



WORLD GROWTH  
MONGOLIA



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# Taxation and Mining in Mongolia

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World Growth International

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**Mongolia's previously sound system of mining property rights has been undermined by the imposition of a Windfall Profit Tax (WPT) on gold and copper and a provision for the State to acquire substantial equity in mineral deposits of 'strategic importance'. The flaws in its policy regime have been confirmed by surveys of global mining companies and independent research.**

The realisation of Mongolia's considerable geological potential requires vast amounts of capital and expertise, which the country does not possess. The quality of its tax and regulatory regimes for mining will determine whether it succeeds in realising that potential for the benefit of all Mongolians.

The WPT is unprecedented. It has raised the effective tax rate (ETR) on mining in Mongolia to more than twice that in Chile or Botswana, which are judged to be international best practice. Moreover, the institutions in these countries are seen as providing private investors with superior protection to that in Mongolia.

The very high ETR on mining in Mongolia was already driving private investors away from its mining sector. The most recent tax changes will have heightened their perception of escalating sovereign risk in Mongolia. Both factors will have decidedly negative implications for public revenue, employment and GDP in Mongolia.

Given the economic problems associated with the WPT, some people have proposed that it be replaced by a resource rent tax (RRT). The RRT is a more technically sophisticated version of the WPT but it retains most of its key economic disadvantages. It is not, therefore, a policy solution in any realistic sense.

The key issue in designing a mining taxation regime, as with any other, is the economic trade-off between the tax rate and the tax base. Both are important. Their arithmetic product determines the total revenue

that is collected but the extent of the tax rate is a major influence on the size of the tax base. Beyond some point, increases in the tax rate eventually yield no revenue due to rising tax evasion and avoidance. This has already been observed as an unintended consequence of the imposition of the WPT on gold production.

Chile's experience clearly demonstrates that best practice settings for mining taxation maximise the economic benefits of mineral development over the long term but they are not in themselves sufficient. Confidence in the stability and predictability of the policy framework is also required. Chile shows both the benefits of the right tax settings as well as how easily hard won gains can be subsequently eroded.

For Mongolia, the policy direction for fundamental reform is clear. The ETR has to be cut substantially to encourage the mining sector to contribute much more for ordinary Mongolians in terms of local employment, GDP and taxation revenue over the long run. The present taxation settings are simply incapable of generating sustainable outcomes.

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## Introduction

The State Great Hural passed the *1997 Minerals Law* to regulate mining as part of Mongolia's transition to a market economy. The Law's key achievement was a system of transparent, secure and tradeable property rights in mineral exploration, mining and processing; this laid the foundation for the mineral boom that followed.

In 2006 the State Great Hural amended the *1997 Law* and added a new tax. The major changes included:

- Imposition of a 68 percent Windfall Profit Tax (WPT) on gold and copper production; and
- A provision for the Mongolian Government to acquire up to 50 percent of the equity in all 'mineral deposits of strategic importance'.

These changes have been an unmitigated setback for mining in Mongolia as they are highly unattractive to private investors. Their aversion has been further exacerbated by the weak state of Mongolia's key institutions as well as the more recent developments — such as the global financial crisis, sharp declines in world metal prices, rapidly rising wage rates in Mongolia, and constant proposals to further amend the *Minerals Law*.

In the case of the global financial crisis, the implications for mining investment in Mongolia and elsewhere are proving to be profound. The cost of finance has risen across-the-board, while the premium for risk has increased, compounding the effect of deteriorating credit conditions on long term business investment. The mining sector is acutely sensitive to both of these influences, given the highly capital intensive nature of commercial mining operations and the very long lives of their major assets. Private investment is exhibiting a 'flight to quality' as far as the policy regime for mining is concerned.

As a consequence, the large international mining houses are now reported as giving preference to investing in expanding their existing mines over riskier investments in new territory. Rio Tinto, for example,

is reviewing all the proposed investment projects, which the company has in the pipeline, and expects that the review will lead to it putting its proposed investment in Oyu Tolgai on hold.<sup>1</sup>

The flaws in the policy regime in Mongolia have been highlighted by the latest survey of global mining executives by the Fraser Institute of Canada. In 2007-08 Mongolia was ranked as the 8th worst of the 68 jurisdictions surveyed. Moreover, its ranking had slipped some 28 places compared to the 2005-06 survey, which was conducted *before* the enactment of the 2006 amendments to the *Minerals Law*. The shortcomings identified by the Fraser Institute have been confirmed by subsequent independent research.<sup>2</sup>

Mongolia has very strong geological prospects. The realisation of its considerable geological potential for the benefit of ordinary Mongolians will, however, require the application of vast amounts of financial capital and highly specialized expertise. Mongolia does not possess anything like what will be required and can only obtain these resources from abroad. Mongolia's tax and regulatory regimes for the mining sector will be a major determinant of whether the country is successful in obtaining the benefit of their services.

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This paper addresses the problems created by Mongolia's current taxation regime for mining and, in particular, whether a replacement for the WPT would fix those problems. In doing so the paper focuses on the key changes in the taxation regime for commercial mining that would make Mongolia a much more attractive jurisdiction in which to invest in mineral development for the long term benefit of all Mongolians.

This paper addresses the problems created by Mongolia's current taxation regime for mining and, in particular, whether a replacement for the WPT would

1 Rebecca Bream, 2008, 'Brutal reversal stuns mining groups', *The Financial Times*, 30 October, accessed at <http://www.ft.com/cms/s/0/f03b2344-a6b9-11dd-95be-000077b07658.html>

2 James Otto, 2007, 'Competitive Position of Mongolia's Mineral Sector Fiscal System: the Case of a Model Copper Mine', *mimeo*, January, accessed at <http://21576430.domainhost.com/docs/Dr.%20James%20Otto%20-%20Mongolia%20Competitive%20Tax%20Report%20%202007.pdf> and International Monetary Fund [IMF], 2008, *Mongolia: Selected Issues and Statistical Appendix*, IMF Country Report No. 08/201, IMF, Washington, DC, July, accessed at <http://www.imf.org/external/pubs/ft/scr/2008/cr08201.pdf>

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fix those problems. In doing so the paper focuses on the key changes in the taxation regime for commercial mining that would make Mongolia a much more attractive jurisdiction in which to invest in mineral development for the long term benefit of all Mongolians.

### Problems with the Windfall Profits Tax

Under the *1997 Minerals Law*, the mining taxation regime in Mongolia consisted of a mining royalty together with the taxes imposed on all economic sectors. The latter were principally corporate income tax, value-added tax, import duties, and excises on petroleum fuels. At that time, the effective tax rate (ETR) on mining profits in Mongolia was much lower than it is now but still relatively high by international standards.<sup>3</sup> In 2004 The World Bank put it at around 33 percent for Mongolia compared to 17 percent for Chile.<sup>4</sup>

In 2006 the State Great Hural imposed the WPT on the portion of metal sales revenue in excess of US\$2,600 per ton of copper and US\$500 per ounce of gold. Following drop in world prices in mid-2008, it raised the WPT threshold for gold from US\$500 to US\$850 per ounce. The threshold for copper was left

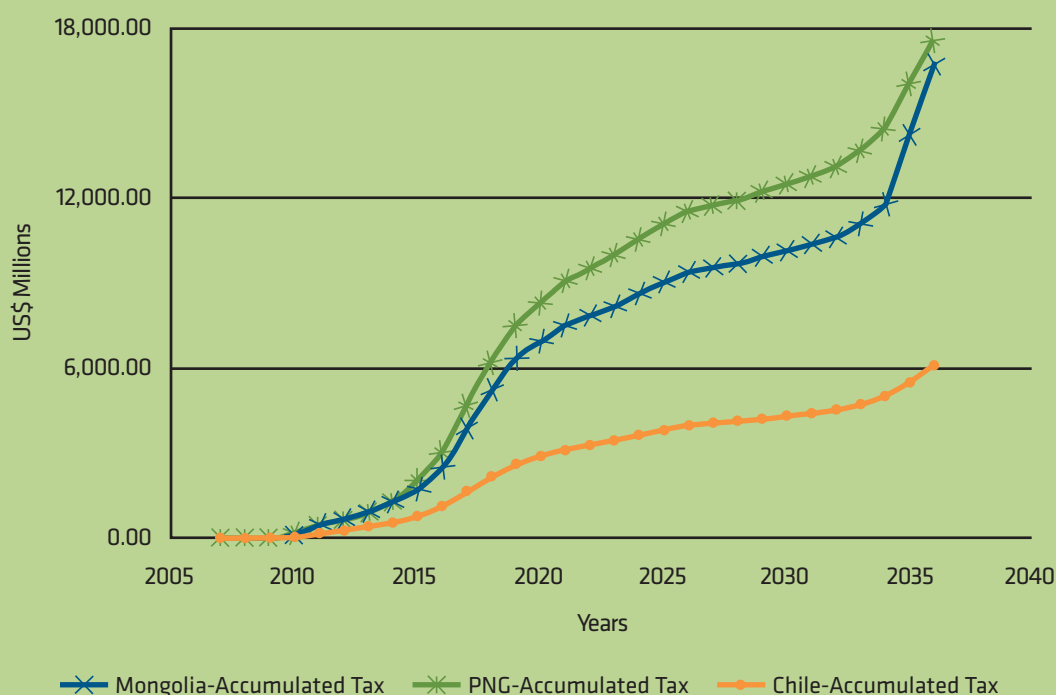
unchanged. In the case of copper production, the taxpayer is allowed to deduct their operating expenses in mining and refining the ore from their tax liability, together with an allowance of 100 percent of those costs to cover capital costs.

At the time both the *nature* of the WPT and the very *high rate* at which the WPT was levied (68 percent) were unprecedented. As a consequence of the WPT, the IMF has calculated that the ETR for a large copper mine such as Oyu Tolgoi is in excess of 80 percent.<sup>5</sup> This is more than twice the ETRs imposed by other mining jurisdictions, such as Chile and Botswana, which are considered to represent international best practice in mining taxation.

Chart 1 compares the cumulative tax revenue that would have been collected under the current mining taxation regimes of Chile, Papua New Guinea, and

Chart 1

Cumulative Tax Revenue from a Large Copper-Gold Mine, by Selected Mining Jurisdiction

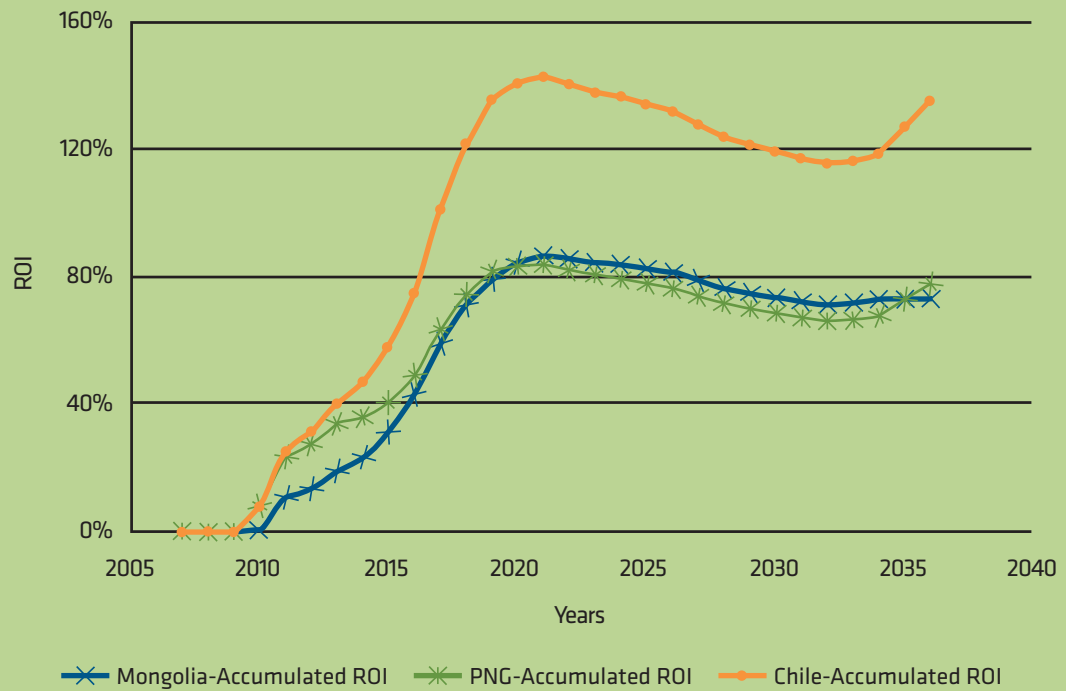


Source: World Growth estimates

3 The ETR is a measure of the relative burden imposed by all taxation on an economic activity. In this context it is the total amount of taxes, fees and charges paid to the Mongolian Government expressed as a percentage of the discounted cash flow generated by the mining investment in question.

4 The World Bank, 2004, *Mongolian Mining Sector: Managing the Future*, The World Bank, Washington, DC

5 IMF 2008

**Chart 2****Cumulative After-Tax Profit from a Large Copper-Gold Mine, by Selected Mining Jurisdiction**

Source: World Growth estimates

Mongolia. The comparisons are based on financial model of a copper-gold mine with the productive capacity of Oyu Tolgoi.<sup>6</sup> The revenues have been estimated on the basis that the copper and gold prices over the 30-year life of the mine would replicate, in real terms, the prices that prevailed in world markets between 1978 and 2007. Chart 2 shows the cumulative after-tax profit that accrues to the private investors in the mine. It has been prepared on the same basis as Chart 1.

Chart 3 shows how the marginal dollar of revenue that is earned by the mine would be distributed between the government, the mine's private investors, and their suppliers. The estimate is based on average copper and gold prices for 2007 and it underlines how little of the revenue dollar would ultimately accrue to the private investors under the existing taxation and regulatory regime in Mongolia. The government, on the other hand, would collect a huge 45 cents in the dollar in taxation.

The institutions in Chile and Botswana are, moreover, considered to be significantly stronger than

those in Mongolia from the perspective of private investors, at least as measured by Transparency International's Corruptions Perception Index and the Fraser Institute's annual survey of mining companies. These institutional weaknesses manifest themselves in:

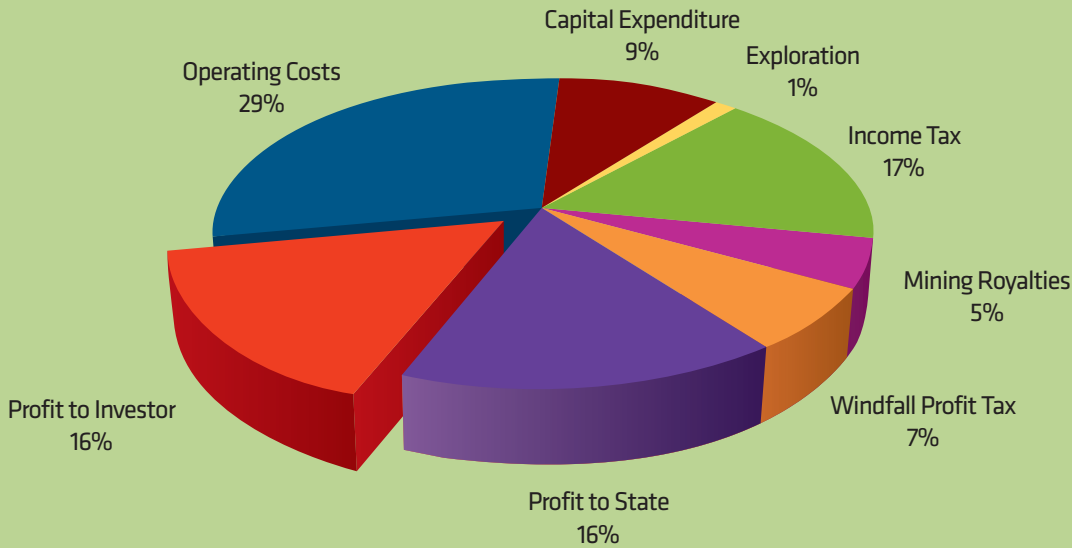
- Threats of public acquisition of a substantial part of the equity in mineral deposits considered to be 'strategic';
- Changes and threats of further changes to the regulatory and tax regimes for mining since 2006;
- A lack of transparency in public administration;
- Insecure and poorly defined property rights;
- Problems in the conduct of the judicial system; and
- Political corruption.

These institutional weaknesses mean the Mongolian regime has to be less demanding of private investors to be competitive with the leading jurisdictions around the world.

<sup>6</sup> See Ivanhoe Mines Ltd, 2008, *Oyu Tolgoi Gold and Copper Project, Southern Mongolia*, accessed at [www.ivanhoe-mines.com/s/OyuTolgoi.asp](http://www.ivanhoe-mines.com/s/OyuTolgoi.asp)

**Chart 3**

**Distribution of Marginal US\$ of Revenue from a Large Copper Mine in Mongolia, 2007 Copper & Gold Prices**



Source: World Growth estimates

If the Mongolian Government persists in maintaining a high ETR on mining, it will kill mineral exploration and mining development in the country. The WPT has already encouraged substantial tax evasion and avoidance.<sup>7</sup> Gold smuggling has boomed, while officially declared gold production has collapsed despite the sharp increase in the world price of gold since the introduction of the WPT. Mineral exploration is likely to be the next casualty. Many of the mining projects that are currently in the development pipeline are unlikely to proceed to commercial fruition. As time passes, fewer and fewer projects to develop new mines will be initiated by private investors.

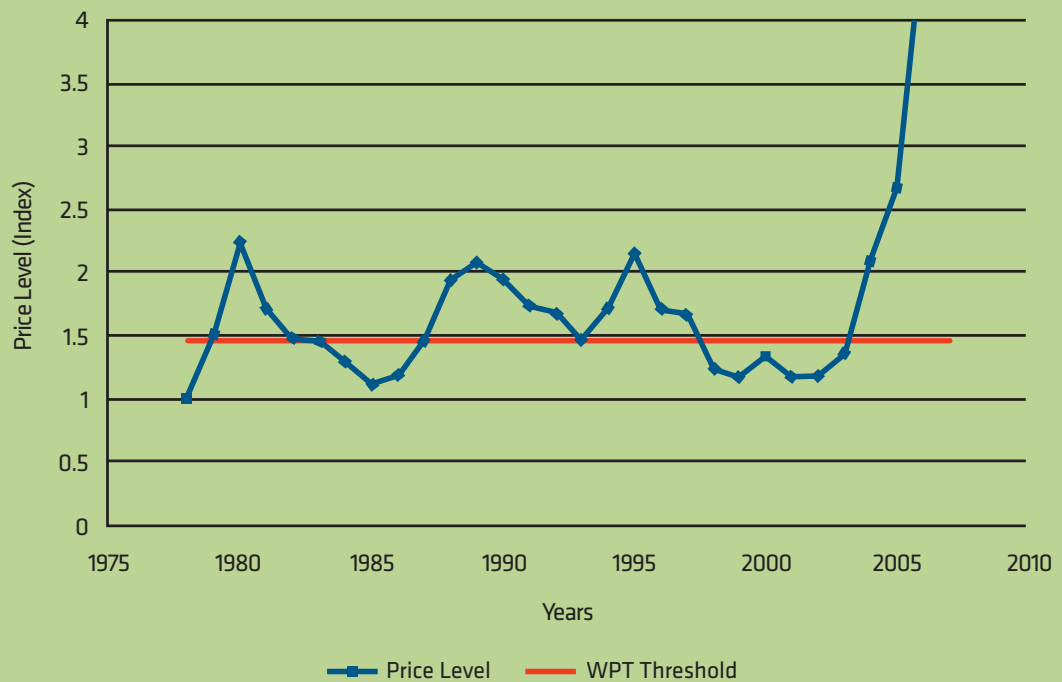
Some of these risks are starting to be recognised by Mongolian lawmakers. The *Minerals Law* allows the Mongolian Government to negotiate an Investment Agreement with a mining licensee for the subsequent development of a mineral deposit. An Investment Agreement can grant the licensee concessions on the standard taxation treatment, including an exemption from the WPT, for up to 30 years.

The Government has proposed just such an approach for the development of the Oyu Tolgoi deposit. As doubts are being raised about the legal validity of some of these proposals, there are emerging concerns that such agreements may end up increasing the sovereign risk associated with investing in Mongolia, rather than decreasing it as originally intended.

The standard tax treatment of mining in Mongolia will generate a contraction in mining investment, which will in turn adversely affect the Mongolian economy in a variety of ways. The most immediate impact will be to reduce employment in mining and the mining sector's contribution to GDP. After a lag, the reduction in investment will shrink the tax base in the Mongolian mining sector as measured by the number and productive capacity of its mines. The public revenue that is collected from the sector will progressively decline as the existing mines come to the end of their useful lives and no new ones are opened to replace them.

Chart 4 compares a weighted average of the current WPT thresholds with an index of real annual gold and copper prices on world markets for the period

<sup>7</sup> Government of Mongolia, 2008, *Law of Mongolia: On Making Amendment to the Minerals Law*, Draft Law submitted to the Speaker of the Parliament, Ulaanbaatar, 14 May

**Chart 4****Index of Copper & Gold Prices, in 2008 Values, Compared to a Weighted Average WPT Threshold for Copper & Gold**

Source: World Growth estimates

from 1978 to 2007.<sup>8</sup> The Chart shows that the annual average price for the two metals was above the composite WPT threshold for most of the years during this 30-year period, and substantially (or more than one-third) above it on at least six occasions. Indeed, the 2007 peak in prices was, by far and away, the highest of all the previous peaks.

Although not shown in the Chart, copper and gold prices have dropped significantly since the middle of 2008. As at 11 December 2008 the price of copper quoted on the London Metal Exchange remains well above its WPT threshold and futures contracts proj-

ect it to increase.<sup>9</sup> Gold, in contrast, on 12 December 2008, had dropped to just below its WPT threshold on the London Bullion Market.<sup>10</sup>

Chart 4 illustrates how frequently the WPT would have been triggered over the past 30 years based on its current settings. Moreover the vertical distance between the series indicates the size of the tax burden that would have imposed each time the tax was triggered in this period. Taken together they strongly suggest that the WPT would have had a strongly negative impact on the investment climate in Mongolia.

8 In estimating the price index, the gold and copper components have been weighted by the production shares for gold and copper projected for the Oyu Tolgoi project. The metal prices are expressed in 2008 values and have been deflated with the US implicit GDP deflator. The same approach was used to estimate the weighted average of their WPT thresholds.

9 London Metals Exchange, 2008, *Copper Grade A*, accessed at <http://www.lme.co.uk/copper.asp> on 13 December.

10 London Bullion Market Association, 2008, *Prices of Friday 12 Dec 2008*, accessed at <http://www.lbma.org.uk/index.php> on 13 December.

## A Resource Rent Tax (RRT) is Not the Answer

Given the economic problems with the mining taxation regime in Mongolia — highlighted by the introduction of the WPT — some people have proposed the WPT be replaced by a tax less destructive of investment. The favoured reform candidate is the resource rent tax (RRT). The RRT is a more technically sophisticated version of the WPT but it retains most of its key disadvantages from an economic perspective.

In its purest form, the RRT is a tax on the discounted net cash flow generated by a mining project. The tax is imposed when the rate of return to its investors exceeds a nominated threshold. In theory the threshold rate of return is chosen to ensure the investors earn the ‘normal’ risk-adjusted rate of return for similar mining projects elsewhere. The threshold is calculated after deduction of all exploration, construction and operating expenses for the project, whenever they are incurred. This includes the payment of all

top of the Corporate Income Tax, thereby increasing the marginal tax rate on company income from 35 percent to nearly 58 percent.

- In Australia, the Federal Government applies the RRT concept to offshore oil and gas projects. It increases the marginal tax rate on corporate income from 30 percent to just over 60 percent. At the state level, the South Australian Government has applied the concept to the large Roxby Downs mine.

In practice, there is no such thing as a ‘pure’ RRT. As the concept is applied it tends to be a mixture of company tax and a mining royalty. Its hybrid nature only increases the likelihood that it distorts investment.

The experience with the RRT concept in Papua New Guinea to date has been an unmitigated failure — Annex A has the details. Following introduction of the RRT, the country’s share of global exploration investment collapsed and did not recover until the

### Following introduction of the RRT, the country’s share of global exploration investment collapsed and did not recover until the government abolished the APT in early 2003.

other taxes, fees and charges levied by government. When it is levied on this basis, the RRT should only tax the ‘economic rent’ generated by the project. Economic rent is the profit over and above the minimum rate of profit, after adjustment for risk, which an investor would require to proceed voluntarily with the project in question. When levied in this way, the RRT is thought not to affect decisions about the quantity and timing of investment in a given mining project.

Notwithstanding its theoretical attraction, the concept has only ever been used in two countries.

- In Papua New Guinea the RRT concept has been applied to the mining and petroleum sectors. The tax has had many modifications since its introduction in the 1970s and many variants of it have operated side-by-side. In its most recent manifestation, it is levied as an Additional Profits Tax on

government abolished the APT in early 2003. Moreover mineral export volumes from Papua New Guinea have generally been on a declining trend for some time. This reflects the depletion of proven reserves and, until recently, the lack of new investment in exploration.<sup>11</sup> It remains to be seen, however, whether the reintroduction of the RRT for the forthcoming PNG LNG project being led by ExxonMobil has a chilling effect on exploration investment the minerals sector and perceptions of sovereign risk in Papua New Guinea by private investors.

If the key RRT parameters currently used in Papua New Guinea, were to be substituted for Mongolia’s WPT, we estimate that it would make very little practical difference to either the revenue collected by the government (see Chart 1) or the after-tax return to the private investors (see Chart 2). Accordingly it would not address a fundamental shortcoming of the current mining taxation regime, namely that the

<sup>11</sup> IMF [International Monetary Fund], 2008, *Papua New Guinea: Selected Issues and Statistical Appendix*, IMF Country Report No. 08/93, International Monetary Fund, Washington, DC, March, accessed at [www.imf.org/external/pubs/ft/scr/2008/cr0893.pdf](http://www.imf.org/external/pubs/ft/scr/2008/cr0893.pdf) in 9 December 2008

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overall tax burden is far too high compared to best practice mining jurisdictions around the globe. In other words the mining sector in Mongolia would continue to be uncompetitive in attracting the foreign investment, which is essential for its development.

Putting the issue of the overall tax burden aside, a tax on economic rent is not necessarily economically neutral.

Economic rent is the reward for entrepreneurial insight in a environment characterised by profound uncertainty. In such an environment, the needs of consumers have to be actively discovered and articulated, while the capital and labour to service those needs have to be identified and organised. So-called 'normal' profits only compensate those who provide the capital. They do not reward those who discover new products, new markets for existing products, or new ways to produce them.

Taxing the economic rents generated by mineral development via an RRT will significantly affect the preparedness of private investors to finance mineral exploration and the exploitation of mineral deposits once they have been found. Success in each of these areas depends fundamentally on entrepreneurial insight. The problems of the RRT, however, do not end there. The practical application of the concept also suffers from the following disadvantages.

- Mining projects have to be 'ring fenced' to make tax administration feasible. However, this necessarily limits the extent to which exploration expenditure incurred prior to discovery of the deposit under development can be deducted from the licensee's tax liability. This detracts from economic neutrality.

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**Such pronounced swings in the rules for a very controversial tax only serve to aggravate investor perceptions of sovereign risk.**

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- The RRT also distorts exploration expenditure incurred following the imposition of the tax. It encourages exploration 'inside the fence', as it is tax deductible, while discouraging expenditure 'outside the fence' where it is not.
- The RRT increases sovereign risk. To be economically neutral, the tax rules must remain unchanged for the life of a mining project. This can be very hard to achieve, particularly in developing and transition economies whose political and fiscal circumstances can change dramatically. For example, Papua New Guinea first applied an RRT to Rio Tinto's Bougainville mine in the 1970s. The revenue windfall to the central government helped fuel civil unrest on the island, which led to the closure of the mine in 1989. Moreover, after many changes to its tax rules the government abolished the RRT on mineral and petroleum developments in early 2003, only to announce in mid-2008 that it would reintroduce the RRT for a forthcoming LNG project. Such pronounced swings in the rules for a very controversial tax only serve to aggravate investor perceptions of sovereign risk.
- The RRT encourages a range of inefficiencies in the development and management of mining projects. They include 'gold plating' in the form of economically excessive capital expenditure, as well as inefficiencies in the management of mining operations. Such excessive expenditures are fully tax deductible and the investor is, in effect, guaranteed the benchmark rate of return that triggers the RRT.
- Due to the inherent complexity of any application of the concept, an RRT imposes relatively high transactions costs on the parties involved in assessing and paying the tax. These include the costs of compliance on the part of taxpayers and the costs of administration incurred by the tax authorities.
- The RRT discourages R&D and the development of marginal mineral deposits. Both are relatively high-risk business activities and the tax reduces the extent of the profits that success generates.

### There is Only One Alternative

The key issue in designing a mining taxation regime, as with any other, is the nature of the economic trade-off between the tax rate and the tax base to which it is applied. Both parameters are important as their arithmetic product determines the total revenue that is collected by the government. They are not, however, independently determined: the extent of the tax rate is a major influence on the size of the tax base.

All taxes create incentives for taxpayers to evade and avoid the tax. In doing so, the tax rate reduces the (apparent) size of the tax base. The higher the tax rate, the stronger these incentives are. Eventually increasing the tax rate shrinks the tax base to such a degree that the revenue collected falls in absolute terms. At the extreme the tax base falls to zero and no revenue can be collected.

enues grew by 0.1 percent per year in real terms. The U.S. economy responded strongly to the 1925 tax cuts, with output nearly doubling and unemployment falling sharply.<sup>12</sup>

Changes in capital gains taxes provide a unique opportunity to study the effect of taxation on taxpayer behaviour. Capital gains taxes are different from other taxes in that taxpayers generally have more control over the timing of the realization of capital gains and therefore the payment of the associated tax liability. The historical experience has been remarkably consistent: cuts in the tax rate on capital gains are followed by a revenue surge but revenue dives after an increase.

In 1981 the U.S. tax rate on capital gains was cut from 28 percent to 20 percent. Capital gains tax revenue leapt from US\$12.5 billion in 1980 to

**In the mining context, other things being equal, more public revenue will generally be generated by a relatively low tax rate applied to a relatively large number of mines compared to the alternative of a relatively high tax rate applied to a relatively small number of mines.**

There have been many notable examples of this phenomenon outside of the mining sector. These examples have confirmed the trade-off between the size of the tax rate and the extent of the tax base. In the mining context, other things being equal, more public revenue will generally be generated by a relatively low tax rate applied to a relatively large number of mines compared to the alternative of a relatively high tax rate applied to a relatively small number of mines.

When the U.S. federal income tax was introduced in 1913, the highest marginal rate was just 7 percent but had increased to 77 percent by 1918, due to World War 1. In 1925 the U.S. implemented an across-the-board cut in income tax rates, reducing the top marginal rate to 25 percent. Over the previous four years, Federal Government revenues had declined by an average of 9.2 percent per year in real terms. Over the subsequent four years, Federal Government rev-

enues grew by 0.1 percent per year in real terms. The U.S. economy responded strongly to the 1925 tax cuts, with output nearly doubling and unemployment falling sharply.<sup>12</sup>

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In 1981 the U.S. tax rate on capital gains was cut from 28 percent to 20 percent. Capital gains tax revenue leapt from US\$12.5 billion in 1980 to US\$18.7 billion by 1983, an increase of 50 percent.

In 1986 the tax rate on capital gains was increased from 20 percent to 28 percent. Revenue surged prior to the increase in the tax rate (US\$328 billion in 1986). This was followed by a collapse in revenue after the increase took effect (US\$112 billion in 1991).<sup>13</sup>

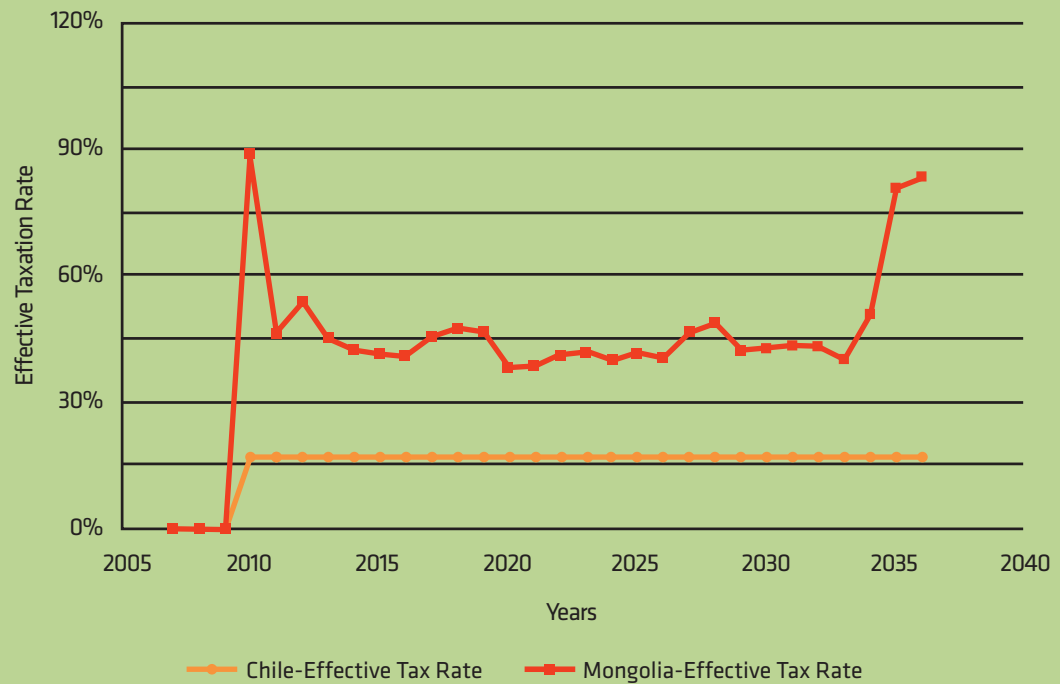
The taxation regime for mining in Mongolia has reached just such a turning point. Chart 5 highlights the fact that the effective tax rate for new mining projects is now clearly economically counterproductive and is not in the interests of the country as a whole. This has been dramatically illustrated by the sharp rise in gold smuggling and the collapse in official gold production following introduction of the WPT. In the absence of reform, international investors can be expected to avoid investing in mineral exploration and mining development in Mongolia.

<sup>12</sup> Arthur B Laffer, 2004, *The Laffer Curve: Past, Present, and Future*, Heritage Foundation, 1 June, accessed at <http://www.heritage.org/Research/Taxes/bg1765.cfm> on 5 December 2008

<sup>13</sup> Laffer 2004

**Chart 5**

**Effective Tax Rate for a Large Copper-Gold Mine in Mongolia & Chile, Based on Copper & Gold Prices for 1978-2007, Converted to 2008 Values**



Source: World Growth estimates

The direction for fundamental reform is clear-cut. The effective tax rate for mining projects has to be significantly reduced across the board. This will allow the mining sector in Mongolia to expand and to do so at a faster rate, compared to the stagnation that may be expected under the current taxation settings. In this way the mining sector will be able to contribute much more for ordinary Mongolians in terms of local employment, GDP and taxation revenue. In contrast, the present taxation settings are

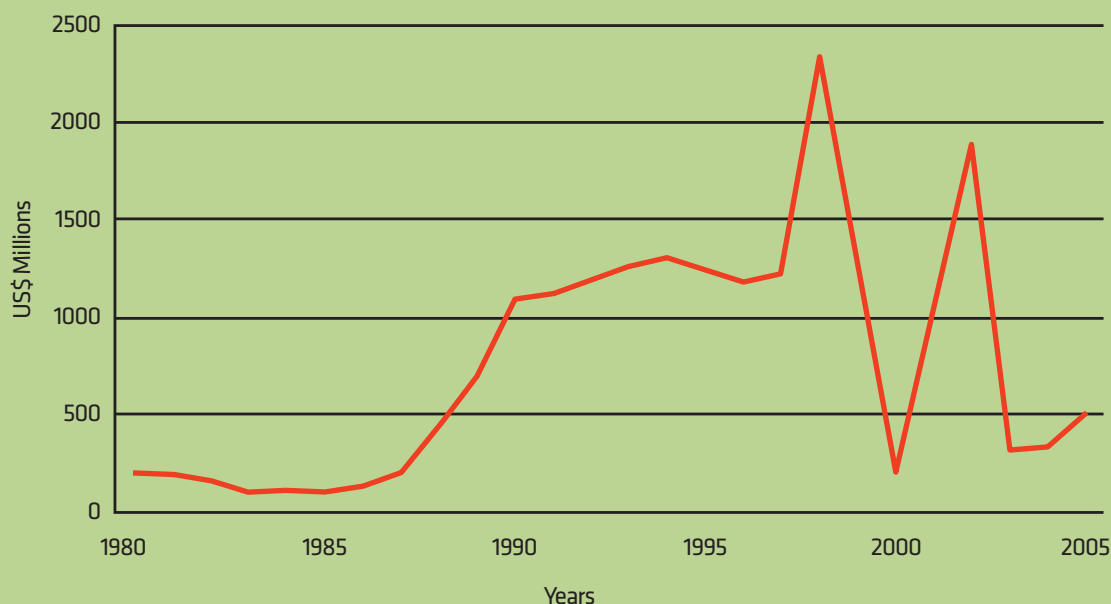
simply incapable of generating sustainable outcomes over the long term.

Chile's experience clearly demonstrates that best practice settings for mining taxation are required to maximise the long-term benefits of developing its mineral endowment. The effective tax rate of the Chilean taxation regime has consistently been among the lowest of the world's mining jurisdictions.<sup>14</sup> Perhaps most telling of all is that, of all the copper mines that have been opened around the world in the past two decades, the bulk of the new productive capacity has been in Chile. The dimensions of Chile's mining investment boom since the 1980s are well illustrated by Chart 6.

But such settings are not in themselves sufficient. Confidence in the stability and predictability of the policy framework is also required. Chile shows both the benefits of getting the settings right, as well as how easily hard won gains in competitiveness can be eroded by subsequent policy changes. Further details are set out in Annex A.

**The effective tax rate for mining projects has to be significantly reduced across the board. This will allow the mining sector in Mongolia to expand and to do so at a faster rate, compared to the stagnation that may be expected under the current taxation settings.**

<sup>14</sup> Otto et al 2000

**Chart 6****Annual Investment in Mining, Chile, 1980-2007, US\$ million**

Source: Chile Comité de Inversiones Extranjeras as cited in G Mognillansky, *Chile: Las Inversiones en el sector minero 1980 - 2000*, UN Economic Commission for Latin America and the Caribbean, Serie Reformas Economicas 3

Some in Mongolia seem to believe that the government can avoid the need for fundamental reform by negotiating taxation concessions for particular mining projects through the Investment Agreement process.

This view is badly mistaken. The government does not have either the information or the administrative expertise to make such an approach work over the long term; even if it could overcome the latter, there is no avoiding the former constraint.

Moreover, the lack of a clear, consistent, and stable set of tax policy principles that are applied to the mining sector will only increase Mongolia's sovereign risk in the eyes of international investors. The first casualty will be investment in mineral exploration and without an active exploration programme the country has little prospect of bringing an increasing number of new mines on stream and being able to sustain the expansion of the mining sector over the long term.

Others in Mongolia seem to believe the excess tax burden can be eliminated by offering to forego the WPT in return for commitments by mining licensees to expand downstream processing, such as by build-

ing and operating a smelter to process the concentrate from the Oyu Tolgoi project.

This view is equally mistaken. If downstream processing is economically viable in Mongolia, the mining companies will be happy to invest in it without a taxation concession. If it is not viable, however, such a concession will only cannibalise economically viable investment upstream and Mongolia will lose overall.

Although reducing the ETR on mining in Mongolia

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is vital, resetting the composition of the tax burden is nearly as important. In this regard the World Bank has previously recommended the individual components of a comprehensive package of reforms to the Mongolian mining tax regime that the Mongolian Government needs to implement if the regime is to match international best practice — the details of the Bank’s recommendations to the Mongolian Government are set out in Annex B.

The most pressing features of the reform package are as follows:

- Abolition of the WPT (and/or RRT to replace it);
- Abolition of the provision for public equity in ‘strategic’ mineral deposits;
- Reduction of the mining royalty for both copper

and gold to no more than 4 percent of the Net Smelter Return;

- Implementation of a corporate income tax rate of no more than 30 percent, and preferably closer to 25 percent;
- Provision for an unlimited ability for corporate taxpayers to carry-forward income tax losses to future tax years.

These changes need to be implemented immediately if Mongolia is to recover its reputation as an attractive place to invest in mineral exploration and development and to signal to private investors that the country recognises that their capital and expertise are essential for Mongolia’s economic development. On that basis, the remaining policy changes could be implemented progressively.

## Annex A: Taxation & Mineral Development in Papua New Guinea (PNG)

In 2007-08 PNG ranked near the top of the Fraser Institute's global rankings in terms of mineral development potential.<sup>15</sup> In sharp contrast, however, it only ranked 55th (out of 68 jurisdictions) on the Institute's measure of investment attractiveness. The evolution of the tax and regulatory regimes for mining in PNG explain, at least in part, the country's poor showing in this regard.

Between 1996 and 2000 the PNG Government raised the rate of its mining royalty from 1.25 percent to 2 percent and introduced a 4 percent levy on assessable mining income, which was, in effect, a supplementary royalty.

In addition to corporate income tax, PNG also levies an Additional Profits Tax (APT) on certain resource projects and places restrictions the tax deductibility of exploration expenditures under its corporate tax regime. The APT is a form of RRT and was levied on the profits earned above a threshold internal rate of return.

During this period, the PNG Government enacted legislation to give it the right to acquire up to 30 percent of the equity in a mining lease when the lease is issued. The acquisition price paid by the government is based on the exploration costs involved and not on the full market value of a lease.

The PNG Government implemented these policy changes in an environment characterised by depressed metal prices, widespread concern over sovereign risk, and a deteriorating domestic political situation. By 2000 it was clear that PNG was uncompetitive in attracting global mining investment. Although global minerals exploration declined between 1996 and 2000 due to depressed metals prices, exploration in Papua New Guinea contracted even faster. As a consequence, the country's share of global exploration investment fell significantly.

The PNG Government initiated a review of its fiscal regimes for minerals and petroleum. The review proposed a number of policy changes. In 2000 the government scrapped the mining levy for all new projects and announced it would phase it out on ex-

isting projects.<sup>16</sup> It also cut the tax rate for the APT but simultaneously lowered the threshold internal rate of return, which triggers the APT, from 20 percent to 15 percent.

The mining industry and international investors welcomed the elimination of the mining levy but not the lowering of the APT threshold. The negative implications of the APT for mining investment have been a consistent concern since its introduction. Despite scrapping the mining levy, PNG has remained internationally uncompetitive in attracting mining investment and its share of global mineral exploration has not recovered.

In 2002 the PNG Government conducted another review of mining taxation. This led to the complete elimination of the APT in early 2003, as well as cuts in the corporate income tax to 30 percent and in the dividend withholding tax to 10 percent. The mining royalty rate was fixed at 2 percent of the Net Smelter Return and the restrictions on deducting off-site exploration expenditures from corporate income tax were relaxed. Finally the government undertook to reassess the option in the PNG mining law to acquire up to 30 percent of the equity in any new mining project.

The evidence suggests that these policy changes were having a positive impact. Mineral exploration had risen to the point where the country's share of global

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<sup>15</sup> The Fraser Institute 2008

<sup>16</sup> The phasing-out of the levy was expected to be completed by the end of 2007 (IMF 2008)

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exploration had begun to recover. Recent research has estimated that the returns to mining investment in PNG had increased compared to other mining jurisdictions.<sup>17</sup> On the basis of the internal rate of return to a representative copper mine, PNG was ranked 4th out of 24 mining jurisdictions in 2003 compared to 20th in 1999.

Despite the reforms made since 2002, a number of policy factors continue to have a substantially negative impact of the mining investment climate in PNG, a fact highlighted by the latest Fraser Institute rankings. For example, as measured by the Institute's

Room to Improve Index, Papua New Guinea ranked at 16th (out of 68 jurisdictions) in 2007-08. The negatives include the severe uncertainty associated with the system of customary land title, the deterioration in security, and widespread corruption.

Following an agreement with the project sponsors, in late May 2008 the PNG Government announced that the APT would be reintroduced for the ExxonMobil-led PNG LNG project. The joint venture expects to commence exports of LNG in late 2013 or early 2014.

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<sup>17</sup> James Otto, 2002, 'Materials for a Workshop on the Provision of the Papua New Guinea Tax System as Compared to Mining Taxation Systems of other Nations', *Report Prepared for the PNG Department of Mining and The World Bank*, as quoted in Otto et al 2006.

## Annex B: Taxation & Mineral Development in Chile

During the late 1970s and early 1980s the Chilean Government liberalized foreign investment to attract private investment. As a consequence, direct foreign investment played an increasing role in the development of the Chilean copper industry with private mining companies developing a series of new large-scale mines in Chile — see the Table below for details. Copper output rose rapidly and Chile enjoyed rapid economic growth, in large part due to the massive expansion of its copper industry.

For over two decades, Chile has offered private investors a very favourable investment climate in the mining sector. The Fraser Institute Mining Survey

has consistently put Chile at the top of its rankings of overall investment attractiveness — in 2007-08 it was in 6th place.<sup>18</sup> In large part this attractiveness rests on Chile's very favourable mineral taxation regime, particularly its general corporate tax regime.

### Mining Taxation in Chile

Corporate income taxation in Chile is levied at a base rate of 17 percent. Codelco pays an additional 40 percent in company tax and must transfer 10 percent of its annual export revenue to the armed forces.

Foreign-owned companies have a choice of one of two corporate taxation regimes.

**Table**

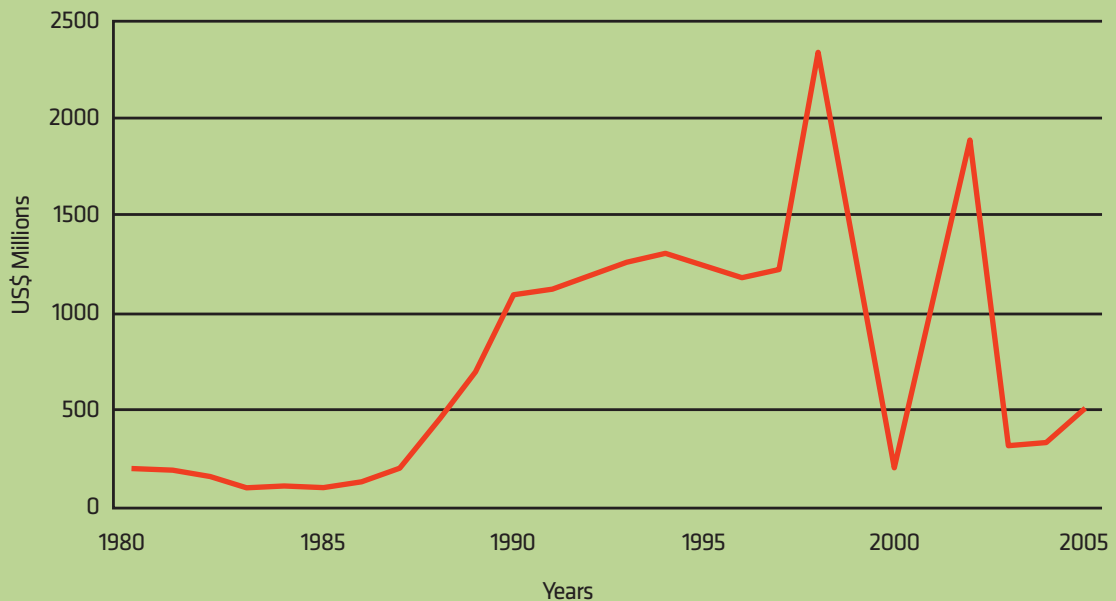
**Ownership & Output of Copper Mines, Chile, 2003**

Year of First Production	Name of Company	2003 Output (a)	Ownership
<b>Codelco</b>			
pre-1980	Chuquicamata	601	Government of Chile
pre-1980	El Teniente	339	Government of Chile
pre-1980	Andina	236	Government of Chile
pre-1980	Salvador	80	Government of Chile
1998	Radomiro Tomic	306	Government of Chile
	<i>Sub-total</i>	<i>1 563</i>	
<b>Other producers</b>			
pre-1980	Disputada	278	Anglo American
pre-1980	Mantos Blancos	147	Anglo American
pre-1980	Enami	122	Government of Chile
1990	Escondida	995	BHP Billiton, Rio Tinto plc, Mitsubishi, IFC
1994	Candelaria	213	Phelps Dodge
1994	Cerro Colorado	132	BHP Billiton Gr
1994	Quebrada Blanca	80	Aur Resources Inc.
1994	Michilla	53	Antofagasta
1995	Zaldivar	151	Placer Dome
1996	El Abra	227	Phelps Dodge, Codelco
1998	Collahuasi	395	Anglo American, Noranda, Mitsui, Nippon Mg Hold
1998	Lombas Bayas	60	Noranda
1999	Los Pelambre	338	Antofagasta
2001	El Tesoro	92	Antofagasta, Equatorial
	Others	61	
	<i>Sub-total</i>	<i>3 342</i>	
	<b>Total</b>	<b>4 905</b>	

Note: (a) output measured in thousands of tonnes of contained copper

Source: Government of Chile, Comision Chilean de Cobre as cited in Otto 2006

18 The Fraser Institute 2008

**Chart 6****Annual Investment in Mining, Chile, 1980-2007, US\$ million**

Source: Chile Comité de Inversiones Extranjeras as cited in G Mognillansky, *Chile: Las Inversiones en el sector minero 1980 - 2000*, UN Economic Commission for Latin America and the Caribbean, Serie Reformas Economicas 3

- Under Option 1, they pay 35 percent on repatriated income less a 15 percent credit for paid company taxes;
- Under Option 2, they pay 42 percent on dividends, distributions and remittances in return for tax rates remaining unchanged for 10 years; this may be extended to 20 years for investments in excess of US\$50 million.

The 17 percent base tax rate is fully deductible against the additional company tax under assessed both options.

Six foreign investors, including Escondida, have selected Option 2. All other foreign companies have selected Option 1.

There is unlimited carry-forward of losses, subject to the maintenance of a maximum debt-equity ratio. Accelerated depreciation is available and write-offs may be made over 7 years. Feasibility studies, pre-production, exploration and development costs can be capitalised and are tax deductible.

A bilateral investment treaty can reduce withholding tax on interest payments on loans to foreign banks from 35 percent to 4 percent.

From 1 January 2006 Chile has imposed a mining royalty at a rate between 0.5 and 5 percent of taxable earnings. It involves the advance payment of provisional tax and was introduced to fund innovation projects and regional development. One-half of royalty payments are deductible from corporate income tax until 2008.

#### Development Benefits for Chile

At the present time, Chile has six of the world's top 24 metal mining companies and produces one-third of global copper production. In 2005 copper mining alone generated 13 percent of Chilean GDP and around half of its exports by value.

Inwards Foreign Direct Investment (FDI) into Chile has been rising strongly and it accounted for a third of gross fixed capital expenditure in Chile in 2006. Much of this FDI was financed from retained earnings and the majority of it was invested in the mining sector — see the chart below. At the present time, Chile accounts for 3 percent of global expenditure on mineral exploration Finding and developing new deposits is however becoming more expensive.

Mining employs 90,000 people, or 1 percent of the working population. It has delivered real wage

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increases of 2.4 percent per year from 1994 to 2004 and enabled the number of people living in poverty to be halved since 1990.

Chile's global competitiveness ranking by the Fraser Institute fell from 3rd in 2005-06 to 27th in 2006-07. The biggest falls were in assessments of political stability and security. This demonstrates the premium mining companies attach to policy stability and certainty and is too soon after the introduction of the new mining royalty to be coincidental.

### **Implications for Mongolia**

Chile's experience demonstrates that best practice settings for mining taxation are required to maximise the long-term benefits of developing its mineral endowment. But they are not in themselves sufficient. Confidence in the stability and predictability of the overall policy framework is also required. Chile shows both the benefits of getting the settings right as well as how easily hard won gains in international competitiveness can be eroded by changes in those settings.



### Annex C: International Best Practice Settings for Mining Taxation in Mongolia as Recommended by the World Bank

The World Bank has recently benchmarked the taxation settings that are applied to minerals exploration and mining around the world.<sup>19</sup> The Bank's recommendations to the Mongolian Government of the policy settings for international best practice are replicated in the Table below.

#### Table

#### Taxation Provision and Best Practice Setting

Taxation Provision	Best Practice Setting
Corporate income tax rate	25% to 30%
Withholding tax rate on dividends	15%
Mining royalty rate (on an ad valorem basis)	2% to 4%
Tax on windfall profits	None
Import duty on mining plant & equipment	None
Export duty on mineral commodities	None
Value-added tax	Refundable
Depreciation of mining plant & equipment	Accelerated & pooled depreciation
Depletion allowances	None
Ring fencing of tax liability of nominated activities from the rest	None
Treatment of mineral exploration expenses	Amortized over 5 years
Treatment of environmental expenses	Expensed
Treatment of mine closure & rehabilitation expenses	Tax deductible contributions into sinking fund
Tax holidays	None
Carry forward of tax losses	Unlimited or Available for up to 7 years

Source: World Bank 2008

<sup>19</sup> The World Bank, 2008, *Mongolia Quarterly*, The World Bank, Washington, DC, 28 January.



## WORLD GROWTH MONGOLIA

### **About World Growth Mongolia**

World Growth Mongolia is a non-profit, non-governmental organization established to promote sound policies to address Mongolia's economic challenges. At World Growth Mongolia, we embrace and celebrate the new age of globalization and the power of free trade to eradicate poverty, improve living conditions, and create new jobs and opportunities for the People of Mongolia. We strongly believe in the need to promote our five core principles: Economic Freedom; Good Governance; Rule and Stability of Law; Property Rights; and Environmental Interdependence. For more information on World Growth Mongolia, visit [www.worldgrowth.mn](http://www.worldgrowth.mn).



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