

Taxes And Charges On Nature's Bounties

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Resource Rent Tax became an issue of controversy and intense national debate after the 2 May 2010 National Budget, which culminated in the replacement of Australia's Prime Minister. In this article, we outline the incidence of economic rent in natural resources in relation to a non-renewable (iron ore and coal) and a renewable natural resource (surface water). The rationale for imposing taxes and user charges to capture those rents in the public interest is then examined.

The concept of resource rent has its roots in the history of economic thought. Ricardo stated in the *Principles of Political Economy and Taxation* that rent is a payment for the 'use of the original and indestructible powers of the soil'. Here, the term 'soil' implies all the natural resources embodied in land, unimproved by human effort. And in the current context, it would include the uses of land in relation to agriculture, energy, minerals, water, forestry, fisheries and for conservation.

Land, as a natural endowment, or a gift of nature, has no production cost; it exists irrespective of its use and is immovable and indivisible in the sense that its supply is fixed. The price we pay for a parcel of land is for its ownership, and to secure access for its use. Because a parcel of land can be put to alternative uses, and its purpose varies between parcels, the price of land will vary reflecting its earning capacity and the level of demand. In rural uses, more fertile land and those carrying mineral deposits would fetch a higher price than those which are infertile or have no mineral deposits. On the other hand, in urban areas those close to amenities fetch higher prices, than those away from places of interest. Location, location!

Therefore, economists generally consider rent as a premium due to scarcity, owing to properties of the land that determine its productive potential in alternative uses. The price of land may therefore be expressed as a transfer price which permits the owner access to a stream of income, equivalent to its annual rent in perpetuity. This then is the capitalised value of the annual rent estimated by dividing the annual rent by the rate of interest.

Some properties of land that earn this premium are indestructible – such as the location, topography, and some physical features; while others may not be depending on the nature of use.

In regard to this capacity for land to undergo changes through use, economists consider resources in different categories. *Renewable resources* such as surface water or a fishery can regenerate themselves under a sustainable management regime. On the other hand, a mineral stock, such as coal or iron ore is *non-renewable* and *exhaustible*, as extraction can only be done once.

For a landowner considering alternative options to use a parcel of land, recognition of these resource characteristics are important in making better decisions.

The object of sustainable management of resources is to ensure an efficient flow of goods and services from the available fixed assets. For a resource owner this involves maximising the net benefits.

In considering one use, over other alternatives, the resource owner needs to consider the benefits in the best alternative use – the opportunity cost. The difference between these two entities – the rent and the opportunity cost, represents pure profits or economic rent from this allocation.

Once the asset is allocated to a particular use, say mining or agriculture, the operation enters the *production* phase. Production involves the services of capital, labour and other 'sacrificial' inputs. The cost of these inputs and the supply price of the goods and services derived from production, say iron ore or farm outputs, will determine the nature of profits from production. Given world prices and competitive markets for inputs, the profitability of production is determined by the entrepreneurship, the way businesses are structured and risks are managed. Because the object of production is to maximise returns to production inputs, profitability is not predicated on the level of rent paid for transferring land into production. Of course, rent paid will have an impact on the level of net surplus that accrues to the mining operator, and they will ordinarily try hard to keep it.

The question is: who is the legitimate owner of these rents?

As the supply of land is fixed, and it being a gift of nature, rent derived from land is often regarded as a pure profit. As this portion of profit is not related to the entrepreneurial ability or the risk taking behaviour of investors, but purely reflects scarcity, it should fall in to the hands of the resource owner. It is a compensation for the resource owner for the loss of wealth from the depletion of the resource as a result of extraction.

The rent can therefore be appropriated by the owner of the resource, or the taxation authority where the natural resources are held in public ownership, without affecting the level of investment or production. As the Australian Constitution accords mineral rights to the States, taxes and royalties are levied by each State to recover these rents.

Then the next question is: how best to impose these taxes, in ways to meet the best social gain? The challenge is to let the goose that lays the golden eggs do her job.

Similar to a good old farmer who carefully nurtures his flock of geese, taxation authorities generally follow a number of accepted principles to minimise the tax burden on individuals and businesses:

- *Equity* – the principle of equality, whereby those taxpayers of similar financial means should pay similar amounts of tax. This includes progressive taxation where taxpayers of greater financial means pay at a higher rate than those with lower financial ability.

- *Benefit* – the concept of mutual benefits, that there should be some relationship between the tax paid and the benefits received by the taxpayer.
- *Capacity to pay* – involves a degree of fairness, with regard to the ability of the taxpayer to pay the tax, taking account of the financial circumstances.
- *Efficiency* – in regard to the desirability of the tax in terms of affecting taxpayers’ economic behaviour, such as business continuity and incentive for risk bearing.
- *Simplicity* – in its definition so that the tax is readily understood and acceptable, and unambiguous, enabling ease of collection and administration.

Having considered the above, a resource rent tax on minerals is widely accepted as an efficient tax, as is well-argued in the Henry Tax Review. The Review remarked that the new tax:

‘... would enable the community to collect a greater and constant share of the return on its non-renewable resources. It would also promote an efficient level of output by reducing distortions to investment and production decisions as well as reducing sovereign risk over the long term.’

As Ross Garnaut¹ has emphasized in his recent lecture, ‘mineral taxation is an area in which the identification of rent has a clear and practical meaning’, because improper identification and specification of the tax can violate the above stated principles and diminish its policy credentials.

As identified earlier, because the rent represents the loss of wealth from the extraction of the resource, the most efficient way to tax mineral resources is by levying it on the value of the minerals at the mine gate.

It appears that the proposed Mineral Resource Tax is consistent with these principles. With the demand for mineral resources forecast to increase, in keeping with recent trends (Figure 1), the timing of the tax seems appropriate.

STUDENT ACTIVITIES

1. Use the article and your text to find definitions and examples of the following terms:
 - Natural resources
 - Renewable and non-renewable resources
 - Public interest
 - Transfer price
2. Explain in your own words what David Ricardo meant by the term resource rent.
3. According to the writer, why does the value of land vary?
4. Explain why the ‘price of land can be expressed as a transfer price’.
5. What do pure profits or economic rents represent?
6. Why would the States prefer the current system of taxes and royalties to the proposed Federal Government Mining Resource Tax?
7. Why is the Henry Resource Rent Tax claimed to be a more ‘efficient’ system of taxing the mining industry?

Water Allocation In The Murray-Darling Basin

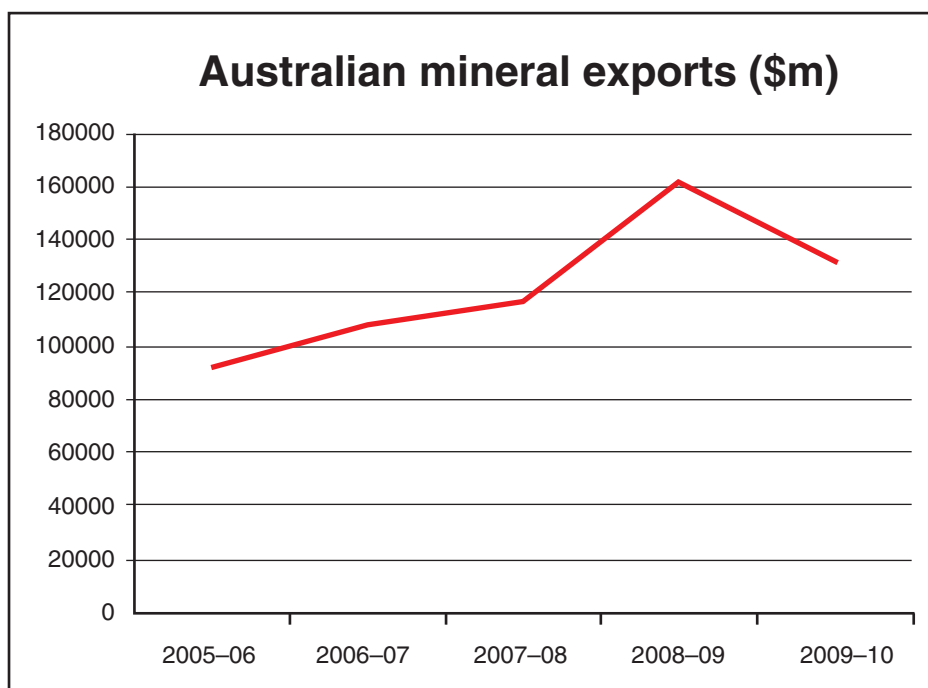
Water has been another issue of public controversy over recent years as growing demand and supply constraints under climate variability have increased the scarcity of water across all uses.

Now let’s look at the way in which irrigation water has been allocated in Australia, and how recent reform has affected the way it is being priced.

In contrast to other minerals, water is movable, as it flows naturally, and can be used repeatedly, albeit with some losses and depletion in quality. For practical purposes, water is considered a renewable resource.

Because water is naturally mobile, property rights to water were traditionally attached to land where water was used. In the Murray-Darling Basin, for example, irrigation licences have been tied to the land making them exclusive and non-transferable as a separate asset, but providing a source of

Figure 1: Recent mineral exports



Source: ABARE

reliable supply enabling a guaranteed source of income. This was consistent with the social objectives of development of irrigated agriculture as a central component of the policies of closer settlement and national development that were adopted from the nineteenth century to the late twentieth century.

Around 1980, serious concerns about the social costs of land degradation and river salinity, toxic algal blooms and rising budgetary costs in maintaining public irrigation systems led to a rethinking of ways to manage water resources to improve net social benefits. In particular, the Council of Australian Governments (CoAG)-led National Competition Reforms in 1993/94 sought to make the water industry more competitive by introducing a series of institutional reforms. The focus was to achieve an efficient allocation and management of water by allowing markets to play a greater role in providing signals about the value of water.

The key steps in this reform were:

- a. separation of titles allowing flexibility for the transfer of water licences independent of the land title;
- b. introducing a cap on diversions at catchment levels;
- c. creation of water markets that allow the sale of water allocations and water licences; and
- d. a move to full cost recovery pricing, whereby implied subsidies on water are removed.

These reforms were also accompanied by investment in irrigation infrastructure and incentives for improving water use efficiency. In more recent times, a program to buy back water entitlements and a Basin Plan that defines sustainable diversion limits have provided a means to define an exclusive environmental allocation.

While a move toward full cost recovery has provided better price signals to users, at present these charges do not include an explicit resource rent tax component. However, the differences in water charges levied on irrigators and the prices realised through water trading provide a useful indicator of the nature of rents available to water entitlement holders. Future increases in demand for water and greater restrictions being imposed with the introduction of sustainable diversion limits will likely increase these rents.

While there is no resource rent tax on water, in a number of jurisdictions explicit environmental management charges are levied on water consumed. But it is not clear whether the levels of these charges are proportional to the external costs imposed by water users on other parties. The new Basin water planning and management charge rules that will apply from 1 July 2011 may provide greater transparency in the application of these charges.

However, environmental charges may not be suitable for all water-related externalities and there are numerous difficulties in appropriately defining such charges in a way that provides incentives for private parties to act in the social interest. For these reasons it is unlikely that taxes that relate to resource rents or those directly addressing environmental externalities would become preferred policy choices in sustainable water management.

Rather, as scarcity of water continues to intensify there will be greater pressure to eliminate existing barriers for water trade and to use explicit measures to address environmental considerations. Water allocation is clearly an area where the use of economic instruments is proving to be more effective in meeting efficiency and equity considerations in natural resource management.

The volume of interstate trade increased from around 70 gegalitres in 2004–05 to 235 gegalitres in 2007–08, representing 18 per cent of the total traded volume. The price of water allocations was highly variable in 2007–08, both within and between trading zones, ranging from around \$200 to \$1200 per megalitre, about 4 to 15 times the administered water charges.

Recent experience with water trading has highlighted the benefits of water trading in improving overall water productivity. The benefits of conserving water have increased because of the drought and the resulting increase in temporary water prices. As irrigators widely recognise the scarcity of water, efforts to improve on-farm water use efficiency have enabled many irrigators to avoid serious losses in severe drought conditions.

STUDENT ACTIVITIES

8. Why is water considered to be a renewable resource?
9. By 1980, it became necessary to rethink the way we manage water resources. Why was this so?
10. Why were the key water reforms introduced?
11. How has the use of water changed since these reforms have been put in place?

Class Debate

‘Our minerals belong to all Australians – not just the mining companies and their shareholders’.

Divide into teams to debate the above proposition. To assist you in preparing your arguments visit the following websites:

The Minerals Council of Australia website and read its views about the proposed tax changes <www.minerals.org.au/>

Prime Ministers statement on proposed Mining Resource Rent Tax <<http://www.pm.gov.au/node/6868>> and <www.futuretax.gov.au/pages/default.aspx>

Notes

- ¹ The new Australian Resource Rent Tax, www.rossgarnaut.com.au ; Also check www.johnquiggin.com for commentaries on both the resource tax and water management issues.

**The Australian Economy 2010–11 (Martin *et al*) and
Australian Economic Statistics 2010–11 (Robert Prince)
available online at www.warringalpublications.com.au**

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