

ECONOMIC RENT AND ROYALTIES

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Abstract

This paper addresses the current economic rent and royalty regime applying to petroleum mining and its historical background. It also discusses the alternatives that have been debated to date and the process being followed to introduce a new regime. It then looks at economic rent and royalties as just one aspect of government involvement in the petroleum industry and discusses the importance of having this involvement clearly defined and correctly levelled in order to attract investment to New Zealand.

Introduction

Petroleum royalties is a subject that can very quickly become immersed in the intricacies and complexities of the dismal science of economics.

This paper does not address the economic theory behind the different royalty mechanisms, but rather discusses the history of the royalty regime, the nature of the competing current proposals, and suggests the context in which any economic rent regime needs to be considered.

The right of the Crown to charge or claim a royalty is derived from two important legislative provisions:

- (i) All petroleum in its natural condition is owned by the Crown.
- (ii) The Petroleum Act at Section 18 specifically authorises the Minister of Energy to levy a royalty. The Crown Minerals Act at Section 34 goes even further and states quite simply that in exchange for granting a permit the Minister can require payments of money.

There are two particular features of Section 18 that should be noted.

Firstly, the rate of royalty is neither specified in the Act, nor in the Regulations. Rather, it is determined by individual agreements between licensees and the Minister, either at the time of grant of the licence or when the licence is converted to a specified term. The result is that for the main producing fields in New Zealand, there are a number of different royalty rates. The Maui field attracts a 5% royalty, the Waihapa and McKee fields a 10% royalty, and future discoveries, under existing policy, will attract a 12.5% royalty.

Secondly, the Minister has a specific power to waive or reduce any royalties, but this power has in fact never been exercised. Theoretically, this power of waiver, which continues to apply to existing licences, could be exercised to enable marginal discoveries to be developed.

The royalty is calculated on the selling value of the petroleum at the point of valuation which is fixed by the Minister. In practise, the point of valuation is at a defined point within the production facilities of the relevant licensee. This has had the effect of allowing producers to deduct pipeline and port storage costs from petroleum sale proceeds when determining the value of the petroleum for royalty

purposes. Overall, while the nominal royalty rate may be 10%, 5% or whatever, the rate that is paid will usually be somewhat lower when compared to the sales value.

The cash generated from the royalty obviously varies from year to year. But to give you some idea of the sums involved, the aggregate dollar value of royalties collected in recent years has been:

1988:	\$22,521,000
1989:	\$31,836,000
1990:	\$43,733,000

We can anticipate quite a substantial increase for the 1991 year because of marginally increased aggregate production, but more significantly because of the increased sales value of petroleum during the Gulf crisis.

These figures demonstrate that petroleum royalties are certainly a useful addition to Crown revenues. But there is no way that on their own they will make any significant impact on overall government revenues. Nor are they single-handedly likely to be any form of salvation for our hard pressed and financially strapped government.

Royalty Regime Options Being Debated

I turn now to the current debates about an appropriate future royalty regime. The published commentaries and reports indicate that for some time the government has been concerned about the adequacy and efficiency of its resource allocation and pricing mechanisms. This concern has led to a number of surveys and studies being sought or produced (both internally, and from outside consultants). Interestingly, this desire to assess alternatives has not been sought by the industry but seems to be wholly driven by internal concerns. The most comprehensive and significant of the reports that have found their way into the public domain is the document entitled "Resource Pricing - Rent Recovery Options for New Zealand's Energy and Mineral Industries" which was first published in December 1989. I will refer to this report as the "Caragata report", after its principal author.

That report generated a widespread response from both the petroleum and mineral industries, together with varying degrees of scathing commentary. Almost no-one agreed with its conclusions or methodology. However, despite the many criticisms that have been levelled at the Caragata

report, it is fair to say that it did sharpen the focus of the debate within the industry, and that it was a comprehensive effort to grapple with a very complex and difficult subject. It was a very useful gathering together of the economic issues and alternatives in a way not previously attempted in New Zealand. However, the report can hardly be labelled as convincing in its conclusions, and much more work was clearly needed.

The report focused on royalty mechanisms alone, and did not address other forms of Crown participation, such as the 11% carry, and the extra cost imposed by that carry on industry participants, as well as the extra economic rent the Crown becomes entitled to by virtue of the carry.

Since then, the Ministry of Commerce has commissioned at least one further report from independent consultants. In addition, a study team has been assembled by the Ministry of Commerce and the Treasury to consider allocation and pricing of Crown minerals. There has been much background work and lobbying between industry participants, with the Petroleum Exploration Association of New Zealand having taken substantial steps to co-ordinate and present a unified industry approach. Obviously, the industry is keen to see the results of these efforts. It seems implicit that a review of the economic efficiency of the 11% carry as compared to other rent extraction methods, is part of this process.

The debate about which royalty pricing mechanism is appropriate has now focused on three different types of royalty.

The first type is an *ad valorem* royalty which is a fixed percentage payment based on the unit value of the product being sold. The present system uses an *ad valorem* royalty. It is relatively easy to understand. Although some aspects cause debate, such as the determining of sales value and the nominating of a point of valuation, the system is administratively quite straightforward for all concerned. However, the economists will tell us that it is economically inefficient and because of its built-in biases, such as the fixed first charge on revenues that must be paid by way of royalty, can have the effect of preventing some marginal projects from going ahead.

The second type is an accounting profits royalty. This is one which is levied on a set percentage of the profits of any particular venture. The main issues from a policy perspective that need to be resolved are:

- (i) What accounting policies are to be used when assessing accounting profits? The suggestion appears to be that accounting profits ought to be determined on the same basis as profits for taxation purposes are determined. Accordingly, it is inevitable that the tax regime and royalty regime become interlinked.
- (ii) The extent to which unsuccessful efforts can be deducted from "profits" before assessing the amount upon which a royalty is levied. This is the so-called ring fencing issue.

The rate of royalty that is frequently used by the economists for the purposes of their modelling exercises is 23%.

The third type is the so-called resource rent royalty. Essentially, a resource rent will adopt a similar methodology to an accounting profits royalty, except that before determining the "profit" upon which the royalty is to be assessed, the firm liable to pay the royalty is entitled to a notional return on the capital it has employed in the project. That return is usually at some fixed margin above the risk

free rate, as measured by long term government stock interest rates. A resource rent royalty regime is more complex and difficult for both payer and payee to administer. But whether it is as administratively burdensome and excessively complex as has been asserted in the Caragata report, is something of a moot point. Certainly, those organisations that have now had some years of experience with the Australian resource rent regime have indicated that, while separate accounting mechanisms are needed to keep clear records of what royalty is payable, the royalty mechanism is not in fact overly difficult to administer. Nor do many very difficult issues arise from the regime. Indeed, I record with some regret that there has not been much need for legal input in assessing or determining the level of resource rent payments.

The main issues with respect to resource rent royalty regimes concern:

- (i) Settling the threshold or accumulator rate and risk premium. This refers to the rate of return which the firm is notionally entitled to receive on the assets it employs in its project over and above the risk-free rate, before it makes what could be classified as a super profit which is then subject to the royalty. This rate will usually be about 25%, assuming a risk premium of about 15%.
- (ii) The extent to which unsuccessful efforts can be deducted from a successful venture. Somewhat simplistically, this involves determining the portion of the cost of a successful venture which consists of the costs of the many unsuccessful efforts that were undertaken before success arrived.

The royalty rate most frequently used in modelling exercises is 40% of the profits made by the firm after it has claimed its return on capital employed.

In all of the different royalty regimes, the applicable rate of royalty is all important. An *ad valorem* royalty will almost always be considerably lower than an accounting profits royalty, which will in turn be considerably lower than a resource rent royalty.

The various merits and economic effects of each of these royalties is a complex subject and one which is much debated by the economists amongst us. However, some generalisations can be made. Broadly speaking, the greater the capital expenditure involved, and the greater the lead time for any particular project, the more favourable a resource rent royalty regime will become. Conversely, when short lead times and low capital and operating expenses are involved, the *ad valorem* royalty is more favourable. An accounting profits royalty is usually in the middle of each such analysis. However, these generalisations can be turned upon their heads if the rate for any one of the particular royalties is not in accord with the amounts referred to earlier.

In short, the desirability of any particular method of royalty calculation is inextricably intertwined with the desirability of the rate which is applied once the calculations are concluded.

The recommendation of the Caragata report was for a hybrid royalty regime. This would consist of a combination of a relatively low *ad valorem* royalty of 6% and an accounting profits royalty of 25%, with the *ad valorem* royalty payments deductible for the purposes of determining accounting profits.

Leaving aside the lengthy economic justification, there appear to be three main reasons for this recommendation:

- (i) An accounting profits royalty will always have the effect of delaying receipt of payment. No matter what the economic efficiency arguments may be, the fact is that the government requires payment as soon as possible, hence the need for an *ad valorem* royalty as well.
- (ii) Secondly, there is some philosophical reluctance on behalf of the Crown, as resource owner, to put itself behind the claims of others for payment. It sees itself in a preferred position with a priority right to payments derived from resource sales.
- (iii) The hybrid scheme is considered to be administratively simple, yet quite robust.

However, as the businesspeople here know, what really matters is how much the government ultimately takes, and how much the relevant firm gets to keep, and knows it is going to get to keep before it starts its exploration and production activities. The economists will theorise that resource rents or royalties are not a tax, but rather a return the Crown is entitled to as resource owner. I am bound to say that this sort of argument does not impress me very much. In reality, a royalty or resource rent is just a form of special tax for this industry.

Royalties Just One Component of Government Involvement

With that background in mind, I now turn to the central point of my paper, which concerns the nature of a royalty regime. I argue that a royalty regime is but one component in the overall relationship between government and industry, and that royalty mechanisms can never be viewed in isolation from the other components. The four other key factors from an industry perspective are:

- tax;
- the licensing regime;
- nature and extent of government participation; and
- prospectivity.

Of the above factors, by far the most important is prospectivity. A regime that imposes no tax, no royalties, that has no government participation, and that allows instant licensing on any terms, would still not induce too many of us to commit exploration funds to drilling activities in Wellington Harbour. Because of this, it is quite useless to compare our overall financial and royalty regimes with those of other countries, without also comparing the prospectivity.

The other aspects of our overall regime are not encouraging. The tax regime is widely considered within the industry to be harsh because of the limited ability to deduct costs incurred. The result is that we have a tax regime which is out of step with those used in most other countries. Treasury officials may consider it to be neutral or economically efficient, but if the international exploration community treats it as a deterrent, then it is a deterrent. Furthermore, and as noted earlier, the tax regime is going to have a significant effect on the calculations of profits for the purposes of determining either an accounting profits royalty or a resource rent royalty.

We now turn to government participation. Much has been said about the inevitable conflict which arises when governments act as both participants and as regulators. I need not dwell on this aspect, but will say that in New Zealand previous Ministers of Energy have had no compunction in using their legislative powers to maximise the advantages of the regime to themselves. These powers

have been used to secure valuable windfall advantages to the Crown. But this has not occurred without cost. Resources that could have been developed quickly have been left untouched, while disaffected parties have fought out their grievances. The resources are of course still there, but their net value has been considerably reduced by the delay. Finally, who can say what the impact has been on explorers who may have been contemplating investing in New Zealand? We can be fairly sure that unilateral Crown actions do not have a positive influence on such decisions. Franklin Roosevelt said at the time of his second inauguration in 1937:

“We have always known that heedless self interest was bad morals: we now know that it is also bad economics”. I hope that the policy review team bears this in mind.

Finally, the licensing regime. While many of us are familiar with and, speaking for myself, not altogether unhappy with the structure of the present regime which, to all intents and purposes is almost wholly repeated in the Crown Minerals Act, the one criticism that can be made is that far too many areas of both the Petroleum Act and Crown Minerals Act are in favour of the Minister. The Petroleum Act and Crown Minerals Act are replete with phrases such as “The Minister may, in his discretion; if the Minister is satisfied that; as the Minister shall determine”. This sort of discretion is usually justified with the argument about the need for flexibility. However, we should be reminded that statutes which allow for the exercise of unfettered discretion can soon lead to the exercise of absolute power. The individual participant is in an impossible position when he or she considers that such power has been exercised improperly or unfairly. We can only hope that whoever is in the Ministerial office will exercise his or her powers wisely. However, we know that Ministers are not always wise. Nor do they necessarily always exercise their powers well.

Where do all these comments lead us? Royalties are an important aspect of an overall regime and represent a more or less assured form of revenue for the government. However, they are but one of the economic factors relating to the willingness or otherwise of participants to conduct exploration. This industry has laboured in the last three years under the following:

- (i) Comprehensive changes to the taxation regime, almost universally perceived by the industry as harsh and unfair. The Minister of Energy and the Minister of Finance keep promising to review the relevant legislation, but in the meantime the industry has to live with it.
- (ii) The entire licensing regime was up for review under the auspices of the resource management legislation. While in the upshot the Crown Minerals Act largely follows on from the Petroleum Act, there has been some destabilisation in the intervening period.
- (iii) The exact method by which the government will maintain its direct participation in petroleum exploration activities has been the subject of debate in the industry for some years. We have no idea what the outcome of this debate will be. We can only hope that things will be resolved at the same time as the royalty debate issues are resolved. What is clear is that the industry does not like the dual role, as it has been said on many occasions. Nevertheless, it needs to be recognised that it is a form of extra return for the Crown that, if abandoned, the Crown will wish to retrieve by way of a higher royalty.

Economics is the study of markets and market responses. The overall economic environment, as it affects petroleum exploration, is now very telling. Drilling activity is in decline, as is new seismic acquisition, and comments about future licences signal no improvement. No-one will ever be able to prove that this decline in activity is solely attributable to either the tax regime, the present government participation policy, the Ngaere decision, lack of prospectivity or to other factors. However, what can be said is that there has been a lack of stability in the overall regime affecting petroleum exploration, and a lack of certainty about future intentions.

Conclusion

Royalties are commonly used around the world to extract financial returns for nations that possess and desire to develop petroleum resources. There are various merits and demerits in differing types of regime, but those attributes wholly depend on whatever assumptions are used when assessing their economic efficiency. The government is of course entitled to review its regime from time to time. But governments need to project stability so that participants can plan with confidence. Endless reviews of the system only lead to uncertainty, which is the opposite of stability. As noted above, every aspect of the overall New Zealand regime either has been or is currently the subject of a separate

review. It seems that there is a feeling that everything needs to be reviewed constantly. This can only have a negative impact.

If corporations took as long to review pricing and allocation policies as successive governments have taken in New Zealand, they would soon be outstripped by their competitors. Sadly, this seems to be taking place here, with regional exploration activity declining relative to other nations.

My plea is for the government to get on with the process, and for someone, and it really has to be the Minister, to exercise decisive leadership so as to resolve the apparently endless debates about all aspects of the regime. There is no need for this to take two years.

New Zealand has a lot to offer. Discoveries have been made, and exploration companies have been very successful. So too has the government, and there have been many benefits for the general economy. On balance, the financial regime is not punitive. Overall the licensing regime is itself fair and is administered fairly. Basically, "It ain't broke, but we seem hell bent on fixing it". No royalty regime is perfect. Each has disadvantages. Endless debate serves no real purpose. So please, settle these debates quickly, so that the industry can focus on the much more important challenges of the business itself.

Author

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