and their governments’ money, by creating an endowment effect in the revenues from natural resources. By letting the revenue flow pass through the hands of the population before the government can access it through taxation, we may expect citizens to force discipline on the government as they do in the case of other (income) taxes. This prediction of course relies on an endowment effect actually being created by distributing the natural resource revenues even when they are immediately taxed back. While there are to my knowledge no studies of this specific phenomenon, the endowment effect has been convincingly demonstrated to be a powerful psychological mechanism in other contexts (Kahneman, Knetsch et al. 1991).

3.2. The informational effect of taxation

In addition to the psychological mechanism of the endowment effect, there is another likely reason why tax-financed governments exhibit better governance than ones relying on resource rents. Even if there is no difference in the population's motivation to monitor and restrain their government's use of public funds depending on whether those funds derived from taxes or government-owned resources, the capacity of citizens to exert pressure on their government varies with the amount of information available to them. If you do not know that you are being defrauded, the incentive to do something about it will not be effective. People know how much they pay in taxes—at least in income taxes—much better than they know the magnitude of government revenues from natural resource rents. Moreover, the former are usually known in magnitudes that are easily understood in terms of the ordinary citizen's everyday economic experience; whereas the aggregate government budget numbers are not as easily grasped by citizens without a certain degree of numeracy or economic knowledge.

An immediate benefit of a taxable distribution system would be citizens' improved understanding of the fiscal nature of an oil economy. A statement of per capita oil revenues and of the per capita balance of savings or stabilisation funds is much easier to grasp than the national budgets and accounts, or even newspaper articles reporting national economic figures in the aggregate. Over time, citizens will learn from their statements how fluctuation is inherent in oil revenue, which should increase support for stabilisation and saving.

This improved knowledge is also likely to create demand for more knowledge. When citizens accurately understand how much revenue the country has, and how much of that revenue is retained by the government, they are likely to want to know how the government share is spent. The magnitude of the distribution before taxes becomes a benchmark for the government's performance. If I know that I could have had \$500 per year, say, if the distribution was not taxed, then I will assess whether what the government provides is a sufficiently good use of that money that I would otherwise spend according to my own wishes.

A better understanding of the magnitude of oil revenues will also enable citizens to monitor whether the government is doing a good job of maximizing those revenues. Citizens have a strong incentive to pressure the government to counteract patronage and corruption in the

oil sector. Since such phenomena reduce the oil revenues netted by the public sector, they entail lower distribution amounts. Likewise, a government that sets out to reduce waste and corruption will have higher distribution levels to show for it, which voters can then reward at the polls. The effectiveness of the political process, in other words, is improved when it is easier for citizens to see the monetary effects of their government's doings.

4. Incentives for the government with taxable distributions

The case for taxable distribution of natural resource revenues rests on the hypothesis that governments behave differently when they raise money through taxation than when they receive it in the form of rents. This section outlines the mechanisms by which new incentives for good governance are generated by the endowment effect and the informational effect of the taxable distributions system

4.1. Incentives for transparency

Converting natural resource rents into tax revenue creates an obvious benchmark for government performance: do citizens think the government provides them with services that are worth the taxes they are giving up? Or would the money be better spent if it remained in private hands? If people care more about how their taxes are spent than how manna from heaven is spent, as the psychological evidence suggests, then a society where people are taxed is likely to generate more pressures for information about how the government manages public funds than a society where natural resource revenues removes the need for taxation. A taxable distribution system will therefore generate pressures for transparency of public financial management. Moreover, since the tax rate is adjustable, its level is likely to become a focus of political debate and electoral competition. This increased attention to how much the government is receiving in revenue from natural resources will also serve to highlight the ways in which that revenue is spent.

4.2. Incentives for governance

Ceteris paribus, a government that performs badly will be under more pressure to change its behaviour the more the population understands about its performance. This statement is not restricted to electoral democracies: most less-than-democratic societies retain some ways in which the population can exert political pressure on its leaders, other than through the ballot box. With transparency of government activity, therefore, come increased incentives for the

government to show that it is performing well. We can outline several mechanisms through which taxable distributions can increase incentives for good governance:

- When the population is aware how much the government is taking away from private pockets by taxing the revenue distributions, they will be more interested in knowing how that money is spent. This will create an incentive for the government to justify its spending, which makes waste and corruption more costly to the government, other things being equal. At the same time, rival contestants for government power will both have a stronger incentive and find it easier to expose government mismanagement, and to campaign on the basis of how it would spend the resource revenue distribution taxes better. This reinforces the incentive for the government to improve its performance in the eyes of the public.
- In addition to this natural attention to how the government spends the revenue distribution taxes, the tax rate itself will be a political question. The possibility that the tax rate could be lower immediately raises the question of why it needs to be what it is, and as a consequence, on what the government uses the money for. Again this increases the pressure on the government to show that it is using the money well.
- If citizens are dissatisfied with how the government uses the resource revenue distribution taxes, they will be more supportive of political leaders or movements that advocate a lower tax rate. The threat of popular support for a lower tax rate will make it more imperative for the government to cut waste and corruption or at least be seen to be doing so. If the population remains dissatisfied, an ultimate consequence can be sufficient political support for either a leadership change or a policy change that leads to a lower tax rate. This ultimate check on government misbehaviour, instead stopping the government from mismanaging its tax revenues, reduces the amount of tax revenues the government can possibly mismanage.

4.3. Sustainability of the system

A final set of incentives placed on the government by a system of taxable distributions concerns the reversibility of the system. To the extent that the tax rate is below 100%, and the population in fact retains a share of the natural resource rents, it will be politically very

difficult to reduce the amount they become accustomed to receiving. The quote from Goldsmith (2002) above shows that this has become the reality in Alaska.

Even if it is possible to increase the tax rate (as it is for ordinary taxes, although a tax-increasing government usually has to pay a political cost), or indeed even if the tax rate is 100%, it is difficult to see how a government could move from a high tax rate to scrapping the individual distribution system altogether. A population that has become accustomed to receiving regular statements of how much the government is taking in taxes on distributions that they perceive as their entitlement is not likely to accept suddenly being denied that information. Such a move could not possibly be seen as anything but the government's attempt at hiding what it wants to do with the citizens' money—which is of course likely to be exactly the case. There will be pressure, therefore, to retain the taxable distribution system, even with taxes up to 100%. As I argued above, the transparency and governance effects of taxable distributions have more to do with the framing of natural resource rents as the population's money than with how much of the rents the population actually retains. The political cost inherent in dismantling a distribution system even with a 100% tax rate, therefore, ensures that once in place, the system's predicted beneficial effects on transparency and governance will be durable and self-sustained.

5. Private control of natural resource revenues

5.1. Taxable versus untaxed distributions

At this point the question arises whether one should not distribute the resource rents to the population and leave them in their hands, rather than tax them back. If one believes the problem is that the government has too much revenue, then this would be the logical solution. This seems to be the view of Sala-i-Martin and Subramanian (2003), who seem to endorse full *actual* distribution in the Nigerian case:

“Of course one implication of our proposal would be that the government would lose revenue. In fact, if our proposal were to be implemented, the government would [lose] all the revenue that it now collects directly from the sales of oil.”

Similar views have been advanced in the case of Iraq (Palley 2003; Birdsall and Subramanian 2004). Unlike the taxable distributions proposal, these writers seem to endorse what is usually called “direct distribution.” This is a system where a share of natural resource

revenues is distributed to the population—without taxation—and where the remainder goes directly to the government, in contrast to the roundabout system I propose where the government can only access natural resource revenues by taxing the population. While the focus of taxable distribution is to create incentives for the government to spend resource rents wisely, the focus of direct distribution is to reduce the amount of resources rents that the government can spend at all.

The arguments advanced in this paper are conceptually independent from considerations as to what the tax rate should optimally be. They do imply, it is true, that even in economies where the entirety of the natural resource revenues finances public spending and investments (as might be the case in very poor countries), a taxable distribution system—with a tax rate of 100%—would have beneficial effects by encouraging better governance of the funds. The hypothesis is that a government which did impose a 100% tax rate would incur so much scrutiny and pressure from the population that it would steward the revenues much better than a government which received the same amount in the form of rent.

More generally, my arguments imply *whatever* the appropriate proportion x of natural resource rents that should be spent by the government, it is preferable to distribute everything and impose a tax rate of $x\%$, rather than just directly distributing $(100-x)\%$. In merely pecuniary terms, of course, a policy of distributing, say, 25% of natural resource revenues to the population⁶ is equivalent to a policy of distributing 100% combined with a tax on the distributions of 75%. There is, however, an important difference between partial untaxed distribution and full, but taxable, distribution. In a system where 25% is distributed tax-free to the population, the remaining 75% still accrues to the government in the form of natural resource rents, or “manna from heaven.” This money would presumably have the same corrupting effect on institutions as the 100% of resource rents, at least qualitatively, although it may give the government less money to waste. Distributing the entire resource rents but taxing the distributions at 75%, on the other hand, converts *all* the rents into tax revenues. If “manna from heaven” corrupts governing institutions, as the analysis of endowment and informational effects suggests, the taxable distribution policy is superior to the monetarily equivalent tax-free distribution policy.

⁶ Very roughly, this is the Alaskan policy. 25% is also the share of Iraq’s oil revenues which Palley proposes should be distributed directly to Iraqi citizens.

5.2. *Economic effects of actual distribution*

Apart from the psychological effects of framing resource revenues as taxes, there will of course be direct economic consequences of leaving resource rents in the hands of private individuals. This section surveys the potential economic effects that could be expected from taxable distributions with a tax rate below 100%. The following discussion, therefore, also applies to direct distribution systems without taxation, since the effect rely on the final pecuniary distribution of resources.

The most immediate consequence of putting resource rents in the hands of individuals is that they will be spent according to those individuals' preferences instead of how the government decides. If people are rational, this should be expected to lead to a better allocation of resources. People will presumably spend money on what they perceive as their greatest needs. Governments, on the other hand, have a bad record in financing “white elephants”—visionary, large-scale, but ultimately tremendously wasteful development projects. Even well-run government agencies may simply not have the necessary information to choose the projects that would most increase the welfare of its constituents, whereas decentralised individual decisions will take account of local and individual circumstances to apply the resources where they can do most good.

Misgivings are often heard about putting money in the hands of individuals. A frequent reaction is the belief that if people, especially poor people, are given money “for free,” they will waste it in an economically and socially harmful shopping spree.⁷ The few scientific studies that have been done on cash payments to poor individuals suggest the opposite. In Mexico's PROGRESA program, which pays poor mothers cash benefits for sending their children to school and to the health clinic, beneficiaries spend the money in part to buy

⁷ There is an abundance of anecdotes concerning such behaviour. *The Economist* magazine (4.12.2002), for example, recounts the following stories from Chad:

“EssoChad, a consortium led by ExxonMobil... paid \$4m to compensate those whose land had been spoiled for farming, including \$1,000 for every mango tree cut down. The farmers squandered their windfall. One celebrated by taking a bath in beer. Another left his mud hut and went to stay in a four-star hotel in the capital, Ndjamena, for a couple of weeks. Others took several more wives. Some invested wisely in windmills or cattle, but most lost the lot.”

There do not seem to exist thorough studies of the effect of such individual cash payments, however. The International Advisory Group for the Chad-Cameroon pipeline project only mentions this problem in one of their seven semi-annual reports since 2001, where they report that many people “expressed regret at the inability of certain recipients of cash compensations to properly manage their new income” (http://www.gic-iag.org/doc/IAG_Visit_Chad_June_2002.pdf).

more nutritional food, and the payments are not reducing the incentives to work (Skoufias and McClafferty 2001 p. 44). Admittedly, PROGRESA does not make unconditional payments, and one might perhaps think that people react differently to cash payments they were given completely “for free.” What this pessimism often does not take into account is that the alternative is to give the government money for free, and that what matters is not whether individuals would behave wastefully, but whether they would behave more wastefully than the government. On that the evidence is not rich, but what there is (Collier and Gunning 1999) suggests that if there is a difference, private agents are better than public ones at managing windfall gains prudently. Moreover, a well-run revenue distribution scheme would make regular payments over a long time period (even permanently, as in Alaska) rather than a few irregular lump-sum payments. Even if exuberance dominated prudence at the outset of the system, people would probably manage their resource revenue distributions as well as they manage other income once they became used to it.

Another consequence of resource revenue distributions would be a deepening of financial systems that in the case of developing countries are shallow to non-existent. Regular payments to all individuals would make it profitable to expand banking services to segments of the population that otherwise have no access to them and therefore no reliable way of accumulating financial savings.⁸ A more efficient financial system would deepen the credit market, especially as some recipients would choose to save part of their distributions. This would increase the availability of credit to others. The assurance of a regular minimum income through the distributions may also make it easier for the poor to access such credit, even if the distributions could not be legally collateralised. A final benefit of a formalised financial system extending to the entire population in developing countries is that it would facilitate the establishment of a more sophisticated tax system such as would be desirable in a post-oil future, or if the country achieves economic development. Terry Lynn Karl (1997) has argued that the bureaucratic apparatus that accompanies the construction of a universal income tax system explains why resource-poor countries, which are forced to build such systems, have more efficient governing institutions than *rentier* states which never go to the effort of developing an efficient bureaucracy and civil service.

⁸ According to the director of BISTP, the main commercial bank in Sao Tome and Principe, annual distributions of \$100 or more would make it worthwhile for BISTP to open bank accounts for every citizen. (Private communication, November 2003)

Parallel to the development of a financial system, universal revenue distributions would introduce cash transactions in areas where most economic activity was formerly based on barter and informal exchange. Remote rural areas of resource-rich developing countries could in this fashion be monetised almost overnight. A cash economy would significantly reduce transactions costs relative to a barter or gift exchange economy, and might therefore contribute to the growth of markets and faster economic development through the deeper division of labour it would enable.⁹ Needless to say, this process could be accompanied by profound social transformation.

Finally, the distributive effects of revenue distributions should not be underestimated. The more of the natural resource rents distributed to individuals on a per capita basis, the more egalitarian the income distribution of the country. Developing countries in general, and natural resource-rich countries in particular, are marred with highly unequal economies, and resource revenue distribution is arguably the simplest and most efficient way of remedying that problem that would also stand a chance of being politically acceptable.¹⁰

5.3. Outstanding questions

We finish this section by noting that there are certain decisions that have to be made for any natural resource revenue distribution system, whether taxable or tax-free. These include:

- **Who should be eligible for direct distribution?**

The moral principle underlying direct distribution policies is that natural resource wealth belongs equally to all the country's citizens. Thus a benchmark case is the Alaskan policy in which all those who are residents of Alaska in a given year are entitled to their share of the payout. In a sovereign country, the benchmark would presumably be all citizens. But one may consider several modifications:

⁹ These effects would depend on the cash payment being made regularly and permanently. A lump-sum cash payment in a less than fully monetised economy would be more likely to just create rampant inflation, such as has been observed after the individual compensation payouts in Chad.

¹⁰ In the 1990s income inequality fell considerably in Alaska, with the incomes of the poorest quintile increasing by 28% and those of the richest quintile by only 7%. This stands in marked contrast to the United States as a whole, where the corresponding income increases were 12% for the poorest and 26% for the richest quintile (Goldsmith, 2002). Of course the special experience of Alaska could have been caused by other factors than the Permanent Fund Dividends.

- One could decide to limit distribution to *resident* citizens. A side-benefit to such a system would be to give people an incentive to make sure they are on the electoral rolls. (One might also decide to make long-term foreign residents eligible, like some countries give them a limited right to vote.)
- One could also decide to limit the distribution to *adult* citizens. While Alaska pays its permanent fund dividends to children (or rather their parents or trustees) as well as adults, developing countries may not want to provide incentives to increase an already high fertility rate.

- **Should eligibility for the distribution be conditional upon certain activities?**

The rationale behind taxable distributions is that natural resource revenue should not be accessible by the government except by taxing the incomes of the population. It is therefore undesirable to let the government set too specific conditions on eligibility lest the distributions in essence become a subsidy for favoured activities. This would both return some “manna from heaven” to the government by reducing the necessity for budget appropriations for these subsidies, while at the same time undermining the unity and transparency of the general budget process. That said, one might think of simple conditions that could be attached to the individual distributions that could be useful, especially in developing countries. Such conditions could include: The acquisition of a birth certificate and participation in a national census; registration on the electoral rolls; school attendance of all the children in the household; and regular participation in health programs (*e.g.* annual health centre visits or participation in required immunisation drives). Mexico’s PROGRESA program is a case in point.

It is imperative, however, that these conditions be few in number, simple to fulfil, and sufficiently universal and desirable that the entire population can be reasonably expected to comply. Revenue distribution should not be made conditional on work projects or specific spending plans—this should be the role of microlending, credit, or social policy, and should be financed through the regular government budget.

- **How should direct distribution be combined with macroeconomic savings or stabilisation policies?**

The volatility of natural resource revenues (due to the volatility of prices as well the productive cycle of extractive industries) means that there are good macroeconomic reasons for smoothing or “sterilizing” the amount of natural resource revenue that is allowed to flow into the domestic economy in any one year. Intergenerational justice concerns also entail a necessity to save some of the windfall for future generations. There are many ways in which a direct distribution system could interact with the existence of such macroeconomic policies:

- If one judges that the challenges of stabilisation and saving are serious only as far as the government’s share of natural resource revenues, one may apply the distribution formula to the actual revenues in any one year, and then let the savings and stabilisation rules apply only to what accrues to the government. This option would be appropriate if one thinks citizens are better than the government at smoothing and saving windfall revenues.
 - Alternatively, one may let sterilisation and savings rules be applied first, and then partially distribute, or distribute and tax, the net natural resource revenues after the requisite transfers to the funds have been executed. In years where the fund is drawn down, of course, the amount distributed to the population should include the outflow from the fund in addition to current revenues from natural resource exploitation.
- **Fiscal Federalism and taxable distributions**
- Taxable resource revenue distributions suggest a novel way of solving common conflicts over the allocation of resource rents between central, regional and local level of governments. Instead of a constantly renegotiated formula for revenue sharing, such as one observes in Nigeria, one could leave it to each level of government to decide how much to tax the individual distributions of its constituents. This would of course require an upper cap on the tax rate that could be set by each level. Such a cap could be enshrined in the Constitution. If any level of government did not tax at its highest permissible rate, individual citizens would keep the remainder. Such a system would extend the benefits of harnessing the endowment and information effect to each level of government, and thereby

create incentives also for regional and local authorities to provide good governance of its constituents' interests.

6. Objections

In this section I address possible objections to taxable distributions as a partial solution to the natural resource curse. The first set of objections doubts the effectiveness of the policy, either because of scepticism that it will work, or because of the costs associated with it. The second set of objections highlights the negative effects of the mechanisms described in this paper, and the third expresses a worry that the policy may be a victim of its own success and that the very transparency it ensures may generate an even worse outcome.

6.1. It will not work

6.1.1. It will have no effect

The simplest objection to the claim that taxable natural resource revenue distributions may improve the quality of governance rests on a doubt that the endowment effect and informational consequences of taxable distributions are of any quantitative importance. This is unlikely given the massive accumulation of evidence of the endowment effect in other contexts. However, there is still little empirical research on the strength of these effects in the political psychology of taxation specifically, and any final conclusion must await further evidence.

I have offered these mechanisms as explanations of the empirical findings that the natural resource curse seems to work through the deleterious effect of resource dependence on the quality of governing institutions; if they are not significant, then they cannot explain that finding. We would then have to look for other account of why natural resource wealth breeds corruption and wealth, in order to find a solution for the curse. In the meantime, however, if the endowment effect is negligible, then taxable distributions should be no different from simply keeping resource rents in government coffers. In other words, while taxable distributions may not have the positive effects predicted above, they will also not cause much harm. If there is even a partial chance that they could have a beneficial effect on transparency government incentives, therefore, it would be worth trying them out. Even if we are not certain that the positive effects will materialize, a system of taxable resource revenue distributions is still a policy worth implementing.

6.1.2. It will be too costly

The argument in the previous section—that even if success is not certain, taxable distributions deserve a chance—is unconvincing if simply implementing the system would impose significant costs. Taxable distribution necessarily runs up against logistical challenges that are greater the less developed is the country’s infrastructure. The obstacles include: keeping track of all eligible individuals and avoiding fraudulent payouts; physically distributing the statements and the cheques; and ensuring that the cheques can actually be cashed even by poor, rural recipients in countries with very shallow financial infrastructures. These hindrances, however, should not be insuperable:

- Keeping track of individuals eligible for payouts is in principle no harder than keeping track of individuals eligible to vote. It is true that many countries do not do a particularly good job at this, but that is usually because of foul play by the government. Of course it will be difficult to implement any kind of administrative institution if the government is set on undermining it; my argument is that a government that really wants to put in place virtual direct distribution system will find that it can be done with some effort. As an example, Sao Tome and Principe has impressively thorough electoral rolls, and could easily use those as a basis for registering payout recipients. As for avoiding fraudulent payouts, one may again apply the same principles as for voting, and require that the same identification should be presented when cashing a distribution cheque as when casting one’s vote.
- The physical distribution of statements and cheques will provide logistical challenges in any country that does not have a well-functioning postal system. In many natural resource-rich countries, this is not a big problem. A country like Iraq, in the absence of security problems, should not find the task difficult. However, many countries with isolated rural populations, like natural resource exporters in Sub-Saharan Africa, do not have an infrastructure in place for postal distribution of cheques and statements. Yet even in most of those cases, except in cases of military conflict or natural disaster, it is not impossible to transport shipments into villages (consider food aid). The resource revenue distribution statements could for example be sent to the local village authority and be kept there for pickup by the recipients. The problem is not physical distance as much as the potential for corruption—that the

authority figure entrusted with local distribution may use it for his own advantage. Using cheques instead of cash would go some way towards remedying this problem. Furthermore, one could follow up with central inspection teams that would collect the signed receipts from the local authorities, be available for a certain amount of time to hear complaints, *et cetera*.

- A cheque may not be of much use in a village where there is no bank. Even cash distributions may not be easy to make use of in isolated rural areas with largely non-monetized autarkic economies. This, however, is not so much an obstacle to direct distribution as it is a challenge to make natural resource revenues be of benefit to such areas at all. Concentrating the benefits of natural resource wealth is hard to avoid without an increase in the degree of monetisation of the economy. Since large natural resource wealth must be spent on importing merchandise from other countries, the only alternative to monetised distribution is the actual distribution of goods by the government.

6.2. It will work too well

Alternatively, one may think that the endowment effect of taxable distributions would be too strong. As mentioned above, one way in which the endowment effect will create incentives for good governance is by making the government's share of natural resource revenues (the distribution tax rate) a matter of political debate and competition. This naturally plays to the advantage of populist politicians. Even a government that is spending public funds wisely may find it hard to compete against a populist who promises to let citizens keep more of the cash from natural resource revenue. Thus a country which is wealthy because of its natural resources may see its public treasury starved of funds and its government incapable of providing adequate public goods.

It should be noticed that this objection is diametrically opposed to the usual worry about natural resource-rich countries, which is that their public treasuries are too bloated for their own good, resulting in corrupt and wasteful institutions and policies. This objection is therefore somewhat surprising. Yet there is some anecdotal evidence that this kind of political dynamic has taken place in Alaska (Goldsmith 2002), where it is said that while government finds it very difficult to finance essential public projects, the dividend payments have come to be perceived as entitlements, and it is politically impossible to reduce them to

increase government revenue. In Alaska, however, the distributions are not taxable by the state government. So even though non-taxable distributions may be perceived as entitlement, a taxable distributions system would not necessarily undermine the acceptance of taxation to fund public goods. In that respect, taxes on revenue distributions would be like taxes on any other forms of incomes, which may not be liked, but which most citizenries seem to accept. There is no reason to think why the populist threat of low revenue distribution taxes should be any graver than the threat of populist tax-cutting in other countries.

There is another way in which taxable distributions could lead to insufficient funding for public expenditure. If the magnitude of the revenue distributions in any given year depends on the country's current oil earnings, then the amount available for distribution (and therefore the tax base) will shrink as the resource deposits are being exhausted. Even if the tax rate can be maintained high, a constant tax rate on dwindling distributions will lead to diminishing public funds. The irreversibility of the taxable distributions system, which we argued above ensured the system's sustainability, may make it difficult to increase the tax rate enough to keep public spending at an appropriate level, and in any case the natural resource revenues may not be large enough. This, however, is not a problem caused by taxable distributions, but by an irresponsible time path of resource revenue spending, public *and* private. Given the volatile and transitory nature of natural resource rents, these revenues should only be gradually injected into domestic economy. In the absence of urgent needs, a fund should be set up to ensure the stabilisation of resource revenues and to save parts of them for the future. Ideally natural resource deposits should be converted into a perennial financial resource, as has been done in the Alaska Permanent Fund. If the individual revenue distributions reflect only the real return on a savings fund, adjusted for population growth, both the distributions and the corresponding government tax rate will be sustainable.

6.3. It will work tragically well

A final objection that has been made in response to previous presentations of this work has been of an altogether more sinister nature. The argument for taxable distributions as a device to promote transparency and good governance assumes that the population possesses a modicum of political influence. That influence can fall far short of democratic elections, but there has to be some way in which the political leadership depends on popular support, so that it is minimally responsive to the grievances of the population. If this is not the case, and

if the population is both destitute and disenfranchised, then increased transparency and knowledge of the size of natural resource revenues may provoke violent reactions by people who are made aware of exactly how badly they have been treated by the government. This violence may escalate if the government tries to contain it, and an already dire situation will have been made worse by widespread knowledge of the magnitude of natural resource revenues.

I am not convinced that this pessimistic scenario should be considered a likely possibility. If it is, then of course it recriminates not only taxable revenue distributions, but transparency in general. If there are indeed places where transparency would create more harm than good, they are surely far outnumbered by countries where the opposite is true, and where more transparency would be a good thing. And ultimately, if there are régimes in which transparency, and taxable distributions, would have such tragic consequences, they are precisely the régimes which would be least likely to adopt them. In that sense, at least, we need not be too concerned with this objection.

7. Conclusions

The curse of natural resources has afflicted too many countries for too long. It is a tragedy each time we observe a country fully endowed with the bounties of Nature go down a path of corruption, conflict, and underdevelopment. Recent research unfortunately confirms that there is a real negative effect of natural resource abundance on institutional quality.

I argue that taxable resource revenue distributions could remedy this problem, even if the amount of final government revenue does not change. In such a system, the resource rents would be paid directly to the public on a per capita cash basis, and the government would then choose whether to tax some or all of it back. This paper has drawn on insights and evidence from social psychology and political science to argue that governments which raise revenues through taxation behave differently from governments financed by natural resource rents. Taxable distributions would create an endowment effect and an information affect, which would give the citizenry an incentive to hold its government to account, in turn encouraging institutional developments conducive to economic growth.

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