The Political Economy of Reform in Resource Rich Countries

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Abstract

In this paper I argue that the main reason why natural resources induce prosperity in some countries but stagnation in others is policy differences. In turn, these policy differences stem from variations in political incentives between countries. I discuss how political incentives shape economic reform, and how economic reform shape political incentives. I shed light on the latter by discussing how the different incentives built into petroleum funds explain their difference in performance.

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1. Introduction

In the 1950s and onwards economists argued that countries with their comparative advantage in production based on natural resources would suffer from declining terms of trade. The price of raw materials relative to industrial goods would decline over time, making specialization in natural resource based production unattractive. Paradoxically, recently economists have argued that specialization in natural resources is unattractive for exactly the opposite reason; such specialization is so economically beneficial that in fact it may turn into a curse. Led by Sachs and Warner (1995, 1997), it has been argued that on average resource abundant countries have slower growth than resource poor countries.

But the average effect of oil in Norway and Nigeria, or the average effect of diamonds in Botswana and Sierra Leone, may not be the most interesting nor relevant question. Rather than the average it is more important to understand the variation. Why has oil induced prosperity in some countries but stagnation in others? In this paper I argue that the main reason for this is that different political incentives map into different political outcomes.

Economic institutions and economic reform are main drivers for the economic and political development after the discovery of valuable natural resources. At least two questions form: How *do* countries reform when they receive resource rents? How *should* countries reform when they receive resource rents? In Section 2 I provide a short discussion of the first question. The second question is more difficult, being normative rather than positive. Nevertheless, to shed at least some light on this question I start out in Section 3 by comparing the economic responses to resource abundance in countries where institutions allow new income opportunities to benefit a broad segment of the population, to countries where they do not. As will be seen, the economic response to resource abundance may either be more pessimistic or more optimistic than standard economic theories suggest. In turn, in Section 4 I aim to describe in a bit more detail what kind of differences in institutional design that may be decisive. In Section 5 I move further into details, comparing the political incentives built into petroleum funds and the differences in performance they have led to. Section 6 concludes.

2. How do countries reform when they receive resource rents?

During development most countries undertake reform that substantially changes the private and political incentives built into the system. Current reforms are initiated by those with current political power. And since reform is likely to change incentives, indeed this is often the main reason for reform, those that decide to initiate reform will face different incentives after the reform than they did before the reform. In turn, this may influence the type of reform that is undertaken.

When countries get new economic opportunities, such as the discovery of valuable natural resources or an increase in the price of resources already known to exist, countries may reform in very different directions. When the current political system ensures that the interests of the population at large are well represented, resource abundance may generate reform which ensures that the resource wealth is managed in a way that benefits the broad segments of society. On the other hand, if the current political system is not checked in such a way that it represents the interests of the general population, reform may be undertaken with the aim of preserving and strengthening old privileges. In this way, new economic opportunities may generate types of reforms that vary greatly across countries. In turn, as we will se below, the type of reforms will decide to which extent the new opportunities increases or decreases welfare.

There are many examples that institutions are reformed to take advantage of new economic opportunities, and they range from the 1862 Homestead Act in the US to allocate frontier land to a broad segment of the population, to the 1990 establishment of the Norwegian Petroleum Fund to manage the resource wealth of the country. There are, however, also many examples that new economic opportunities have made politicians reform in a direction which *limit* the possibilities of the population to take advantage of these new opportunities.

Ross (2001a) shows that in countries like the Philippines, Indonesia, and Malaysia the existence of timber from the rain forests and increased timber prices contributed to the deliberate dismantling of state institutions by politicians. The rain forests provided the basis for opportunities to pocket large sums of money through exploitation of the forest – but for this to be possible, the state institutions established to counteract abuses and overexploitation had to be undermined. Politicians had incentives for dismantling institutions rather than building them – and the reason was the abundance of valuable natural resources.

Ross (2001b) finds that countries with large oil deposits become less democratic. In such countries, democracy can represent a cost for politicians because it hinders them in using the large public income as they please. Large income from resources can therefore give political incentives for weakening democracy.

Collier and Hoeffler (2009) show how “checks and balances” – institutional rules that limit the political abuse of power, and balance political power, enhance growth. However, they find that particularly in countries where such rules are important – for example because the country has substantial public income from natural resources – the institutional rules are undermined by politicians.

Acemoglu, Robinson and Torvik (2010) develop a model of equilibrium checks and balances. If checks and balances limit political rents, why would voters support their removal as they have done in e.g. Bolivia, Ecuador, and Venezuela? They find that from the poor voters’ point of view, checks and balances is a double-edged sword. Although checks and balances limit political rents, they also make it cheaper for the rich elite to influence politics through non-electoral means such as bribing and lobbying. By dismantling checks and balances from the constitution the poor voters make the politicians more powerful and the elite less powerful. This is particularly advantageous for the poor when the rich are well organized, when income distribution is unequal and when it is easy to tax. Thus the typical characteristics of resource abundant countries, in particular that natural resources are stationary and thus easily taxable, makes it more likely that the equilibrium constitution does not contain checks and balances. Thus such countries end up with economic reform that strengthens the power of the political elite.

3. How should countries reform when they receive resource rents?

Most of the literature on the resource curse to date has been positive rather than normative. This does not mean that the literature is without normative implications. Below I start out with an extremely simple positive theory to shed light on the different effects resource abundance may have. In turn, this has normative implications for economic and political reform.

A traditional argument would be that when a country gets more natural resources, then the income in the country increases, but it increases by less than the isolated value of the resources, since the exploitation of these are likely to draw resources out of alternative less profitable activities in the economy. Recently, however, a theoretical and empirical literature has argued that this may either be a too optimistic or a too pessimistic prediction. Moreover, this depends on the political system in place.

3.1 How more can become less

Let us consider a country with a high crime rate, widespread corruption, a poor quality of the public bureaucracy and a political system where politicians do not face checks and balances. In such a society, it will be relatively attractive for entrepreneurs to engage in political rent seeking, destructive banditry, corruption, etc., rather than to establish and operate productive enterprises. For such an economy, more natural resources may make such economic activities more profitable, which in turn will have unfavourable general equilibrium consequences for the rest of society. In fact these negative general equilibrium effects may outweigh the initial effect of more natural resources. The theory presented in the following is a simplification based on Torvik (2002) and Robinson and Torvik (2010b).

It seems intuitive that the higher the number of entrepreneurs who choose to engage in productive activity, the higher the income of each entrepreneur will be. There are many reasons for this. More private entrepreneurs engaged in production means fewer entrepreneurs engaged in political rent seeking to transfer resources from the productive to the rent seeking part of the economy. Less transfers of income away from the productive entrepreneurs in turn increases the profitability of each of them. More entrepreneurs engaged in productive activity means fewer in destructive activity, and thus less crime and corruption. In turn, a reduction in crime and corruption makes it more profitable to engage in productive economic activity. A higher number of entrepreneurs in productive activity gives higher production, income and thus greater demand. Greater demand in turn increases sales and profitability. A higher number of entrepreneurs in productive activity gives higher tax income, greater public income, and thus better public services and infrastructure. Good public services and infrastructure in turn increase the profitability of private industrial activity. Figure 1 shows this relation. We measure the number of entrepreneurs in productive activity along the horizontal axis and the income of each entrepreneur along the vertical axis. The rising curve shows that the income for each entrepreneur increases with the number of other entrepreneurs engaged in productive activity.

Figure 1

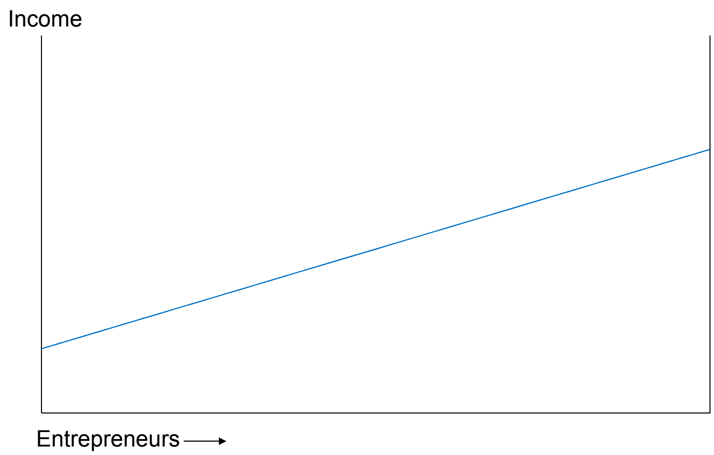


Figure 2 shows how the number of entrepreneurs who choose to engage in unproductive or destructive rent seeking activity influences the income for each and one of them. We measure the number of entrepreneurs in such activity from left to right, and the income for each of them on the vertical axis. An increase in the number of entrepreneurs in unproductive activity, i.e., a movement from the right to the left in the figure, implies a lower income for each of the unproductive entrepreneurs. There are several reasons for this. A large number of rent seekers that aim to transfer towards themselves means that there are less productive entrepreneurs to transfer income from and more competitors to share with. In turn, this reduces the income for each rent seeker. A large number of criminal competitors means that more resources is used to protect oneself against other criminals, and less to obtain income. In turn, income is reduced for each single criminal.

Figure 2

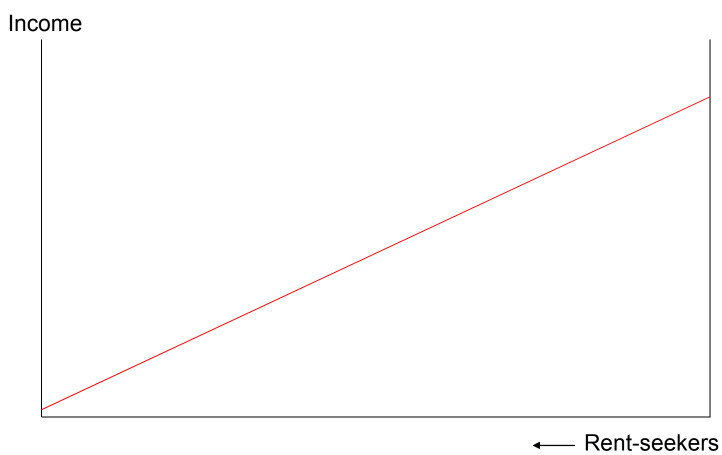
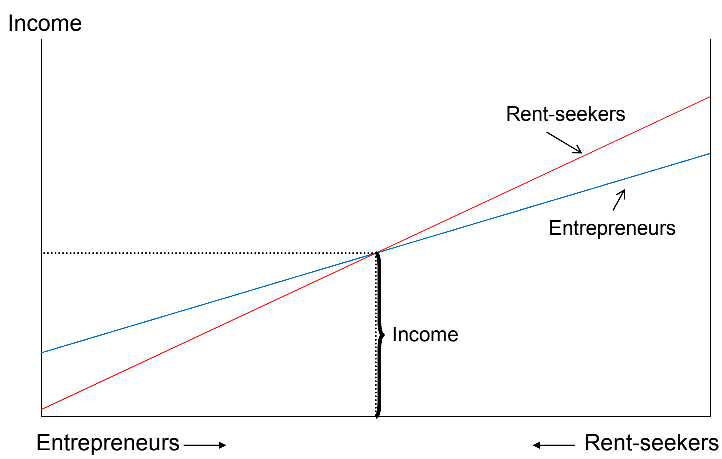


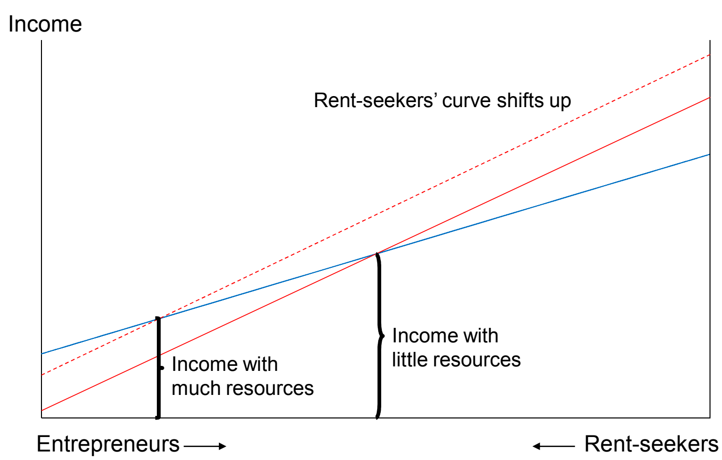
Figure 3 shows how the country's entrepreneurs are distributed between productive and unproductive activity. Where the curves intersect, the income for entrepreneurs in productive activity and in unproductive activity is equal, and no entrepreneur has an incentive to switch between productive and unproductive activities. If the distribution of entrepreneurs is not at the intersection in the figure, but to left if it, income from productive activity will be higher than income from unproductive activity. In that case, entrepreneurs will have an incentive to switch from unproductive to productive activity. The number of entrepreneurs in productive activity will then rise, and the number in unproductive activity will decline, until we are back at the intersection. If we are in a situation to the right of the intersection, we will see the opposite movement. Here, the income of the unproductive entrepreneur is higher than the income of the productive one, and entrepreneurs will switch from productive to unproductive activity until we are back in the intersection, where the income of an entrepreneur is equal in unproductive and in productive activity. The intersection and the distribution of entrepreneurs between productive and unproductive it implies, therefore represents a situation of stable equilibrium.

Figure 3



The question is now resource abundance influences the equilibrium. This is shown in Figure 4. Resource abundance represents improved income opportunities for those who are engaged in political rent seeking, destructive banditry, corruption etc. When there are more natural resources up for grabs, and when the political system allows such grabbing, it becomes relatively more attractive to be a rent seeker. The curve that represents income opportunities in rent seeking thus shifts upward in the figure, as shown with the dotted curve in Figure 4. The conclusion is surprising: Better income opportunities for every entrepreneur cause the income of every entrepreneur to fall!

Figure 4



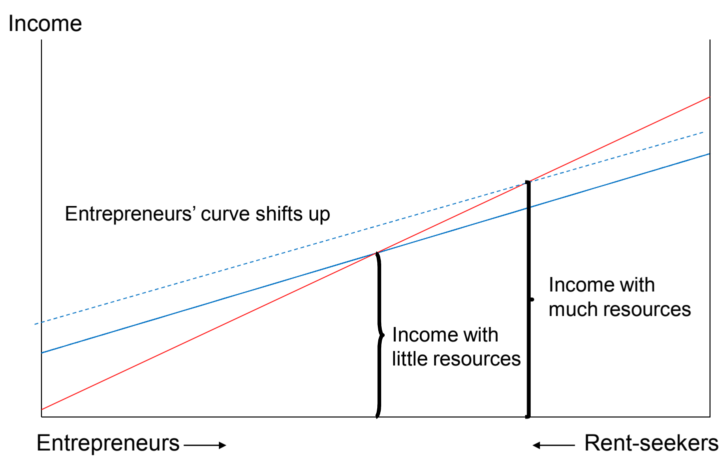
The intuition behind this result is as follows: More natural resources make it more profitable to be a rent seeker, and thus more people choose rent seeking and fewer choose productive activity. A greater number of rent-seekers and a smaller number of productive entrepreneurs reduce the income of every productive entrepreneur. However, lower income from productive activity makes it relatively even more attractive to engage in rent seeking. This leads to a further fall in the number of productive entrepreneurs, a further fall in the income for those who are engaged in productive activity, an even greater reduction in the number of productive people and an increase in the number of rent seekers, and so on. Resource abundance thus initiates a multiplier process – but the bad news is that the multiplier is negative. The reason this process will not continue indefinitely is that the income of rent seekers, too, falls when there are more rent-seekers and fewer productive agents.

In the new economic equilibrium it must be the case that what at first seemed like a better income opportunity for private entrepreneurs is a disadvantage for each and every one of them: Political systems that do not prevent rent seekers to take the advantage of resource abundance make the income of every entrepreneur go down – not up, as one might believe at first glance.

3.2 How more can become even more

Consider now the same situation as above, but with the difference that reform so as to limit political abuse of power and to combat rent seeking has been undertaken. In such a case, more natural resources does not benefit the rent seekers, on the contrary resource abundance benefits the producers in the economy which get access to new economic opportunities compared to before. Thus, as represented in Figure 5, now the curve for producers shifts upwards. As seen, in the new equilibrium income is higher than before. However, note that the increase in income is larger than the vertical shift in the curve – thus the increase in income is larger than the value of the increased opportunities, which are measured by the vertical distance of the shift.

Figure 5



The intuition for this is that as in the case above where reform has not been undertaken resource abundance induces a multiplier effect – but now the multiplier is positive rather than negative.

When production becomes more valuable entrepreneurs enter into productive activity. In turn, the lower number of entrepreneurs in unproductive activity and the higher number of entrepreneurs in productive activity means that profit in productive activity increases further, inducing more entrepreneurs to flow into production, and so on. The end result of this process is that because of a more favourable allocation of talent, the increase in income is higher than the initial increase in resource abundance. Resource abundance stimulates rather than retards productive economic activity.

Note that even though we have full utilization of resources, fully flexible prices, and rational agents, we obtain a multiplier effect that resembles the one in the simplest Keynesian model. But the reason for the multiplier is different – it stems from channelling scarce factor inputs into more socially productive uses rather than increased utilization of factor inputs.

4. Which reforms?

The model above shed some light on why we may observe huge variations in how countries respond to resource abundance, but is, due to its reduced form nature, relatively silent on precisely which characteristics that separate countries where resource abundance induces prosperity from countries where resource abundance retards prosperity. Recent research has identified at least some dimensions that are decisive.

Democracy versus autocracy

Among others, Bulte and Damania (2008) find that it is in particular in countries with weak democracy that resource abundance tends to generate negative outcomes. In such countries the voters' control of politicians is weaker, in turn leading politicians to choose policies that maximize their own interest but put the economy off the optimal growth path from the point of view of society.

Presidentialism versus parlamentiarism

Andersen og Aslaksen (2008) find the following: on average resource abundance reduces growth in democratic countries with presidentialism, but not in democratic countries with parliamentarism. The result in Andersen og Aslaksen (2008) is a strong indication for a close connection between political incentives and the resource curse, although we still have a somewhat limited understanding of why resource abundance have a worse growth effects in presidential countries compared to in parliamentary ones. One hypothesis may be that the political checks in presidential countries are weaker than in parliamentary ones. With the exception of the US presidential system, many presidential systems around the world feature strong presidential power that to a limited degree is checked by parliament. Indeed, as argued by Robinson and Torvik (2010a), the increased incidence of presidential rule in many developing countries has been associated with less and not more checks and balances. For instance, most African countries started off with a parliamentary system at independence. Today, nearly all the countries have changed their constitutions to a presidential system. A challenge with these systems is to ensure that they do not concentrate power within an economic and political elite, but allows increased economic opportunities to be utilized by a broad segment of society.

Institutional quality

Several authors, such as Mehlum, Moene and Torvik (2006) and Boschini, Pettersson and Roine (2007), have shown that when economic and political institutions feature checks on politicians and secure property rights, then resource abundance stimulates growth. But with limited checks and balances and unsecure property rights, resource abundance retards growth. In such cases resource abundance stimulates grabber activity, in turn crowding out productive activity. Again we note the key role of incentives – the institutions matter because they affect the incentives political and private agents face when a new income opportunity arises.

Type of resources

Boschini, Pettersson and Roine (2007) is probably the most detailed study on how different types of natural resources affect growth – and how this is linked to the quality of institutions. These authors use four different measures of resources and find that crucial for the growth implications is the combination of institutional quality and the 'lootability' of resources. The worst possible growth effect from natural resources stems from diamonds in countries with weak institutions.

Offshore versus onshore oil

There are some indications that countries with offshore oil fare better than countries with onshore oil. For instance, Lujala (2010) finds that onshore oil increases the risk of violent conflict in a country, but that offshore oil has no effect on the risk of conflict onset. This finding may reflect that onshore oil represents different incentives and opportunities for rebel groups than offshore oil. Offshore oil installations are easier to protect and the operations of an oil field can be more or less independent from activities onshore. Onshore oil provides different actors with better possibilities to use violence and predation to grab part of the oil resources, which in turn may be socially destabilising

Early versus late industrialization

Entering the 1900s Norway was (together with Ireland) one of poorest countries of Europe. Today Norway is one of the richest countries in the world. This remarkable transition has been driven by the exploitation of natural resources. It started with fish, timber and minerals, continued with hydro electrical power, and since the 1970s oil and natural gas have been key sectors. It is obvious that natural resources have been a blessing for Norway. Economic historians, in particular Gavin Wright (see e.g. David and Wright (1997)), has pointed out that looking back in time resource abundance has been a main driver of growth rather than the opposite. In e.g. Finland, Sweden, Norway, Australia, Canada and the US it is little doubt that resources have historically promoted growth and industrialization. Contrasting the literature in economic history with the literature on the resource curse, one is led to question if the effect of resource abundance has changed over time – and in case why?

One hypothesis is that the eventual change in the growth effect of natural resources is to be found because countries with different institutional quality industrialized at different times. As shown by Acemoglu, Johnson and Robinson (2001, 2002) the countries that industrialized first were those with the best quality of institutions. Therefore the countries that industrialized early had an institutional apparatus in place that prevented the negative growth effects of resources - while those that utilized their resources at a later stage did not have such institutions in place. Karl (1997) was an early proponent of the view that a resource discovery is worse for a country that has not yet developed its institutions.

Taking stock

Most dimensions where the successful resource abundant countries differ from the less successful resource abundant countries can be linked to differences in economic and political incentives. Moreover the design and reform of institutions to deal with resource incomes will themselves be shaped by the initial political incentives. This may create massive economic and political divergence – countries with strong institutions reform institutions further to take advantage of the new economic opportunities – countries with weak institutions may reform in directions not conducive to prosperity.

However, although much variation between different resource abundant countries can be traced back to different initial situations, there are also further interesting lessons to draw from resource abundant countries which started out with well developed institutions. Within this group reform has also created different political incentives, in turn explaining differences in performance. To shed light on this, below I compare the design of three petroleum funds where initial institutions where strong, and discuss how the different political incentives built into the funds explain their differences in performance.

5. Moving further into details - the design of petroleum funds and political incentives

Petroleum funds may or may not assist in the challenges that resource abundant countries face. When institutions do not place strong checks on politicians, petroleum funds may simply make the problem worse, because the funds concentrate the resource income. In turn, such concentration may make it easier for the political elite to monopolize the property rights to the resource wealth. When institutions do place strong checks on politicians, however, petroleum funds may contribute to a socially beneficial development. Petroleum funds may help ensure a sustainable use of the petroleum wealth, efficient management of the financial wealth that resource abundance generates, and that payments out of the fund are allocated to socially efficient projects. However, even in easy places the design of petroleum funds is difficult. This can be seen by comparing the experiences of the petroleum funds in Alberta, Alaska and Norway.

The institutional design of petroleum funds differ along three main dimensions:
-the inflow of resources into the fund.
-the management of the fund.
-the payments out of the fund.

In the continuation we will describe and contrast three petroleum funds with a special emphasis on these dimensions, and discuss the political incentives and the political outcomes these designs have led to.

5.1 The Alberta Heritage Savings Trust Fund

Alberta is the fourth largest of the Canadian provinces with a population of about 3 millions.

Two thirds of the province is publicly owned land, and about 80% of the oil and natural gas extraction takes place on these public lands. In connection with the OPEC-1 oil price shock in 1973 it became clear that the province would receive substantial incomes from its petroleum sector. As a response it was in 1974 proposed to establish a savings fund. The Heritage Fund was established in 1976, with three main objectives:
-save for the future.
-strengthen or diversity the economy.
-improve the quality of life of Albertans.

Up until 1983 30% of the petroleum incomes where channelled into the fund. In the period 1984-1987 this was reduced to 15%, before the payments into the fund went down to zero. Since then there has been no additional payments into the fund.

The Heritage Fund is managed within the government bureaucracy, by an investment committee with members from the Legislative Assembly. Many of the investments made by the fund have been within the province, and to a large degree in publicly owned companies. This strategy has been debated, and e.g. Mumey and Ostermann (1990) note that at the same time as politicians decide how much revenues is to be taken out from the companies, they also decide how much subsidies should be allocated to the same companies. The result of the political investment and subsidy decisions has been that many of the investments made has been in companies that are unprofitable, and according to Mumey and Ostermann (1990) the estimated value of these firms by the Heritage Fund has been 10% above the actual value. Moreover the fund has provided preferential treatment loans to other provinces with interest rates below market rates.

There are no fixed rules for payments out of the fund. The payments are discretionary decisions by the politicians. With the establishment of the fund the intention was to use maximum 5% of the value of the fund each year. In the first years of the fund this intention was more than fulfilled, in that no payments where made out of the fund until 1983. During the 1980s the politicians decided to spend more of the fund, and at the same time did not take into account that the real vale of the fund was eroded by using the nominal returns. Even if the payments into the fund dried up in 1987 and onwards, the politicians decided to still spend approximately the nominal return from the fund. Until 1995 the fund invested in a variety of projects ranging from irrigation, education facilities, art galleries, research, parks, hospitals and theatres. During the first half of the 1990s the real value of the fund was reduced, while the nominal value of the fund was fairly stable. After 1995 the policy of using the nominal return from the fund was reversed.

In 1997 the fund was restructured with a gradual transition of the old portfolio to a portfolio where 35-65% would be placed in fixed income securities and 35-65% in equities. The three primary objectives of the fund were changed to
-earn income to support the government fiscal budget.
-maximize long-term returns.
-improve the public's understanding of the fund.

A new Legislative Standing Committee operating at arms length from the government was put in place to ensure that the objectives and goals of the fund are met. It seems clear that the restructuring of the fund was motivated by the experiences to date, although some claim that the restructuring has limited practical importance. For instance Warrack and Keddie (2002, p. 9) report that "many Albertans question whether there is substantial change to the fund. Proponents argue that the Heritage Fund is nothing more than a political lever used to implement and reinforce public policy decisions. They allude to the fact that income is transferred directly into General Revenues, indicating that the direction of the fund is dependent on the desires of the government of the day."

Whatever position one may have on the 1997 restructuring of the Heritage Fund, it seems clear that there are important lessons to draw about how the political incentives build into the fund in the first two decades shaped policy. The objectives of the fund where unclear and may have been partly in contradiction. The objective of saving for the future can be measured by the development in the value of the fund, while the objective to improve the quality of life of Albertans is not very specific and hard to measure. In addition, this objective may to some degree be in conflict to the objective of saving for the future. The fund has a large degree of heterogeneity in its investments, ranging from financial investments to investing in recreation areas. The fund seems to have been much influenced by shifting political priorities, and it is hard to discriminate between which positions of the fund that should be though of as investments and which should be thought of as consumption spending. The 1997 restructuring of the fund was partly motivated by the need for improving the public's understanding of the fund, which indicates that the initial institutional design of the fund had unclear objectives and that it was unclear how to measure it's performance.

The Alberta Heritage Fund shows the importance of political incentives when designing institutions. The decisions on payments into the fund, the management of the fund, and the payments out of the fund, were all discretionary political decisions. The strength of this is that there is strong day to day democratic control of the fund. The obvious weakness is that, in particular with unclear and unmeasurable objectives, the fund becomes too short-term and too little transparent. The design has those types of political incentives that may easily produce myopic behaviour and inefficiency. The payments into the fund where reduced over time and eventually stopped. Political considerations replaced economic considerations in the investment decisions of the fund. The payments out of the fund were larger than the objective. For instance Warrack (2005, p. 17) is highly critical to the way the Alberta Heritage Fund developed and argue that the main problem was the institutional design of the fund: ”Time has demonstrated that the governance system in place was faulty – it was not resilient to changing fiscal circumstances.” According to Cowper (2007, p. 224) “Over time it became clear that the AHFs' (Alberta Heritage Fund) purpose was indistinguishable from the role of the Parliament. Not surprisingly, the ASF “invested” in social improvements and infrastructure normally paid for by the provincial government. Its investments to diversify the Alberta economy were politically inspired and most of them were conspicuous fallacies.”

5.2 The Alaska Permanent Fund

Alaska is one of the US states with the smallest population, only about 600 000. About 90% of the state income stems from petroleum income. In 1969 Alaska auctioned 164 drilling rights on publicly owned land, resulting in an income of approximately 8 state budgets. The income from the auctions where soon used for investments, in particular in infrastructure. According to Warrack and Keddie (2002, p. 11) “Soon public opinion was that a significant portion of the money has been wasted.” There where widespread arguments that all inhabitants of Alaska should have a part of the future petroleum incomes. The Alaska Permanent Fund was initially proposed by a state legislator, and quickly attracted public support. In 1976 the citizens where asked if to include the proposal “as a constitutional amendment, so as to ward off future legislative “raids” on the fund.” (Cowper 2007, p. 223). Almost two thirds of the electorate approved the proposal, and The Alaska Permanent Fund was established.

The main objectives of the fund became to achieve high real returns with low risk, to undertake cost efficient management, and to offer transparency to increase accountability. The fund is made up by two parts. The 'Principal' is the main body of the fund, and it is the payments into the Principal, the management of the Principal and the payments out of the Principal that are contained in the constitutional amendment. The other body, the 'Earnings Reserve' can be seen as an account where remaining money not allocated to the Principal is transferred. In the continuation I will after a short description of the use of the Earnings Reserve concentrate on the Principal and denote this as 'the fund'.

Until 1980 25% of the royalties from the petroleum sector was allocated to the Principal. (Note however, that as pointed out by Hannesson (2001, p. 59), even if the constitution specifies that at least 25% of the royalties shall be allocated into the Principal this amounts to about 10-15% of petroleum income which also consists of various taxes). From 1980 onwards it was decided that the share of royalties that go into the fund is 50% (a decision which is not part of the constitution). The use of the remaining money in the Earnings Reserve is politically decided, but the tradition has been that the politicians have decided to transfer more of the royalties into the fund so as to keep the real value of the Principal. But again, his decision is not part of the constitution and depends on that the politicians decide this on a yearly basis. The size of the fund as of October 2010 is USD 37 188 100 000 (see http://www.apfc.org).

The fund is operated by a public corporation (APFC – Alaska Permanent Fund Corporation). APFC is a separate and independent body managed by a board with 6 individuals, with a majority of 4 from the public with an expertise in finance and business management. The investment composition of APFC is currently about 18% in US bonds, 18% in US stocks, 3% in foreign bonds, 32% in foreign stocks, 10% in real estate and the remaining in various other financial instruments.

The payments out of the fund are specified in the constitution. The net return for the last five years is added, and 21% of these returns can be spent (given that this amount does not exceed the sum of net income of the fund the last year and what is left on the Earnings Reserve account). Normally half of what is spent has been given as a lump sum transfer to the inhabitants of the state. Note that this is also a political decision and not part of the constitution. In 2010 the dividend paid to each individual is USD 1281.

Towards the end of the 1990s the State of Alaska got into economic problems with the decrease of the oil price. It was debated if the state should use of the fund to cover its budget deficit. In 1999 a large fraction of voters voted against such a proposal.

In recent years there has also been a debate about changing the rules in the constitution that determine the yearly spending out of the fund. There are in particular three aspects that have been criticized. First, it would have been better to link the payments out of the fund to the market value of the fund rather than to the five year average return. Even the five year return may display high volatility (and possibly be procyclical). Second, an active political decision has to be taken each year to transfer money into the fund so to protect its real value. Third, the inflation proofing of the fund has been undertaken only for the Principal and not for the Earnings Reserve.

On this background the board suggested in 2004 to change the rules that govern the fund. Such a change must be approved by a constitutional amendment. The proposal of the board was announced as POMW - ”five **p**ercent **o**f the Fund’s total **m**arket **v**alue”. According to the proposal the upper limit on how much that could be spent from the fund should be replaced from being based on returns to being based on 5% of the average market value of the fund over the last five years. This would contribute to more stale payments out of the fund, and also with a predicted real rate of return of 5% the inflation proofing would become part of the constitution and would encompass the whole fund and not only the Principal.

In the public debate there was concern that the proposal would have the effect that the yearly payments of dividend would be reduced and that more of the spending of the fund would cover the public deficit. Before the proposal could have been presented for the voters of Alaska it would have needed a two third majority in the State Legislature, but it did not receive sufficient support, and thus was not presented to voters. The APFC board still is of the opinion that the proposal should be implemented, and point to that ”many Alaskans mistakenly believe that POMV will affect the dividend program”. The constitution does not include rules about the dividends being paid to the inhabitants.

5.3 The Norwegian Petroleum Fund

Norway discovered petroleum in the 1960s and became an oil producer in 1973. The Norwegian Petroleum Fund – or officially named the “Government Pension Fund – Global” – was established in 1990, while the first deposits into the fund where made in 1996. Compared to the funds of Alberta and Alaska the Norwegian Petroleum Fund is more integrated into, and coordinated with, the overall macroeconomic policy.

A major shift in the macroeconomic policy composition of Norway was undertaken in 2001. Up until then the monetary policy formally had aimed to keep the exchange rate stable while fiscal policy had aimed at dampening fluctuations in output and employment. As in other countries the experience with the countercyclical fiscal policy and the fixed exchange rate regime had been mixed. In addition, with the dependence of non-renewable resource exports, it was seen as crucial that Norway adopted a more long term view of fiscal policy. Thus the monetary policy was given a more prominent role in short term stabilization by adopting a flexible inflation target, while a ’rule’ (which is not a rule but an objective) saying that over the cycle the real return (predicted as 4% annually) of the petroleum fund could be spend.

The payments into the fund consist of the return on the fund, government petroleum income, and net financial transactions in relation the petroleum activity. In Norway all government income from the petroleum sector is channelled into the fund.

The management of the fund has been delegated from the ministry of finance to a separate unit within the central bank – the NBIM (Norges Bank Investment Management). All investments of the fund are in foreign assets, and over time the investment universe has been expanded to allow for such assets as private sector bonds and real estate. In 2006 the maximum share the petroleum fund can invest in one company was increased from 3% to 5%.

The amount that is paid out from the fund is a yearly decision by Parliament. The amount covers the public sector deficit (excluding petroleum income). The objective is that the payments out of the fund shall equal the real return of the fund which is expected to be 4% on an annual basis. In Norway this is know as the ‘rule for the use of petroleum money’ although this is not a binding rule. There are no formal institutional designs that limit the spending out of the fund. How much to use is continuously debated, and some politicians argue that Norway should use more of the fund than is actually done. The actual use of petroleum revenues has exceeded the 4% objective.
The ‘rule for the use of petroleum money’ also includes the possibility that in economic downturns one can pursue an active fiscal policy, and use more than the 4% of the fund. Thus even if monetary policy has been given a more prominent role in the macroeconomic

stabilization policy, fiscal policy still has some short term, and not only long term, considerations.

A summary of some main points in the design and management of the petroleum finds is given in Table 1.

Table 1: Design of Petroleum Funds

	Payments in	Management	Payments out
Alberta Heritage Fund	Discretionary 30% →15%→0%	Political investment committee	Discretionary Objective: not exceed 5%
Alaska Permanent Fund	Rules in constitution At least 25% of Royalties	Independent company Public majority in the board	Rules in constitution 21 % of net return last five years
Norwegian Petroleum Fund	Guidelines 100%	Separate unit under the Central Bank	Discretionary Objective: not exceed 4%

5.4 Comparing experiences of the petroleum funds

Here I shortly compare how the different political incentives of the funds have mapped into different experiences in their operation. There are major differences between the three funds when it comes to payments in, management, and payments out of the funds.

In Alberta and Alaska a share of the public petroleum income is invested in the fund, while in Norway all government income from the petroleum sector is channelled into the fund. With the exception of Alberta, the payments into the funds have been in accordance with the stated intentions.

The management of the funds differ. In Alaska and Norway the management has been delegated to bodies that to a large degree are independent from politicians, while in Alberta politicians have had a 'hands on' approach. The management in Alaska and Norway must be considered successful, with acceptable rates of return and an investment policy in accordance with the intensions. The management in Alberta, on the other hand, must be characterized as not very successful. Unclear and shifting political priorities have given low rates of return, uncertainty as to what is the value of the fund, and 'investments' that at least partly must be considered as consumption.

The payments out of the fund are decided by rules in the constitution in Alaska, while they are subject to discretionary political decisions in Alberta and Norway. In Alberta and Norway there are guidelines for how much of the fund should be used, but the actual payments have exceeded these guidelines (to a larger extent in Alberta than in Norway).

There are interesting contrasts between the two petroleum funds in North-America. While the value of the fund in Alberta has decreased due to politicians not following their own intentions, the Alaska fund has rules in the constitution that to a larger extent decouples the payments out of the fund from short term political priorities. Warrack (2005, p. 17) concludes that ”Without an arms-length mechanism resilient to/from ebbs and flows of fiscal demands, it seems impossible for a political system to manage energy revenues responsible. That is a sad lesson for Alberta, the province being far less successful than Alaska.” Warrack (2005, p. 19) argues that the solution to this is to “Establish arms-length governance by Trustees at the outset, preferably by constitution”. The failed policy of the Alberta fund can be mitigated by adopting rules so that short term bias in the use of petroleum wealth becomes more difficult.

Although the experiences in Alaska are favourable when it comes to management and payments out of the fund, experience also clarify that the institutional design is not without potential for improvements. The rules that govern the payments out of the fund make it resilient to short-termism, but at the same time prevent what may seem as a more reasonable organization. The POMW proposal seems like a better rule for payments out of the fund than the current model, but the fact that the current system is part of the constitution makes such a change difficult to establish. This illustrates that strict rules also comes with costs because they reduce flexibility.

Moreover, one may argue that the relevant measure is not the fund itself but the overall macroeconomic development; if the rules in the constitution are directed towards the fund but there are no rules regulating the public sector deficit and borrowing, then although the development of the fund may look sustainable the accumulation of public debt outside the fund may not be. Thus a potential drawback in linking only one part of the public balance to rules in the constitution may be that the petroleum wealth in essence is used to back public borrowing.

Although one may argue that a drawback of the Norwegian model compared to the Alaskan one is that the payment out of the fund is a yearly discretionary policy decision, the Norwegian model also has some advantages. First, since the guidelines for use of the Norwegian petroleum fund relate the use to the public sector deficit, it put emphasis on the overall macroeconomic balance. It says that the public sector deficit (over the cycle) excluding petroleum shall not exceed 4% of the petroleum fund. Thus the payments out of the fund are used to cover the public sector deficit, and adhering to the guidelines also ensures that macro balances are respected. In contrast, in Alaska the public sector deficit is independent of the rules governing the petroleum fund. The fund is not well integrated with the overall macroeconomic policy. One may ask what the rationale is for putting strict rules on part of the pubic balances, while these rules in effect may be undermined by other parts of the budget. The political incentives created by the rule in Alaska do not cope with the long term fiscal balance in the public sector, while the political incentives in the Norwegian model do not cope with the temptation to use more of the fund in the short term than intended.

Thus is seems that one has yet to see a design of a petroleum fund that deals in a satisfactory way with the tendency for political decisions to have a short term bias.

6. Concluding remarks

Political institutions shape political incentives. In turn this is key to explain why there is such a huge variation in the experiences of resource abundant countries. Dependent on initial institutions, as well as the incentives these create for further policy reform, resource abundance may lower welfare, or may strongly increase welfare. However, even when initial institutions are strong, there may be a short term bias in political decisions, and investments may be made for political rather than economic reasons. The political incentives built into petroleum funds are decisive for their success or failure. Transparency and strong macro institutions are necessary, but not sufficient conditions, for resource abundance to stimulate prosperity.

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