

BYPASSING GOVERNMENT:
OIL RELATED CONDITIONAL CASH TRANSFERS

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Paper prepared for Presentation at the XXIV Annual Meeting of the Società di Economia
Pubblica

Pavia 24 and 25 September 2012

Introduction

Replacing governments as beneficiaries of natural resources revenue (NRR) with citizens through the distribution of direct cash transfers to them is an increasing popular suggestion by experts, especially with reference to developing countries. A specific literature that started with Sala i Martin and Subramanian (2003) is emerging. Actual practice is still quite small and includes only three cases: Alaska, Italy and Bolivia. It could remain quite limited in the future in view of the likely opposition of governments and of many of their advisors. This is because, if largely implemented, direct cash transfers would reduce the role of governments as intermediaries in the use of natural resources. There are various arguments -both political and economic - in favor and against direct cash distribution. There are also various ways of distributing them.

The issue is worth exploring in view of the growing role of NRR in the economy of a large number of countries around the world and of the rising intensity of conflicts about their distribution. Think, for example of Sudan and Iraq in the developing world, of Brazil (huge *pre-sal* oil reserves) in the emerging world. Even industrial countries, included the European ones, may be affected, especially because environmental concerns are becoming more acute with the discovery, and the deriving pressures to start production, of more polluting NRR, such as shale gas and tar sands. This paper explores those issues and makes explicit reference to the Italian experience, where a small but not very well-engineered mechanism of allocation of NRR to adult individuals, more specifically drivers, has been recently introduced.

The paper is divided into parts. The first one is analytical and addresses the concept of rent, the legal basis for direct cash transfers and the arguments in favor and against their distribution. The second part is empirical. It addresses some technical issues concerning actual payment and selection of beneficiaries.

Part I

I. Concept of rent and implications for its allocation

NRR are more specifically rents. An economic rent is the return on a resource whose total supply is fixed. Rent is measured as the difference between the revenue derived from the sale of the resource and *all* the economic costs needed for its production. When total costs do not add up to the value of the production, an economic rent is generated and it accrues to the owner of the resource, unless the government uses its sovereign power to extract for itself all, or part, of the rent. Hence, a complete and accurate identification of all costs is needed.

Production means both exploration and exploitation activities and costs consist of remunerations to all production factors needed for the production. They include typically labor, material and non-material inputs and capital. The cost of capital includes also a premium for risk that in the case of mining and oil production can be substantially high, due to the uncertainties about the effective size of mines and oil fields, about trends in costs and, most of all, about fluctuations in the price of the commodities. Figure 1 lists the main categories of these costs.

Costs include also the use of the environment, hence the necessity of remunerating those, individuals or firms, that bear the cost. The way environmental policy is devised and implemented is crucial. When, as in most countries, the environmental policy is based on regulation - more precisely, through standards on maximum levels of allowed emissions - and it is actually implemented, the cost of complying with the regulation is borne by the producing firms and is accounted for in the remuneration they receive. Higher and

implemented standards imply higher production costs and, consequently, a smaller rent. Costs also include insurance against unpredictable damages, when firms subscribe policies voluntarily, or by effect of regulation. However, it is possible that regulations can be not are not fully enforced and/or that unpredictable damages take place, such as oil spills. One has also to take into account that regulation cannot completely eliminate the environmental damages, as in the case of offenses to the landscape. Damages emerging despite of regulations have to be compensated to fully account for the cost of production. If the environmental impact is local, compensation is paid locally to governments and/or to individuals. If damages are nationwide, compensation is paid to the national government and/or to all residents. In all these cases payment of compensation does not amount to the allocation of the rent, but it takes place during the process that leads to the determination of the rent.

The same principle applies also to costs other than environmental one imposed by mining activities on the local populations. Examples are displacement of people, disruptions in transportation, or pecuniary externalities deriving from increasing price of food and other commodities. Again, regulations can force the producing companies to pay appropriate compensation to the local population. When enforced, regulations expand the production costs absorbing another part of the value of production.

When governments provide services that contribute effectively to the production, they have to be considered as additional production factors, or as inputs and have to receive compensation. Although most of the investment for the exploitation of oil and other natural resources is made directly by the producing companies, additional investment in local infrastructure is usually required. Roads to the producing mines and fields have to be built, airports and ports may have to be upgraded, schools, health and social services have to be expanded to serve the growing population attracted to the area. To the extent to which the demand for these services exceeds the demand that would have prevailed in absence of extraction, the governments of the producing jurisdictions are entitled to have these additional costs funded.

In a way this amounts to applying the peak load pricing principle.

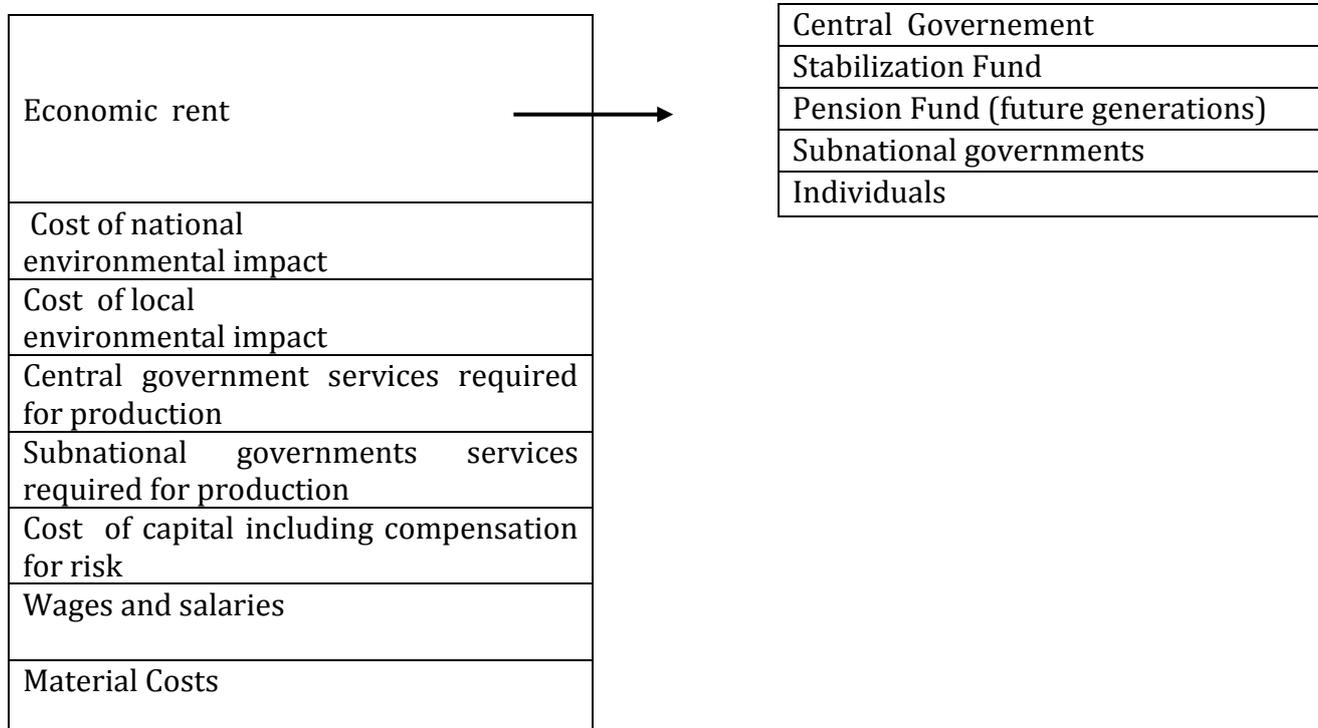
It is essential to stress that in all those cases, governments are entitled to a share of the final price not because they have a sovereign right to the rent, but because they are partners in the production. Refunds will be paid to the national or the subnational governments, depending on the extent of responsibilities assigned to them and upon effective provision. Subnational governments with extensive expenditure responsibilities referred to mineral and oil activities will receive a larger part of the value of the production than other government with less specific responsibilities. This requires appropriate costing techniques.

The calculation of the costs is not easy. The difficulties derive also from the duration of natural resources exploitation. First comes the depletion problem: when oil fields or mines are exhausted, the specific infrastructures built for them by governments will have no more use and thus no more value becoming sunk costs. These costs have just to be added to the other costs already listed and refunded to the level of government that has provided the infrastructure. The second problem applies to general infrastructure, such as schools and health centers and derives from depopulation that occurs when resources are depleted: workers move with their families to the other areas. These workers do not contribute anymore to the demand for public services and, most of all, to finance them

Figure 1. **Determination of rent and sharing options**

A. Determination

B. Sharing options



The economic rent emerging after the deduction of all costs can, in principle, be allocated, to a set of beneficiaries: governments and individuals with no exclusive assignment to only one of them. Governments include the central and all the subnational governments (including the non-producing ones) and the resources are spent, in most cases, for funding the policies currently assigned to them. As an alternative, a part of rent can be channeled, as many countries do, to a stabilization fund to smooth the impact on the public budget of the fluctuations in revenue. In principle, stabilization funds can be created at all levels of governments. In the international practice, however, almost exclusively the central government resorts to this solution. The central government could also set up stabilization funds on behalf of its subnational governments. A second alternative to funding current policies is the creation of saving funds for future generations. Saving funds can be created at all levels of government, but only a few cases of subnational saving funds exist. Namely, the Canadian province of Alberta has created the Alberta Heritage Fund. Most of the existing saving funds derive from central government initiative.

The alternative here discussed is the direct allocation of the rent to individuals through the payment of cash transfers to them. Programs can be started by the central government, or by the subnational governments themselves.

2. Legal basis for direct cash transfers

Proponents of direct allocation of NRR to individuals claim that it is grounded on a universally recognized entitlement. Wenar (2008) argues: "The fact that the people of a country own its natural resources is part of a common-sense understanding of today's world. It is therefore no surprise to find that the nations of the world have embedded this fact deep

within international law” (page 15). He quotes a few constitutions, such as the Bolivia and Iraq, prescribing that NTR “pertain to the people” and the major treaties on human, civil and political rights which have perfectly analogous principles. ¹

However, even constitutions legal and especially constitutional mandates do not fully settle the issue of allocation of NRR and ownership is not the only determinant for them.

Ownership defines the entitlement to receive rent and, at the same time, it defines the competence to manage, control and monitor the use of the resources essentially through the granting of concessions to exploiting firms. But at the same time, the entitlement to receive the rent can be thwarted by other constitutional mandates referring to taxation and other policies such as first regulation. To make it clear suppose that a constitution like the US constitution (the only one to do so in the modern world) recognizes ownership of NRR below the ground to the owner of the land (be it a private person a government, or an indigenous group). The ability of the owner to appropriate the rent will be constrained by the use of tax powers or of regulatory powers by the government that has the competence to use them. It is also important to remark that these tax and regulation instruments do not have to be directly related to natural resources. This can be the case of the corporate income tax), or the regulation of the domestic markets and/or of external exchanges. The rent can also be assigned to consumers through ceilings on domestic prices, quotas on exports and export taxes.

Argentina, particularly the conflict about appropriation of oil and gas rent between the federal and the provincial governments, provides a quite convenient example in support of the assertion that it is not ownership, but rather taxation that determines the effective rent sharing.

The 1994 Argentinean constitution - article 124- stipulates that *the provinces have the original dominion over the natural resources existing in their territory*. Using this constitutional recognition of their rights, the Provinces are presently negotiating and signing contracts with firms. However, the federal government retains the power, derived from an ordinary law, to regulate the sector. More importantly, it has also, by constitutional mandate, the power to regulate the domestic market and internal prices. In addition it has the exclusive power on import and export taxes and the secured access to company profit taxation (although it does not use it specifically for extracting rent from oil and gas). As a result, the federal government is able to extract to its benefit a share of the rent from natural resources that is much larger than that going to the provinces.

Coming back to individuals, also when the constitution is outspoken about their right to the NRR, they will still need the intermediation of the government to extract to their

¹ For example, the International Covenant on Civil and Political Rights, says at article 2 : “All peoples may, for their own ends, freely dispose of their natural wealth and resources”. Similarly, Article 2 of the African Charter on Human and Peoples’ Rights States: “ All peoples shall freely dispose of their wealth and natural resources. This right shall be exercised in the exclusive interest of the people. In no case shall a people be deprived of it.”. Article 2 of the other major human rights treaty, the International Covenant on Economic, Social, and Cultural Rights, is identical. Similarly, Article 21 of the African Charter on Human and Peoples’ Rights states: “All peoples shall freely dispose of their wealth and natural resources. This right shall be exercised in the exclusive interest of the people. In no case shall a people be deprived of it.”

benefit the rent and then an explicit decision about the allocation mechanism to implement the constitutional mandate. The government could also claim that, since it is operating in the interest of its citizens and following their mandate, citizens are the final beneficiaries of the rent even when the latter is not directly allocated to them with cash transfers. In other words, the actual allocation is a matter of political decision-making and not simply of legal entitlements.

Main reasons for cash transfers

Being mostly focused on developing countries where NRR have frequently turned out to be a liability rather than an asset, the literature focuses on government failures. More exactly, cash transfers are seen as a mechanism for addressing government failures and even improve the equity of the tax/expenditure combination.

According to most proposals (Moss, 2011, Devarajan, Le, and Raballand, 2010, Sandbu, 2006) transfers to individuals would be liable to income tax, as an ordinary income. This would force the state build a tax administration in order to collect part of the NRRR thus transferred revenue. Henceforth, the state will be forced to show the (good) use of these resource and to become more accountable to citizens. There is a huge recent literature-starting from the work of Moore (2007) on earned revenue that tries to demonstrate how the need of relying on tax revenue improves the working of the public sector.

Possibly there is an overstatement of the impact of the instrument in the argument of turning oil into earned revenue via the income tax. First, on analytical grounds if we follow the less empirical orientation started by Buchanan and Brennan (1980) reliance on tax is not enough with rent-seeking governments. Secondly, in a developing country only a minimum percentage of tax-payers, at best, fill their tax return. This means that they will receive from the state a transfer net of tax without much possibility of checking the amount with-hold and the transfer. One has to be very realistic in these issues.

A similar argument points to the incentive that direct cash transfers would give to citizens to increase transparency in the management of NRR. As direct beneficiaries they should be more interested to carefully monitor the various steps through which the NRR are allocated to them starting from payment of taxes and royalties from extracting companies to the final disbursement to them. Again this is not a decisive argument, although much more realistic than the preceding one, since checking cash transfers requires less skills and information than checking the complex web of revenue/expenditure. One has also to consider the development, under the impulse of a group of governments and of NGOs of the *Extractive Industries Transparency Initiative* (EITI) aiming at insure transparency in all the management stages of the NRR, whose performance is considered to be satisfactory in a number of countries and reduces the need of direct popular watch.

A similar argument has been advanced in Canada by Warrack (2006)² and other scholars (Roach 2007) for starting the distribution of cash transfers from the Alberta's Heritage Fund. More precisely, according to Warrack and others the distribution would enhance public scrutiny of the management of the Fund, that – they maintain – has been rather lousy. The main goal- saving for future generations- has been practically put aside in favor of distributions to the Provincial government. As a matter of fact, the current value of the fund is

² Warrack is a leading expert of oil and gas in Canada. He is emeritus professor of business and served, various times, as Minister in the government of Alberta and was one of the promoters of the Heritage Fund.

around 17 billion of Canadian dollars. The value had already reached 12 billion, as early as in 1987. Huge sums amounting to 30 billion have been transferred during the Fund's life span (the Fund was created in 1976) to the general government revenue, allowing mostly a lower level of taxes. Direct distribution to citizens of the income of the Fund, as it is made with the Permanent Fund of Alaska, would make clearer the advantages of the instruments, and even, possibly, the proponents say give new strength to its original purpose of it; namely saving for future generations since.

A third argument maintains that, even if of a modest entity, cash transfers would, if distributed according to equal percapita amounts, could have an immediate and significant economic impact for poor households—and ultimately for development. For example, estimates for Uganda show that with an oil production of 10% of GDP, a full and uniform distribution of the rent would provide 50 US\$ per year per head could even double the income of large families at the bottom of the income scale. This would make a huge difference enabling their members to increase investment in nutrition, health, education and even microenterprise (Gelb and Majerowicz, 2011). Obviously, the advantage of direct distribution has to be compared with its counterfactual, namely the use by the public sector. In this latter case NRR would accrue to the public budget and then spent by it. The value of the marginal fiscal residuum – difference between the revenue paid (in this case the foregone transfers) and public expenditure per individual or household- will depend only on the distributional impact of the expenditure since everybody is contributing with an equal sum to the budget. If the value of public expenditure is also the same lump sum for everybody, then there will be no impact. If its total size declines with the income of the household, or of the individual, then the direct use by the public sector is better for the poor. The opposite prevails if the total amount of the expenditure increases with income. Segal (2012) shows that according to its calculations the direct allocation of NRR (mostly oil) to individuals in Mexico would improve considerably equity by increasing the fiscal residuum of the poorest segments of the population. This paper has raised a hot debate in Mexico, since it questions the equity of the present tax/expenditure policy.

All these arguments do not consider one of the presumably most important factors to consider in the evaluation of the direct transfers versus public sector use of NRR. This is the size of leakages taking place in the public revenue/expenditure process. For direct cash transfers the circuit is very short, while it is extremely long for the public revenue/expenditure circuit. There is no direct evidence about leakages on cash transfers, but there is small real evidence for the revenue expenditure circuit. In a quite circulated paper on transfers for education paid by the Uganda's government to its local authorities Reinikka and Svensson (2002) show that only 13 percent of nonwage expenditures reached the schools. Most of the allocated funds were used by public officials for purposes unrelated to education, or captured for private gain. When graft and corruption prevail what arrives to citizens after siphoning out of public funds by officials and bureaucrats is likely to be not much larger.

There is for both developing and developed countries a more compelling argument, at least from economic point of view, in favor of direct transfers. This the typical argument advanced in the literature with reference to the choice between transfers in cash and transfers in kind. Namely that the former will allow individuals freedom of choice concerning their use, between saving and consumption and between different avenues of consumption, without being cumbered by the paternalistic attitudes and choices of their government. To some extent it corresponds to a system of vouchers where by families can choose the provider of the good and services they want to buy.

Main reasons against

Why to deny a cash strapped government the opportunity of improving the delivery of its services to its citizens? This is the most general argument against direct cash transfers. Due to its vagueness it does raise the need of a focused answer. The literature provides two broad and intertwined arguments against cash transfers, plus a variety of context specific ones. The first objection focuses on the possible neglect of future generations if NRR are transferred directly to individuals of the present generation. The issue and possible counter arguments are explored carefully in the next section. The second objection is direct cash transfers are likely to be spent only for consumption with a full neglect of investment. This objection is practically the same of the previous one, but it applies also to the current generation that could understate the need of capital accumulation to its own benefit. The objection has clearly some ground per se, but it has to be evaluated with reference to the alternative: channeling NRR to public budgets. Here evidence does not provide cases for the superiority of public budget solution. For example Hamilton, Ruta and Tajibaeva (2006) in an accurate comparison of the investment behavior in both NRR rich and non-rich countries show that recourse to investment is not the dominant pattern in the former. Their analysis is based on the estimate of what would have happened to their capital stock if NRR rich countries had constantly followed the Hartwick rule by using their NRR for physical investment.

The evidence they provide shows that no country with resource rents higher than 15% of GDP has followed the rule. In many cases the differences are huge. For example, Nigeria, a major oil exporter, could have had a year 2000 stock of produced capital five times higher than the actual stock. The authors also remark that, if these investments had taken place, oil would play a much smaller role in the Nigerian economy of today, with likely beneficial impacts on policies affecting other sectors of the economy. Venezuela, another big producer, could have four times as much produced capital. In percapita terms, the economies of Venezuela, Trinidad and Tobago and Gabon, all rich in petroleum, could today have a stock of produced capital of roughly \$30,000 per person, comparable to that of South Korea. Use of NRR for consumption rather than for investment is common in resource-rich countries, with few exceptions to the trend. This is the case of Indonesia, China, Malaysia stand out in the group of consumption-oriented countries, while Chile and Mexico have effectively followed the Hartwick rule in the aggregate – growth in produced capital is completely offset by resource depletion over a 30-year span.

Some countries, such as Madagascar, Cameroon, and Argentina, have invested more than their resource rents, but have failed to maintain constant genuine investment levels of at least 5% of 1987 GDP (the initial year of the observed period).

Hartwick rule-non-compliant countries include also industrialized economies, such as Sweden could that have a stock of capital 36% higher if it had maintained constant genuine investment levels at the specified target. The corresponding difference for the UK is 27%, for Norway 25%, and for Denmark 22%. The generally low capital accumulation and resource depletion level in the Nordic countries could be surprising. It shows that the Scandinavian countries have traded off inter-generational equity against intra-generational equity, which is reasonable to do in view of likely higher level of future GDP. Developing countries may have even more inter-generational equity arguments than the Scandinavian countries to weigh more the present than the future generations, although this would never imply that they are free to squander their NRR as it too frequently happens.

Sayne and Gillies (2011) provide Nigeria context-specific arguments against direct allocation to individuals. They argue that cash transfers are a low value policy option for the Niger Delta, for two main reasons. First, “while cash transfers might generate some marginal developmental gains—especially over the weak record of current spending—structural obstacles to growth in the region would limit their positive effects”. Second, “introducing transfers poses risks, above all of violent conflict and heightened rentier politics”. However, the Authors do not provide convincing analysis and evidence in support of their arguments, particularly on the heightened rentier policy argument. As a matter of fact, it is hard to imagine how rentier politics could become worse in the Niger Delta area.

Depletion of stocks and future generations

Most NRR are exhaustible, meaning that their use leads to the depletion of stocks. This raises the problem of intergenerational equity, which amounts to asking to what extent the use of NRR by the present generation has to be balanced with the use by future generations. Consideration of intergenerational equity brings the use of exhaustible resources within the broader issue of sustainable growth. For example, the literature makes frequent quotations of Rawls’s second principle (which, as a matter of fact was not meant by Rawls to be applied to the intergeneration framework). According to Rawls’s maximin principle the social welfare is determined by the well being of the poorest member of the society. This implies that future generations should be at least as well as the present one. Hence, a use of NRR by the present generation that would reduce the well being of future generations below the level enjoyed by the current one would violate intergenerational justice. Rawls’s second principle provides support to a sustainability criterion referring to the use of natural resources or, more generally, to the environment.

With specific reference to NRR a number of criteria, or procedures, have been suggested by the literature. A leading criterion is the Hartwick rule. Approximately – as it frequent happens with broad criteria there are different alternative ways of specifying it – it suggests that in an economy with stationary technology and population, the reinvestment of all NRR into reproducible capital is a sufficient condition for ensuring stability of consumption, or utility, over time.

Another approach to sustainability is the Permanent Income (PI). It prescribes that revenues from exhaustible NRR should be saved and only their permanent or annuity value should be spent every year. A more conservative version (PIH) mandates that all NRR should be channeled to a fund – such as the Norwegian Pension Fund – and that only the real return on that fund should be used for consumption.

All these criteria –suggesting that a non-renewable resource should not be entirely consumed by the present generation, but rather converted in an income-generating asset - have a clear appeal in terms of sustainability, but they do not offer enough guidance for intergenerational equity. The main issue is the dynamics of income and consumption over time. If, for example, the prospect of a country is of rapid growth in the future, making future generations much richer than the present one, it would appear unfair, and even against the Rawls’s second criterion, to constrain the use of NRR by the present generation in order to leave NRR to future much richer generations.

This objection applies with force to poor countries with pervasive levels of poverty. If the expectations are for rapid growth in the future that will allow exit from poverty to (almost) the entire population, than the spending of (even all) resources by the present generation may be optimal and just.

The usual instrument for analyzing the issue is the so-called workhorse approach developed by Ramsey (1928) and also utilized by the Stern Review on climate change (2006) and widely discussed. The Ramsey approach is a completely utilitarian principle, but it can be used for the exploration of sustainability issues without implying full acceptance of its utilitarian credo.

According to Ramsey the discount rate is determined by the following formula:

$$\delta + \eta g$$

where δ is the subjective rate of discount. More precisely, it is the proportional rate of decrease (it would be non-sense to assume/argue that future weight more than present) in the weight of a unit of consumption in the future compared with an equal unit of consumption made now. As a matter of fact, δ can be separated into two components (Beckerman and Hepburn, 2007). The first one is the pure rate of time preference; the second one is a kind of allowance for the extinction of the human race. The latter is a very long-term issue, obviously and hopefully, but its meaning is that if there is some possibility of future extinction of the mankind, then keeping resources for the future is a clear cost without any compensation.

η is the elasticity of marginal utility with respect to consumption. For example, a 1 percent of increase in income has the same value regardless of the level of income of the recipients. To appreciate its meaning and implications we have to translate the change into absolute terms. An increase in consumption of 1 euro is worth five times more in absolute terms to an individual with one-fifth of the income. It will be worth ten times more to an individual with one-tenth of the income. η represents and is determined by risk aversion of individuals (implying that utility increases with consumption). If we are arguing, as we presently do, with reference to a social welfare function, η becomes a measure of the aversion of the whole society to inequality in consumption. The higher η , the larger is the weight put on the consumption by the poor and the higher is aversion to inequality of consumption. In an inter-temporal framework consumption and utilities are additive over time – the function sums up consumption in each year - and η comes to describe aversion to inequality of consumption over time, which is the main issue, here.

G is the expected growth rate of consumption.

Saving for the future will then be closer to optimum: a) the higher the discount rate, which means - in turn - that saving is optimal the less one cares about inequality between present and future and, b) the lower the rate of growth. This implies that suggesting to save NRR for (smoothing consumption over the long term time) future generations may be equitable for a developed country, such as Norway. It may be a far less necessary and obvious policy choice for a developing and very poor country.

Finally, a general argument against distribution of NRR to individuals advanced, mostly by politicians than by experts and literature, is that distribution creates entitlements that can become hard to maintain. Should the price decline the individual allocation should also decline putting in jeopardy the continuity of the entitlements, putting huge pressure on the government to finance the transfers with non-NRR.

5. Fuel price subsidies

This is by far the most popular system for the allocation of the rent. With very few notable exceptions – Norway is the outstanding one among industrialized countries and Peru among

the developing ones – hydrocarbon-rich countries have a strong preference for this system of NRR allocation. There are various ways of granting subsidies both explicit (such as subsidies to refineries) and implicit (such as reduced VAT and excises). In both cases they have an opportunity cost, distracting huge resources from more efficient, or equitable uses. They are also in most cases very costly.

According to the African Development Bank (2012) in 2011, fuel consumption subsidies in Nigeria, Cameroon and Ghana cost US\$ 7.5 billion, US\$ 600 million, and US\$ 276 million, respectively. The fuel subsidy was the equivalent of 30% of total federal government expenditure in Nigeria, and approximately 12% and 3% of federal government budget in Cameroon and Ghana, respectively. This sharply contrasts with the proportion of public spending on health in those countries. Moving to other continents, in Bolivia the cost was 6.6 percent of GDP in 2006 and Azerbaijan it reaches the almost astronomically high level of 10.4 of GDP (Coady et al. 2006).

Fuel subsidies have also a clear regressive impact, although it is easy to use against their elimination the argument that use of fuel is essential for the very poor who need it for heating, transportation, and cooking, not to speak of the indirect impact, through transportation, on the price of basic commodities. According to IMF estimates 65% of total fuel subsidies in Africa benefit the richest 40% of households (2010). Only 8% of the US\$ 410 billion in subsidies went to the poorest 20% of the population (International Energy Agency - IEA estimates, 2010). These figures underscore the inequitable distribution of subsidy benefits and the inefficiency embedded in subsidy programs, especially in the case of consumption subsidies. However, the distributional impact depends also on which fuels are subsidized. Kerosene, for instance, tends to be used more by the poor than by the rich, for cooking and heating, whereas the opposite is true for gasoline that is use exclusively for transportation.

Fuel subsidies have also other important negative effects. A very important one is on the spoliation of the environment. Lowering price they encourage consumption of fuel, which is obvious. What is possibly even more destructive is that price subsidies also encourage production of low quality/high polluting fuels that add to excess in consumption. In addition, producing countries have to already to absorb the environmental impact from upstream operations, exploration and extraction. Other effects of subsidization include illegal fuel exports, originated by the gap between domestic and neighboring countries prices.³ They also discourage investment in energy infrastructure particularly in refinery infrastructure.

The popularity of fuel subsidies derives also from the anticipation that their elimination will not be accompanied by some compensating measures. Very frequently only when subsidies have become an unbearable burden for the public finances, governments decide that the time has come for their elimination. The impact is huge and there is little room for compensatory measures. No wonder that people react strongly, or even violently as it happened for example in Bolivia in December of 2010 when the government decided to increase the price of gasoline by 73 percent igniting riots that led to the withdrawal of the measure.

³ For instance, gasoline prices in Benin and Cameroon are more than 200% higher than the subsidized price in Nigeria. This provides substantial incentive for marketers to smuggle petroleum products across borders. It is estimated that 75 per cent of domestic consumption in Benin is covered by illegal imports from Nigeria.

6. Evidence on direct cash transfers

Alaska

The better-known scheme is the *Permanent Fund of Alaska*, where dividends from this oil fund averaging 3 to 6 percent of average income are distributed annually to Alaska residents. The dividend is paid in equal amounts to every resident who indicates an intention to remain in the state, regardless of age. Parents receive dividends in trust for their children. Residents have to apply. For part of the 1980s, a different system was in place, according to which citizens received an annual payment from the earnings of the fund, with the size of the payment based on length of residence in Alaska up to a maximum of 25 years. A one-year resident was entitled to one share; a two-year resident to two shares, etc. Hence, since the size of each payment depended upon how long a person had lived in the state, it was both an incentive to stay in the state and a reward for long-term residents, to address the problem of high population turnover. It also gave a larger share of the wealth to older Alaskans, with a view to arriving at an appropriate intergenerational distribution of wealth. This arrangement was, however, turned down by the Supreme Court, as discriminatory. This policy has helped garner support for the oil fund, but has also created a strong constituency against any reforms to Alaska's rigid oil revenue management framework. In fact, the fund has to receive at least 25 percent of oil revenue inflows no matter what the oil price or if the pipeline ruptures.

Annual dividends distributed have been substantial, ranging in the last eleven years (see table I in the Annex) from 845 in 2005 to 3269 in 2008, when a special allocation of 1,200 US \$ was made.

Mongolia

A *Human Development Fund* (PDF) financed by mineral revenue was aimed at funding a universal child benefit scheme. In the end however, and in response to political promises, the universal benefit was extended to the whole population and the HDF had to 'borrow' from the budget, as there was not enough mineral revenue to cover those transfers.

Bolivia

Bolivia is the only country in Latin America to have a universal non-contributory pension. Introduced in 1996, the *Bonosol* was a social program resulting from the privatization of Bolivia's utility companies and provided an annual pension of Bs 1800 (then US\$220) to every man and woman over the age of 65. Even though the amount is small and the money was paid only once a year, it had a substantial impact on the quality of the lives of the older people. The *Bonosol* is also tributed to have helped to generate economic activity, contributing to the incomes of the entire family, especially for vulnerable children in the care of their grandparents.

The rapidly evaporating resources of the privatization fund left Bolivia no choice but to make changes to the *Bonosol*. In November 2007 Bolivia's government introduced the *Renta Dignidad*, moving its financing source to the hydrocarbons tax, reducing the eligible age to 60 and increasing the amount of the pension to Bs2400 for those without any pension whilst maintaining the amount of Bs1,800 for those with some kind of contributory pension. The other important change is that the pension can now be paid monthly, giving older people a

more regular and lifelong secure income source from which to support their livelihoods and continue contributing to the family economy.

Renta Dignidad is funded with 17% of total NRR collected by the public sector. Its creation was made at the expenses of subnational governments, particularly of the Departments that were receiving 47 per cent of total gas allocations and that now receive 30 per cent only.

Challenges remain, however, including diversifying the *Renta Dignidad's* funding base, which relies heavily on the current high international oil and gas prices. In the case of a huge, sudden drop of prices, possibly, the central government would have to intervene to provide the missing funds in the most difficult circumstances for it. In Bolivia there are also problems concerning the effective payment. Many older people still lack identity papers or have incorrect papers, and are not registered in the database to receive this benefit. Furthermore, the military are currently the delivery mechanism to rural areas, something that in the long term should be replaced with better banking infrastructure and new technologies to ensure easy access to poor rural older people.

Italy

Italy is a modest producer of hydrocarbons. However, the incidence of nationally produced oil and gas on domestic consumption is not negligible: about 6 per cent for oil and 10 percent for gas.

Oil and gas production activities are subject to: a) the ordinary corporate profit tax, whose revenue goes to the central government, and b) a royalty levy applying to the value (at the wellhead) of the production. (Brosio,Vannini, 2011).

The royalty is levied at a rate of 10 per cent on oil and gas produced on shore and on gas-produced off-shore and at a rate of 4 % on oil produced off-shore. Italian oil and gas producing Regions and Municipalities are assigned with a share of the rent collected by the public sector. More precisely, seven tenths of the royalty on oil and the entirety of the royalty on gas are allocated to regional and local governments.

According to a very recent decision of 2009, which very presumably has been taken to mollify the opposition of residents to further exploration and production activities, the remaining three tenths⁴ of the royalties levied on shore are channeled to a fund (*Fondo Riduzione Prezzo Carburanti*, or Fuel Price Reduction Fund), managed by the central government, whose proceeds are used to compensate drivers of cars in all the producing regions. More specifically, every possessor of a driving license who is a resident of a region, where its share of the royalties amounts to more than 30 Euros per capita, will receive an electronic card expendable at the gas stations. If the per capita entitlement is less than 30 Euros, the corresponding sum will be channeled directly to the regional budget.

The allocation has been started in the year 2011 with reference to royalties earned in 2010. Only one region Basilicata did reach the prescribed threshold of 30 Euros per capita. More precisely the per capita allocation amounted to 100,7 Euros. The beneficiary was a resident

⁴ The royalty has been increased from 7 to 10 percent in 2009 by Law N.99 of July 23.

of the Region Basilicata possessing a valid driving license, who applied.⁵ The number of applicants is estimated to be at around 270.000 with 91,0 percent about of applications considered as possessing the requisites.

Some criticism could be made to the scheme, referred to its presumed lack of equity, because it circumscribes the range of beneficiaries to drivers only. In the Italian reality, however, given the huge diffusion of vehicle ownership there seems to be an almost perfect overlapping between adult population and possessors of a driving license. There are in fact on average 1.64 inhabitant for every private car, with very small variation among regions. Basilicata is very close to the national average (1.68 versus 1.64) although it is considerably below the national average in terms of percapita GDP.

Iran

Also Iran appears to be in the process of adopting a policy of cash transfers to individuals. In January 2010 Iran's Parliament adopted a law to phase out price subsidies and replace them with universal cash transfers to the population, phased in over 5 years (Tabatabai 2010). It is not clear, however, if the total amount of the new transfers will be linked to oil revenue, or to the volume of past subsidies.

Conclusions

This paper has explored an alternative use of NRR, based on direct distribution of these revenues to citizens by means of cash transfers. There is still limited practice of it, but many suggestions in the literature and by experts. Reasons in favor of cash transfers include the disappointing performance by governments in the use of NNR and the need to pay more attention to the capacity of individuals to discern the appropriate use of NRR. There are also general arguments against direct distribution, such as consideration of future generations. However, some of the arguments against are context-specific. The paper also provides an illustration of the few schemes that have been actually implemented.

Statistical Annex

Table 1. Alaska Permanent Fund: Distribution of Dividends. 2001-2011

2011	\$1,174.00
2010	\$1,281.00
2009	\$1,305.00
2008	\$2,069.00+ \$1,200 Alaska Resource Rebate

⁵ The allocation for 2012 has increased to 140 euros. However, its disbursement has been stopped following a ruling of administrative court of Lazio according to which the demand coming from other two Regions claiming their right to a share of the royalties paid to the Basilicata region has an acceptable legal ground.

2007	\$1,654.00
2006	\$1,106.96
2005	\$845.76
2004	\$919.84
2003	\$1,107.56
2002	\$1,540.76
2001	\$1,850.28

Table 2. Italy: Allocation of Revenue from royalties, 2009-2011 (Euros)

	2009	2010	2011
State	51,331,866.	42,437,854	74,220,786
Regions	145,954,226	90,271,189	127,815,762
Municipalities	22,184,526	13,245,686	19,171,171
Fund for Cash transfers		38,509,020	55,322,098
(of which to Basilicata)		32,929,972	48,779,628
Total	219,470,619	184,464,031	276,529,817

Source: Ministero dello Sviluppo Economico. Website.

Table 3. Italy: Allocation of royalties by Regions 2011 (Euros)

Basilicata	100,480,358	78.6
Emilia Romagna	8,030,341	6.3
Calabria	8,044,260	6.3
Piemonte	4,937,471	3.9
Puglia	3,342,385	2.6
Sicilia	1,470,854	1.2
Molise	1,100,549	0.9
Abruzzo	254,899	0.2
Marche	154,642	0.1
Totale	127,815,759	100.0

Source: Ministero dello Sviluppo Economico. Website

The use of the possession of a driving license as the criterion for eligibility has been subject to

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