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On "Mineral Rents and Social Development in Chile"¹

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³ Disclaimer: this is a draft paper. All figures presented have been double-checked. Nevertheless, the serious implications of the conclusions demand greater care in this aspect prior to publication. The author kindly requests all readers who may find any inconsistency in the data presented – or any other mistake – to please consider communicating this to mriesco@cendachile.cl. In addition, the results will be sent to Consejo Minero, Minera Escondida, CODELCO and Cochilco to request their comments prior to official publication.



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Introduction

UNRISD has continued its research on the decisive issue of mineral rents and development, with a seminar on "Social Policy in Mineral-Rich Countries." Previous UNRISD findings¹ on the subject aroused quite an argument in Chile, as they showed the rather scandalous fact that most private mining companies which since the 1990s have regained control over 70% of Chilean nationalised copper minerals - the rest is exploited by State owned CODELCO - had operated over a decade without paying any taxes at all - even worse, they had accumulated billions in tax credits.

In addition, the UNRISD research showed that the only company that had paid significant taxes - which happens to be the world largest, and a leader in the corporate social responsibility (CSR) as well - had been systematically under-pricing its copper, overpricing refining services paid, and underestimating the value of by-products contained in the concentrates it ships; in all cases ostensibly in the benefit of related companies that buy and process the concentrates (Riesco, Lagos and Lima, The 'Pay Your Taxes' Debate 2005).

Understandably, such conclusions caught the attention of the Chilean government, parliament, and public opinion - as well as the company involved. The latter commissioned a counter-report by experts in a leading university that was published by UNRISD together with its own research. The debate took place in a moment when the facts denounced were matter of wide public concern in Chile, and two of it's main assertions have since been proved true beyond any doubt, while the third remains a matter of serious concern as this paper will show (Riesco, Lagos and Lima, The 'Pay Your Taxes' Debate 2005).

New legislation was enacted in 2005, which established a special 5% surtax² on net profits, for the mining companies. However limited, it has already produced over a billion dollars in tax revenues, in addition to the modest returns of regular income taxation that have started to flow from the mining companies since copper prices boomed in recent years - profit-disguising and complete tax evasion has become quite impossible at current copper and by-product prices. These financial resources, in turn, helped the Chilean state to partially supplement the serious deficiencies of privatised Chilean social policies, which have been reaching a point of crisis as well in recent years.

The above-mentioned UNRISD research may properly be considered as one of the elements that contributed to create the public awareness that led to this reform.

On occasion of this seminar, the paper on the Chilean case³ (Guajardo 2008) presents a singularly positive vision of current Chilean mining industry, and the country's overall economic and social policies as well⁴. This should come as no surprise, because this time its author happens to belong precisely to the centre that maintains the closest relation with the private mining industry, and has provided both the main intellectual support and the cadres that have implemented the mining policy that has been in

¹ See for example The Pay Your Taxes Debate, UNRISD, 2005

² This is the maximum surtax rate, and it is applied over net income calculated before tax, depreciation and interest payments.

³ Which will be referred in what follows as "the paper," and only page number (pg.#) will be used to mention specific citations.

⁴ For example, many of the facts enumerated in the paper are also listed in the website www.consejominero.cl, which represents the private mining companies operating in Chile. The description of social and economic policies is also commonly repeated in government official presentations.

effect since 1990¹.

Most of these facts are correct - an [appendix](#) is included where a few factual objections are raised, in addition to the presentation of the other side of the argument in matters not directly related to mining, such as social policies and others -, but they represent only the bright side of the picture, so to say. This may seem necessary and useful for many purposes, but certainly is not the kind of reasoning that lead to changes in the prevailing state of affairs - which in the case of many current Chilean policies may be in the loom, as current events in the country, the region, and the world, seem to suggest.

On the other hand, UNRISD has at the same time requested this commentary on the above mentioned paper, from a researcher belonging to one of the centres² that has spearheaded the criticism of current policies, which understandably is focused in underlining the main problems. Both centres have earned a widely respected reputation for long-term, serious, commitment to the subject matter. As a result, both the paper and its comments should offer the reader an interesting perspective on the main confronting positions in an ongoing debate that addresses what is by far the main strategic problem facing Chilean public policies in the present day.

The issue at stake is no less than the major part of the overall yearly Chilean social policy budget - roughly the equivalent to public expenditure in education, health, and pensions, put together. That is approximately the bulk of mineral rent that - at current copper prices - is being siphoned offshore every year, mostly to finance the global monopolistic ambitions of one or two transnational mining behemoths.

Will the country be able to define a policy that may both maximise and retain the ground rent of its rich minerals? This is by no means a technical matter, but rather a purely political one - in the sense that a very wide and powerful advocacy coalition must be put together in order to achieve this purpose, *vis a vis* the awesome power of the mining companies who benefit disproportionately from the current situation.

Furthermore, it will require major changes in the *transición a la democracia* (*transition to democracy*) political system that has lasted longer than the dictatorship it replaced in 1990. Precisely, the limited democratic procedures of "transición" confer practical veto power to the actors identified with special interests such as the mining companies - which operate both from within the government and the opposition.

These challenges may seem quite overwhelming. At first glance it looks like David vs. Goliath struggle. However, Chileans have learnt how to overcome such situations. They already achieved it once against much worse odds. When President Allende nationalised mineral resources in July 11, 1971, he received the unanimous support of all political forces represented in parliament at the time, which were otherwise engaged in the worse of confrontations against one another.

Precisely, at the very moment the seminar is taking place in the seemingly perennially calm waters of Geneva, far to the south, in the rough, mineral rich, Chilean deserts and cordilleras, thousands of mining sub-contractor workers are blocking roads and paralysing copper production, with the explicit support of regular employees. Ostensibly, they are demanding equal treatment, equal pay, and equal

¹ Centro de Estudios del Cobre, CESCO, Santiago, Chile. www.cesco.cl. The leading author of the mentioned counter-paper commissioned by a private mining company against the previous UNRISD paper is a member of this centre. Other members of this centre have occupied the key posts in government and CODELCO, the State mining company, where mining policy is in fact decided, since 1990 and up to this day Roberto Farías, *El cobre chileno los nuevos caminos a la usurpación*, Terram (Santiago: http://cep.cl/CENDA/Cen_Documentos/Cobre/cobreterram.pdf), accessed on 12 July 2004.).

² Centro de Estudios Nacionales de Desarrollo Alternativo, CENDA, Santiago, Chile. www.cendachile.cl The author of the previous UNRISD paper belongs to this centre.

benefits, for equal jobs. However, they have explicitly said that the end goal of their struggle is the re-nationalisation of mineral resources. An overwhelming majority of Chileans support this quite evident demand, whatever the form it may assume.

Sooner or later, this will become unavoidable. Hopefully, all Chileans - including all academics that have so enthusiastically promoted and supported the current scheme for so long - will join such a stance when the time comes.

The recent Chilean struggle for the rent of its mineral resources

The commented paper underlines the extraordinary dynamism of the Chilean mining sector, especially since the mid 1990s, when transnational companies starting pouring investment into this industry. The author presents at length the spectacular production increase and its several positive impacts.

However, is there was a darker side to this boom? A strong case may be presented, suggesting there are negative aspects, indeed! There are three main lines in this argument:

- As a result of ill-conceived taxing policies, most of the ground rent of the millions of tons of minerals extracted, ended up in private hands.
- Mostly, the mineral rent ended up in hands of the main foreign competitors of the one and only world-class Chilean company, with considerable debilitating effects on its position.
- In addition, the hyper favourable conditions offered to investment in mining, generated a serious distortion in resource allocation, which among other problems caused severe rent loss during several years, damaging the economy at large and State revenues in particular.

These seem to be the main reasons why a wide advocacy coalition has been in the making, with the purpose of retaining and maximizing Chilean mineral rent. Significant advances have already been attained. However, the main objective is still pending.

¿Liberals versus nationalists?

The commented paper presents the Chilean mining policy as the result of "a never ending struggle between the opposing trends of thought represented by liberals and nationalists. This curtailed the application of consistent long-term policies (pg.30)." The prefix "ultra" is added to both categories during the Pinochet years.

This hardly appears to be a fair presentation of the argument. Alternatively, why not conceive it as the long-term struggle by Chilean people, to attain the rational goal of appropriating and maximizing the significant ground rent ¹ of the country's rich mineral resources?

¹ As is well known, ground rent is an economic concept that derives from the existence of fixed factors – land is the case studied by the classics, especially Smith, Ricardo and Marx – which constrain production when demand increases past a certain level, making prices to rise above competitive levels. The extra price is transformed into rent paid to the owners of the scarce resource by new entrants attracted by the surplus profits. Additional theoretical developments took into account differential rents (Ricardo), absolute rent (Marx), and inter-temporal rent (Hotelling), as well as the marginal formulation of the concept (Samuelson), among others. All economic schools reserve extensive treatment for the subject, and most of them, including all the mentioned authors, conclude that the optimal economic treatment of ground rent should tax it completely, to avoid distortions in resource allocation. Ricardo, for one, supported nationalization of all farmland, for this purpose. Manuel Riesco, «Chile: Un nuevo esquema de impuestos para la minería,» *Visiones Económicas Universidad ARCIS*, october de 2002,

This struggle has been waged in good part against a school of thought that has consistently pretended the concept of ground rent is irrelevant, at least in the case of copper, and should not influence policy making. Not surprisingly, but certainly contradictory, such an ideology have been followed, supported, and promoted with fervour, and funded with largesse, precisely by those interested in appropriating the huge ground rent at stake, for themselves.

It seems quite clear why it prevailed during the dictatorship, at least in the formulation of public policies. Extremist neoliberal Chicago boys dominated the Pinochet government economic sphere, and they were starved for foreign investment that did not arrive in spite of the ever-improving conditions they offered. However, it is not clear why the same kind of formulations continued to be followed with enthusiasm by democratic governments after 1990 – they were even intensified, and the implementation occurred mainly during this period. After almost two decades of democratic “transition,” it does not seem convincing to continue with “this balancing act” that could even perhaps been sustained during the initial years as “a necessity when confronted by the political uncertainties of the country and the fragility of the transition from dictatorship to democratic rule (pg. 12).”

The basic formulation of this policy is rather simple. All private companies operating in Chile should be treated equal, regardless of the industry where they operate and the nationality of their owners – and all of them should be offered the most favourable conditions possible. There is no consideration at all for mining rent. The same was applied to several other industries based on natural resources – water in particular –, which generate significant ground rent as well.

In practice, such policies resulted in the bulk of mineral resources being privatised for free – mostly to foreign transnational companies¹. CODELCO, the giant State holding formed from the US companies nationalised in 1971, which produced 90% of copper until 1989, was displaced in 2007 as the largest copper producer in the country by BHP Billiton (Anglo Australian, listed in London Stock Exchange, LSE), its main competitor worldwide. This year, each one of them represented 30% of Chilean copper production, while Anglo American (Anglo-South African, listed in LSE) accounted for 13%, and Antofagasta Minerals (Chilean Luksic group, listed in LSE) for 8%. In this way, private companies now account for 70% Chilean copper production, with three of them producing over half of the total (see table 6 in appendix).

Until 2002, private mining companies were allowed to adopt an especial legal structure tailored “to elude the payment of taxes (pd.12),” which resulted a significant tax subsidy (Mouguillansky 1998). The same alternative was not available to companies operating in other industries. Using and abusing such dispositions, as well as all “normal” tax elusion² techniques, mining companies extracted millions of tons of copper and other minerals in Chile, earning billions of dollars, without paying any taxes at all – with one notable exception –, until 2002.

In one notorious case, Exxon Minerals operated *Disputada de las Condes* copper mineral along three decades, ostensibly at a “loss.” Then sold the “money-losing” operation at the beginning of the 2000s for over a billion dollars, part of the price consisting in the tax credits accumulated throughout decades of sustained “losses.” Legislation enacted in 2002 reduced the loopholes that most companies were using for tax elusion, motivated in good part precisely by this case. In addition, as said, the above cited UNRISD paper showed that even the only “well behaved” company incurred in other questionable tax

<http://cep.cl/Arcis/Visiones/Visiones0210/Visiones0210.html>, accessed on 12 July 2004. ed. Eugenio Figueroa, *Economic Rents and Environmental Management and Natural Resource Sectors* (Alberta: Faculty of Business, Universidad de Alberta, Alberta, Canada., 1998).

¹ The constitution forbids the sale of mineral resources, all of which were nationalized in 1971. For this reason, they are handed over to private companies under a “permanent lease” provision introduced 1981. The author was José Piñera, then mining minister of Pinochet, the same person who at the same year privatized the Chilean pension system.

² The concept of “tax elusion” has been generalized in Chile, to distinguish “legal” tax avoidance procedures from outright illegal “tax evasion” practices.

practices (Riesco, Lagos and Lima, The 'Pay Your Taxes' Debate 2005).

However, all along there was a considerable resistance to such policies among wide sectors of Chilean society (Lavandero 2001, Caputo, Fazio and Riesco, Carta al Presidente Lagos 2000). It is not widely known that the Chilean military, which violated most Chilean laws, respected the two main legacies of the developmentalist period – the agrarian reform law¹ and the mineral nationalisation act – almost to the letter. In fact, up to this day, the Chilean constitution preserves the exact terms of the nationalisation act of 1971, stating: “All mineral resources belong to the Chilean State, inalienably” (Congreso Nacional Chileno 2005). CODELCO, the principal instrument of the Chilean state to appropriate mineral rent, has continued to grow and modernise all along over three decades, even as it has been losing share in the total produced, since 1990.

The Chilean parliament – led by senator Jorge Lavandero Illanes² – in 2000 started demanding information and precisions on taxation and the effects of overproduction by private mining companies. In 2003, it named a Special Commission for Investigating Mining Industry Taxing Practices (Chilean Senate 2003) – which held a special audience to listen to the aforementioned UNRISD findings.

In 2004, after declaring once and again that no changes would be introduced in mining legislation, President Lagos presented parliament with a law that established a royalty for Chilean mineral exports. (Chilean government 2004). The importance of this document is that – in addition to nationalisation consigned in the constitution – it formally re-established orthodox ground rent theory as the official policy of the Chilean state³. The first project – known as “royalty 1,” because in effect it proposed a royalty charge on mining sales – was not approved by parliament. It received high majorities in both chambers of parliament – several MP of the opposition parties voted together with the government coalition in support of the law – but fell a few votes short of the 2/3 required to enact a modification of the constitution required for this reform (Riesco, Lagos and Lima, The 'Pay Your Taxes' Debate 2005).

A second law – incorrectly referred as “royalty 2” because it is in effect a sur-tax on profits – was sent to parliament by the President a few months later, and after a long discussion it was approved by a huge majority. In this case, however, the government had previously agreed the project with the private mining companies⁴. The new law was much worse than the previous project. Firstly, it avoided a

¹ Agrarian reform was enacted by parliament by large majorities in the mid 1960s, and implemented mainly by Allende and the peasant movement in the early 1970s, in a sweeping manner that in two years wiped all the traditional latifundia. After the coup, the old owners, or their sons rather, received back about 30% of the expropriated land, however, only the relatively small “reservas” to which they were legally entitled. Peasants – those considered “loyal” – received 40% of the land in accordance to the law, and even though many sold their parcels soon after, most still have them, and no few have prospered and with the others conform a vibrant capitalist agriculture, responsible for much of the export boom. The rest of the land, mostly “cordilleras,” was auctioned to large forestry companies. Of course, the peasants who deserved the land the most – those that had fought for it supporting agrarian reform – did not receive anything at all. In the wake of the coup, they were expelled losing even their houses in most cases, thousands were imprisoned and hundreds killed.

² Senator Lavandero has paid dearly for his actions. Over 80 years old and the longest standing MP – he was first elected in 1957 –, he was imprisoned in 2005 on charges of pedophilia that were never proven – in the pre-trial procedures he was offered a deal which he accepted, which established pecuniary compensations for the plaintiffs and a remitted prison sentence. However, the prosecution later appealed this and a higher court ordered him imprisoned. Every time he has requested to be released according to normal prison terms, these have been denied, usually by administrative procedures.

³ “These mineral resources possess an intrinsic value, because they may be exploited for a profit. Nevertheless, the state does not receive any compensation for the extraction and sale of such valuable resources that according to the Constitution it owns. Presently the mining contractor takes advantage of non-renewable mining resources as if they were goods with no value at all. This situation is equivalent to a state subsidy in benefit of the owners of these companies.” Congreso Nacional Chileno, «Ley N° 20.026, establece un impuesto específico a la actividad minera,» *Biblioteca del Congreso Nacional*, 27 de Mayo de 2005, <http://www.bcn.cl/leyes/pdf/actualizado/239219.pdf> (accessed 22 de abril de 2008).

⁴ This author was a material witness to the agreement, because the industry lobbyist that struck the deal proudly

royalty charge, which is usually the simplest way to control tax “elusion.” Instead, it is an especial tax on profits from mineral operations, which reaches a maximum of 5%, and is calculated on earnings before tax, interest, and depreciation and amortization charges. Being a charge associated to the mineral resource, it is correctly added to operational costs, so its amount reduces the tax base for income tax. However, it is paid in advance and reconciled to its actual amount once a year (Congreso Nacional Chileno 2005).

However, the big problem of this law was that in effect it reduced the tax rate of the companies that had “eluded” taxes the most. These had been using a especial legal incorporation¹ that allowed them to withdraw earnings that had not paid taxes because of accelerated depreciation charges – normal companies are not allowed to do so, because the logic of accelerated depreciation is to delay taxes on profits that are reinvested, not withdrawn. This loophole was eliminated in 2002.

Nevertheless, these companies continued to withdraw non-taxed earnings, which was now illegal. They did so under the provisions of a clause available for foreign investors, called “tax invariability contract,” which provides them with an insurance against changes in taxation, in exchange for a higher rate of overall income tax. Normal persons pay 35% income tax as a maximum², and foreign investors are subject to the same rate for remittances. However, in the case of foreign investors that take advantage of the “tax invariability contract,” this rate is raised to 42%. The “elusive” mining companies were happy to accept any rate, because as they were declaring losses thanks to accelerated depreciation they did not pay any taxes at all, and continued to withdraw non taxed profits in accordance to “tax invariability” provisions.

The “royalty 2” offered them the possibility of renouncing this “tax invariability,” in exchange of a reduction of the tax rate from 42% to 35%, if they accepted the new royalty of 5%. They are now subject to a $35\%+5\%=40\%$ rate, meanwhile before “royalty 2” they were subject to 42%. In short, their tax rate was reduced in 2%. In addition, they were given an extra 15 years of tax invariability, under the new conditions. Clearly, they had made a good deal (Congreso Nacional Chileno 2005).

Meanwhile, Escondida, the only company that had been paying significant taxes all along the 1990s, and not using accelerated depreciation neither any of the above-mentioned loopholes, saw its rate rise from 35% to 40%. They were so angry that they went on a tax strike in 2006, which they suspended only after the government agreed with them an especial 4% rate for “royalty 2” (Minera Escondida 2007).

The above notwithstanding, the “royalty 2” law maintained the conceptual arguments of “royalty 1,” which clearly state the ground rate theory as the official base for Chilean mining policy – even tough the provisions made for their practical implementation are still far from satisfactory, as shown, and still in the making.

In addition, since 2006, the new law has produced a steady flow of taxation that in two years has accumulated over one billion dollars in addition to regular income taxes paid by private mining companies (see table 9 in appendix). CODELCO, the permanent milk cow of the Chilean taxman, has provided for its part another 700 million in “royalty 2” (CODELCO 2007). In addition, for the first time, a tax renders more or less in accordance to their respective proportions in copper production (see table 3, in the following chapter).

told him about it in detail weeks before it was presented to parliament – which approved it with minor changes.

¹ These companies had incorporated themselves as “small and medium mining companies” using a loophole that defined these categories on the basis of copper “refined,” not produced. They simply exported all of their production – hundreds of thousands tons – in the form of concentrates, that is, without refining. Small and medium mining companies were allowed to withdraw earnings that had not paid taxes due to accelerated depreciation.

² Companies have to pre-pay 17% of the earnings distributed to their owners, which in turn may use it as a credit when they pay their own income tax.

Public opinion has been consistently and overwhelmingly opposed to the privatisation of CODELCO, and in favour of demanding higher contributions from private mining companies. The worker organisations, and the copper unions in particular, have strongly and consistently resisted several overt and covert intents to privatise it.

Since 2006, workers of private mining companies have been participating in large mobilizations – particularly the Escondida strike that year, which paralysed the mineral for 25 days, prompting the Financial Times to run 119 stories about it, including four front-page headlines; Chile hardly ever appears in the international press, especially after the death of Pinochet. It is interesting to note that, for the first time since the 1971, the union in strike raised the issue of renationalisation.

More recently, as noted in the introduction, workers from CODELCO subcontractors have been striking all along 2007, and they also have repeatedly raised the issue of renationalisation (CENDA 2008).

¿Efficient exploitation of natural resources?

The "rampant" presence of the latter tendencies is clearly viewed as threats to policies that the author of the paper considers have led to an "efficient exploitation of natural resources (pg 30)." Is that so?

In addition to the above said, which refers mostly to the issue of giving up ground rent to private companies, substantial evidence was presented by critics of the mining policy regarding the distortion it meant for optimal resource allocation and rent maximization. This was also based on sound theoretical grounds (Bhagwati 1958). It showed that the explosion of Chilean copper production under such extremely favourable conditions was responsible in part for the protracted slump of world copper price, which lasted from 1995 to 2003 (Caputo, Sobreproducción 1996).

During this period, there was a sustained and significant growth in demand along most of the time, but the increased Chilean production accounted for more than the total additional demand, and price fell continuously, reaching a minimum of 60US\$/c a pound in mid 2002. Chilean share in total world copper exports has oscillated during the last decade between 34% (1997) and 44.3% (2004), representing 39.9% in 2006 (COCHILCO 2007). From 1995 to 2003, Chile doubled its exports and at the same time reduced their total dollar value¹.

This evidence notwithstanding, the same experts, who argued against the usefulness of the concept of mineral rent in copper, insisted that Chile was a "price taker" in world markets (COCHILCO 2000). However, this theoretical discussion was settled by the "royalty" law, which clearly referred to this matter in the same way as the critics had been insisting². In this manner, what the critics had been denouncing for years became official State policy, at least in the letter of the law.

In addition, and more substantially, both Escondida and CODELCO – the world's largest copper producers – have actively reacted upon market conditions starting in 2002, regulating their output to

¹ In 1995, Chile sold 2.41 million tonnes of pure copper for \$6.43 billion, while in 1999 it sold 4.23 million tonnes of pure copper for only \$5.89 billion, that is, while physical exports increased by 76 per cent, the value of exports declined by 8.4 per cent. In 2002, Chile exported 4.5 million tonnes and received \$6.28 billion Manuel Riesco, Gustavo Lagos and Marcos Lima, *The 'Pay Your Taxes' Debate*, UNRISD (Geneve: [http://www.unrisd.org/80256B3C005BCCF9/\(httpPublications\)/D0911BEE223DF74EC12570AC0032E4E2?OpenDocument](http://www.unrisd.org/80256B3C005BCCF9/(httpPublications)/D0911BEE223DF74EC12570AC0032E4E2?OpenDocument), 2005).

² The impact of not considering ground rent theory in resource allocation was also consigned by the text: "Not charging for the use of a factor of production will result in addition in an artificial reduction of extraction and treatment costs of mineral products. This artificial reduction in production costs generates incentives for overexploiting mineral deposits, because suppliers will make their decisions regarding their private costs. The establishment of a mining royalty as in this law will correct this situation, making producers internalize the real cost of minerals extracted (Chilean government 2004)."

price conditions¹.

Pending demands

As the paper remembers (pg. 7), the historical nationalization of mineral resources was a two-step process. At the end of the 1960s, the Frei Montalva government (1964-1970), under growing pressure in demand for nationalization, passed a "Copper Chilenisation" law in 1969², which established associations by the Chilean State and the US firms that owned the mining companies. Two years later, under Allende, parliament unanimously approved full nationalisation. No compensations were paid, because the companies had received what was considered excessive profits along the years. It is not at all improbable that "royalty 2" law may be as short lived as "Chilenisation."

The arguments to demand further steps to recover mineral rent presently being appropriated by the private companies seem quite compelling, as will be argued. For this purpose, it is necessary to take a brief look at the financial results of the industry in recent years.

Mining results, 2005-2007

The private mining industry has not been very open in disclosing its financial results. Until 2002, only one private company – the leader Escondida –, and certainly CODELCO, disclosed full financial results³. However, especially since the discussion of the "royalty" laws, the government has improved its reporting of mining taxation, and since 2005 it provides separate lines in the budget income statements for this purpose. In addition, in 2007 the "Consejo Minero" the association of large private mining companies – CODELCO belongs as well – published for the first time the consolidated and audited financial results of the main companies in the industry, including CODELCO. Both these sources make it possible to form a clearer picture of the results of the industry as a whole.

In what follows, the information of "Consejo Minero" is disaggregated using the parallel sources of CODELCO and Escondida balance sheets, which continue to be the best source. In this manner, the results of the private mining industry are beginning to emerge in public light for the first time. The picture that is starting to clarify seems to demand immediate intervention, because its contours seem rather "excessive."

Table number 1 below, shows the summarised results for 2005 and 2006 of the mining industry as a whole, for CODELCO, Escondida, and the rest of the mining companies. Table 7 in the appendix includes the detailed notes to this listing. Table 8 in the appendix presents the same comparison, but in the full detail as published by Consejo Minero for the aggregate.

¹ In mid 2002, when the copper price had fell to 60 US\$/c per pound, the largest Chilean producers, headed by state-owned CODELCO and BHP Billiton's Escondida, decided to cut production or increase their own stocks. The reaction on the world copper market was instantaneous; the copper price stopped its free-fall and within a few weeks increased by about 10 cents a pound.

² The paper incorrectly dates this law in 1964 (pg 7)

³ This was the only reason why the already mentioned previous UNRISD paper focused in Escondida and CODELCO.

Table 1: Chile, Mining results, 2005-2006 (US\$ Millions)

	Resultados Gran Minería (MM US\$)							
	CODELCO		Gran Minería Privada		Escondida		Resto privadas	
	2006	2005	2006	2005	2006	2005	2006	2005
Ingresos de explotación	17,077.03	10,490.57	27,218.07	15,059.53	8,375.07	4,501.93	18,843.00	10,557.60
<i>incl.: subproductos</i>	3,117.96	3,032.81			153.70	103.70		
Costos de explotación	-7,272.31	-4,801.09	-8,592.49	-6,471.31	1,461.05	1,221.62	-7,131.44	-5,249.70
<i>incl: cobre propio</i>	2,959.48	2,879.74						
Resultado de la operación	9,484.78	5,427.71	18,015.42	8,186.49	6,687.90	3,197.37	11,327.52	4,989.13
Resultado antes de impuestos	9,214.36	4,856.92	18,316.24	8,043.79	6,588.34	3,109.93	11,727.90	4,933.86
Impuestos	-5,875.65	-2,295.33	-3,420.60	-1,380.30	1,263.37	-531.95	-2,157.23	-848.35
UTILIDAD DEL AÑO	3,336.41	2,557.88	14,895.64	6,663.49	5,324.97	2,577.98	9,570.67	4,085.51
Depreciación y amortización	776.20	624.40	975.10	891.80	244.30	207.50	730.80	684.30
EBITDA *	10,260.98	6,052.11	18,990.52	9,078.29	6,932.20	3,404.87	12,058.32	5,673.43

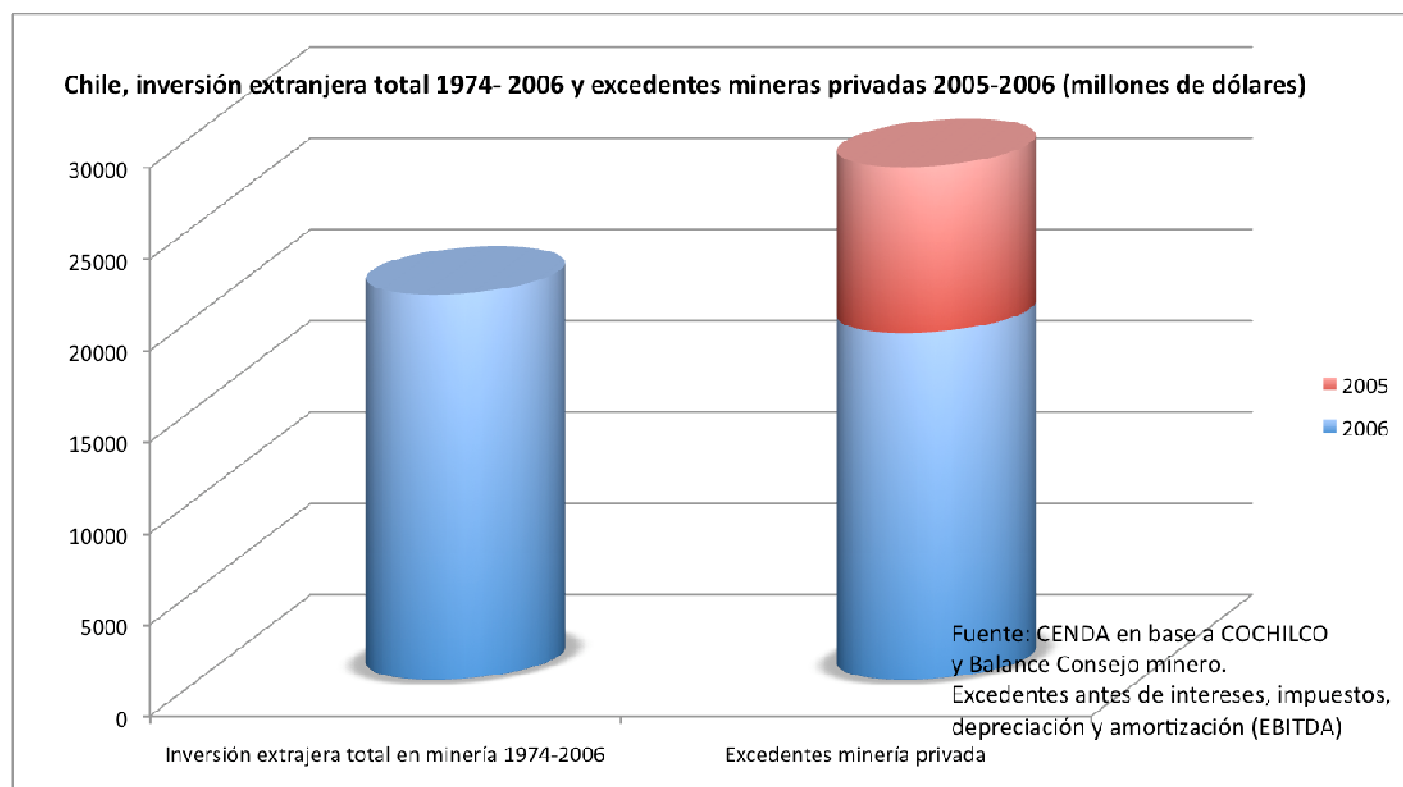
Fuente: Consejo Minero, balance consolidado 2006. www.consejominero.cl y balances CODELCO.

The first aspect to be noticed in the results is the huge magnitude of earnings before interest, tax, depreciation, and amortization (EBITDA)¹, for the private mining companies. These earnings added up to 9 billion dollars in 2005, and almost 20b in 2006. Escondida received more than one third of this amount.

That means that in just two years, the private mining companies received earnings in excess of the full amount of foreign direct investment in Chilean mining from 1974 to 2006 (see figure 1 below).

¹ This financial indicator is widely used to get a more accurate picture of profits, especially in industries that make extensive use of depreciation and leverage, as is the case in mining.

Figure 1: Earnings in private mining companies 2005 – 2006, and Foreign Direct Investment in mining 1974-2006



The sole presentation of this chart should be enough argument for action regarding the mineral rent. Such a windfall of profits that in two years reimburses the equivalent of three decades of investment clearly seems beyond further discussion¹. In addition, estimates for 2007 show that it added an additional pillar below the ones in the right in the chart, which is even higher than the one corresponding to 2006. In fact, estimates are that earnings in 2007 alone were well in excess of all the previous FDI in mining in Chile. Probably, this information will be available from the same sources in time to include them when these notes will be published.

The next question to be raised is to what extent these financial results represent the real earnings of the private mining industry. A recent history of outright cheating with financial results by most of these same companies – it must be repeated that in order to withdraw non-taxed profits, all of them twisted the Chilean law declaring themselves “small or medium mining companies” at the same time they produced hundreds of thousands tons of copper every year, in the form of concentrates – makes it inevitable. In addition, the previous UNRISD findings proved that even Escondida was overpaying for refining services and selling systematically under the LME price – and raised serious questions about the amount of by-products acknowledged in the concentrates.

Applying the same kind of analysis that rendered the previous UNRISD findings to this data, similar questions are raised again, but with much larger differences. This is presented in Table 2, below, where

¹ Most of the Foreign Direct Investment was made in recent years. The paper in discussion estimates that 90% of FDI was made after 1990. And COCHILCO figures show that most of it was in fact made after 1995, and even more recent years. This means that corrections for dollar value and accrued interests do not change the fundamental reality that in two years the mining industry recovered all of its past investments. In addition, and more important to this argument, their previous earnings along the last 15 years had already paid for their investment several times over. This means that the windfall earnings of the last three years were net earnings in full.

the financial results of table 1 are divided by the tons of copper produced by each company or group of companies.

Table 2: Chile Mining results, 2005-2006 (US\$/ton of copper produced)

	Resultados Gran Minería por tonelada de cobre producida (US\$/Ton)							
	CODELCO		Gran Minería Privada		Escondida		Resto privadas	
	2006	2005	2006	2005	2006	2005	2006	2005
Producción de cobre	1,583.30	1,675.90	3,684.90	3,592.50	1,255.60	1,271.50	2,429.30	2,321.00
Precio del cobre	6,730.64	3,683.89	6,730.64	3,683.89	6,730.64	3,683.89	6,730.64	3,683.89
Ingresos de explotación	10,785.72	6,259.67	7,386.38	4,191.94	6,670.17	3,540.64	7,756.55	4,548.73
<i>incl.: subproductos</i>	1,969.28	1,809.66			122.41	81.56		
Costos de explotación	-4,593.14	-2,864.78	-2,331.81	-1,801.34	-1,163.63	-960.77	-2,935.59	-2,261.82
incl: cobre propio	-1,869.19	-1,718.3						
Resultado de la operación	5,990.51	3,238.68	4,888.99	2,278.77	5,326.46	2,514.64	4,662.88	2,149.56
Resultado antes de impuestos	5,819.72	2,898.09	4,970.62	2,239.05	5,247.16	2,445.87	4,827.69	2,125.75
Impuestos	-3,711.02	-1,369.61	-928.27	-384.22	-1,006.19	-418.36	-888.00	-365.51
UTILIDAD DEL AÑO	2,107.25	1,526.27	4,042.34	1,854.83	4,240.97	2,027.51	3,939.68	1,760.24
Depreciación y amortización	490.24	372.58	264.62	248.24	194.57	163.19	300.83	294.83
EBITDA *	6,480.75	3,611.26	5,153.61	2,527.01	5,521.03	2,677.83	4,963.70	2,444.39

Fuente: Consejo Minero, balance consolidado 2006. www.consejominero.cl y balances CODELCO.

As was the case in the previous UNRISD report, CODELCO ends up with earnings (EBITDA) that are significantly higher than the one reported by the private industry. In 2006, CODELCO presents earnings (EBITDA) of 6.480 US\$/ton produced, which is similar to the average copper during the same year, which was 6.730 US\$/ton.

In other words, CODELCO pocketed every single dollar of every ton it produced that year - as net earning before interest, tax, depreciation and amortisation. This miracle is explained by the fact that for each ton produced, CODELCO received 1.969 dollars in by-products¹. Naturally, this amount was enough to pay for the entire -quite significant - total costs of each ton of copper it produces. The results for 2005 reaffirm this conclusion, because that year CODELCO earned (EBITDA) 3.611 US\$/ton produced, which was similar to the average price, which was 3,683 US\$/ton that year.

This is the fundamental conclusion of the analysis of this data, which may be formulated as the "law of financial results for Chilean copper mining industry." This "law" simply states that the cost of extracting, processing, refining and transporting Chilean copper to markets is, in effect... 0.0 US\$/ton, zero!

Better formulated, the same "law" states that by-products - molybdenum, silver and... gold -, which are delivered *gratis* by the production process, pay for all production and other costs. Stated in yet another wording, the same "law" greatly simplifies the calculations of profits earned by mining companies every year - they are roughly similar to the sale price of the tons of copper they produce².

What is troubling is that the balance sheets of the private mining companies seem not to comply with

¹ In addition to by-products, CODELCO sells copper from third parties, earning a slight additional margin on every ton, for this reason.

² The reader will certainly understand that this pretended "law" is a half-joke - when prices slump, copper companies also find trouble to make ends meet. However, it is interesting that this figures prove so clearly the accuracy of the simplified "law", which is popularized by the copper reform movement in Chile to make every children aware of what the foreign copper companies are taking away: "Multiply the current copper price (which is published in US\$/pound) by 2, and then by 1,000, and then by 6 million tons, and you get the amount sold. That is what copper companies are earning, and half of that amount is taken away by three companies, and 70% by ten companies." Anyone can understand that!

this “law” – clearly, this industry has certain problems with Chilean laws! In effect, earnings (EBITDA) of the private industry as a whole, 5.153 US\$/ton of copper produced in 2006, are significantly lower than CODELCO; more than 1,400 US\$/ton lower. The difference with the average copper price is even larger. The figures for 2005 confirm this tendency (see table 2). Escondida behaves slightly better than the rest of private firms, but again much worse than CODELCO.

Once again, as well, the figure for by-products acknowledged by Escondida is very small – but now the difference seems overwhelming. In the previous UNRISD research, CODELCO declared receiving three times the dollar amount Escondida acknowledged for by-products, for each ton of copper produced. This time, the difference skyrockets to over 10 times! As shown in table 2, in 2006 Codelco received 1.969 US\$/ton of copper produced, meanwhile Escondida acknowledges only 122 US\$/ton the same year. In 2005 the difference is even larger, 1.809 US\$/ton for CODELCO, and only 89 US\$/ton for Escondida. The difference now is 16 times and 20 times, for 2006 and 2005, respectively. Seemingly, too much to be true!

Once again, of course, this comparison is possible only with Escondida, because the rest of the companies keep this information for themselves.

Taxes paid, and rents to be reimbursed

The improved accounting of the Chilean government since 2005 gives a better idea of the overall taxes paid by the mining industry in recent years – the previous public records came from the only companies that paid anything, CODELCO and Escondida.

As shown in table 3, below, taxes paid by the private mining industry has been increasing significantly since 2005 – mainly due to the record copper process, but also because the discussion hat culminated in the new “royalty 2” tax, and the tax in itself as well, in part, have produced both better tax records and tax returns.

Table 3: Chile, taxes paid by CODELCO and private mining, 2005-2007

Chile: Tributación Minería 2005-2007 (millones dólares c/año)				
	2007	2006	2005	
CODELCO	7,938	8,323	4,400	
% tributación minería	56%	65%	72%	
% producción de cobre	28%	31%	32%	
Minería privada	6,201	4,561	1,727	
% tributación	44%	35%	28%	
% producción	72%	69%	68%	
Total tributación minería	14,139	12,885	6,127	
Total ingresos fiscales	48,528	40,562	30,961	
Total gastos fiscales	33,665	29,082	25,322	
Gasto social total (educación, salud, pensiones, otros)	20,872	17,628	15,356	
PIB	165,640	143,010	114,655	
total trib. Minería / ingresos fisc.	29%	32%	20%	
total trib. Minería / gastos fisc.	42%	44%	24%	
total trib. Minería / gasto social	87%	73%	40%	
total trib. Minería / PIB	9%	9%	5%	
Tipo de cambio \$/US\$	521.76	532.37	554.62	

Fuente: DIPRES, Informes trimestrales ejecución presupuestaria 2005, 2006, 2007.
CODELCO corresponde a partida "cobre bruto", minería privada a partida homónima.

However, CODELCO still pays far more taxes than its (decreasing) proportion in copper production. However, as shown in table 3, CODELCO share of taxes decreases even faster than its proportion in output. In 2005, it produced 32% of copper and paid 72% of taxes, meanwhile in 2007 these proportions had decreased to 28% of production and 44% of taxes.

A simple way of estimating the precise amount of the goal in mining rent appropriation in Chile is to assume that private mining companies should pay more or less the same proportion of taxes as CODELCO, relative to their respective shares in copper produced.

This goal is certainly reasonable, and leaves ample space for substantial after tax earnings for the private mining companies. This is so, because they exploit minerals that are one decade old at the most, meanwhile CODELCO runs minerals that are one century old, in the main two, and half a century in others. Only small Radomiro Tomic and the new Gaby – which may end up in the hands of China Minmetal, because it was pawned by a financially strapped CODELCO, which gives all its earnings to the finance ministry, and has to pinch back dollar by dollar – are new mines. In addition, CODELCO has a heavy administrative overhead, which the others don't.

In this way, suggesting that they should pay the same tax relative to production share seems quite generous in fact to private companies¹. Table 4 presents this calculation.

Table 4: Estimate of excessive rent appropriation by private mining companies

Chile, renta apropiada en exceso por las mineras privadas, 2007 (millones de dólares)

¹ CODELCO is subject to a 10% royalty on sales, 5% "royalty 2" on EBITDA earnings, and then 57% income tax. Private companies pay 0.0% (zero) royalties on sales, 5% "royalty 2" on EBITDA earnings, and 17% on income tax. In addition, dividends withdrawn are taxed by the owners, usually at a 35% rate – form which the 17% oaid by the company may be deducted completely.

	CODELCO	Mineras privadas	Total minería del cobre
Impuestos devengados	7,938	6,201	14,139
Renta apropiada en exceso		13,722	13,722
Renta estimada	7,938	19,923	27,861
% renta	28.49%	71.51%	100.00%
% producción de cobre	28.49%	71.51%	100.00%
Fuente: CENDA en base a Cochalco, DIPRES		Tipo de cambio (CH\$/US\$)=	532.37

As seen in the table, if private mining companies paid the same proportion of taxes as CODELCO, relative to their respective productions, in 2007 the former should have paid US\$13.7b in addition to the US\$6.2b they actually paid that year. That is to say, private mining companies are seemingly pocketing at least 13.7b in excessive rent, in 2007.

Table 5 presents the same calculation for 2005 to 2007, and compares the excessive rent appropriated by private mining companies with several Chilean public expenditure policy indicators, and GDP.

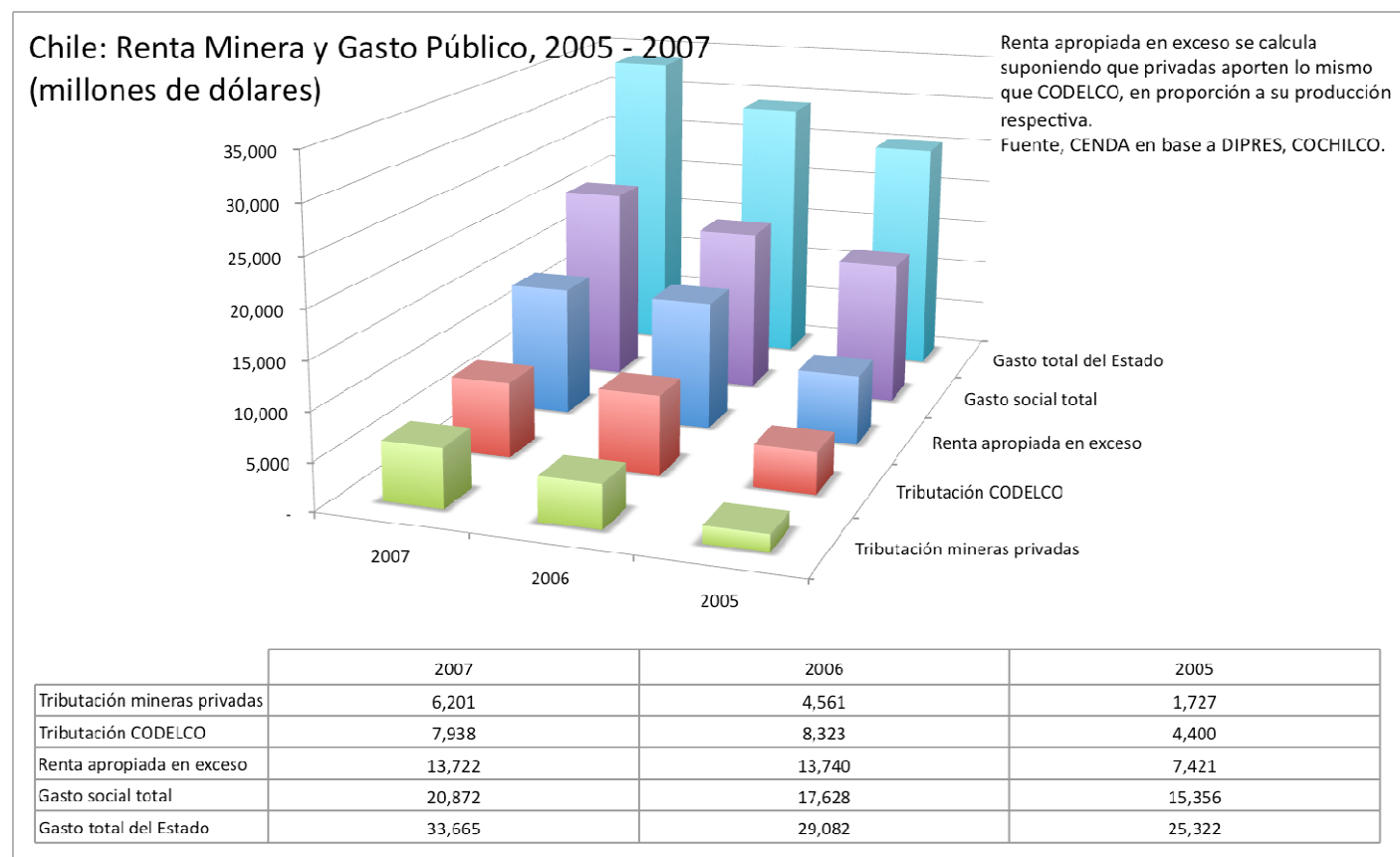
Table 5: Excessive rent appropriated by private mining companies and public expenditures, 2005-2007

Chile, renta apropiada en exceso por las mineras privadas, 2007 (millones de dólares)			
	2007	2006	2005
Renta apropiada en exceso	13,722	13,740	7,421
Tributación CODELCO	7,938	8,323	4,400
Tributación mineras privadas	6,201	4,561	1,727
Gasto social total	20,872	17,628	15,356
Gasto total del Estado	33,665	29,082	25,322
Ingresos totales del Estado	48,528	40,562	30,961
PIB	165,640	143,010	114,655
% producción de cobre CODELCO	28.49%	31.26%	32.48%
Tipo de cambio (CH\$/US\$)	521.76	532.37	554.62

Fuente: CENDA en base a Cochalco, DIPRES

As shown in table 5, if private mining companies paid their fair share of taxes relative to CODELCO, they should have paid US\$13.7b in 2007 and a similar amount in 2006, and US\$7.4b in 2005; all of these amounts in addition to the taxes they in effect paid those same years. The same numbers are presented in figure 2, below.

Figure 2: Chile, Excessive rent appropriated by private mining companies and public expenditures, 2005-2007



Mineral rents that are presently being appropriated in excess by the private mining companies are the equivalent of a significant proportion of the total social public expenditure in Chile - 80% in 2006, and two thirds of the same in 2007. These proportions would easily pay for pensions, education and health, which are the main lines of social expenditure in Chile as elsewhere (see figure 3 in appendix).

It seems time is more than ripe for further changes in Chilean mining policy.

Manuel Riesco

Geneva, April 2008

CENDA

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Appendix [\(see complete set of tables online\)](#)

Figure 3: Chile, distribution of public social expenditure, 2006

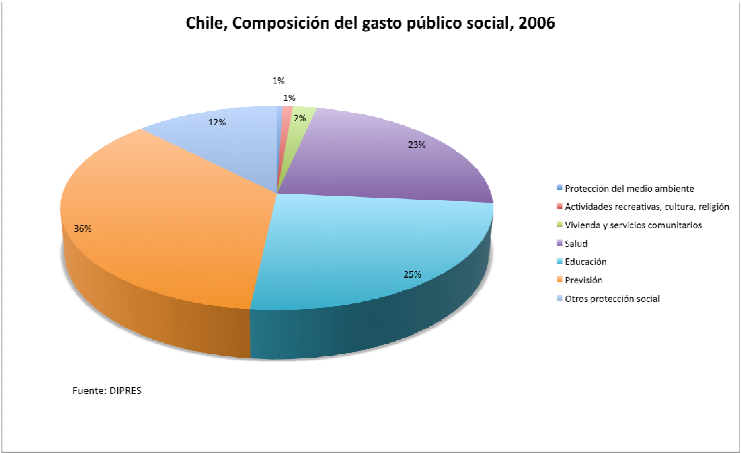


Table 6: Copper production in Chile, by comptroller, 2005-2007

Producción en Chile de cobre 2005 – 2007, por controladora (miles de toneladas)						
Controladora	Principal minera	Participación 2007	2007	2006	2005	Var.2006/2007
Estado	Codelco	28.49%	1,583.30	1,675.90	1,728.00	-5.53%
Estado - Freeport (EE.UU.)	El Abra	2.99%	166.00	218.60	210.60	-24.06%
BHP Billiton (angloaustraliana)	Cerro Colorado	30.78%	1,710.70	1,375.40	1,361.90	24.38%
Anglo American (anglosudafricana)	Collahuasi	8.16%	453.70	487.30	443.40	-6.90%
Anglo American (anglo sudafricana) Xstrata (suiza)	Sur Andes	8.13%	452.00	440.00	427.00	2.73%
Xstrata (suiza)	Lomas Bayas	1.11%	61.50	64.30	63.20	
Grupo Luksic	Los Pelambres	7.89%	438.20	436.10	478.30	0.48%
Freeport (EE.UU.)	Candelaria	3.26%	181.00	169.60	162.70	6.72%
Placer Dome (Canadá)	Zaldívar	2.57%	142.90	146.30	123.30	-2.32%
Aur Resources (Canadá)	Quebrada Blanca	1.49%	82.90	82.40	81.00	0.61%
Otras		5.13%	284.80	264.90	241.10	(COCHILCO 2008)7.51%
Total		100.00%	5,557.00	5,360.80	5,320.50	3.66%

(COCHILCO 2008)

Table 7: Chile, Resultados Gran Minería, 2005-2006, Resumen

		Resultados Gran Minería (MM US\$)							
		CODELCO		Gran Minería Privada		Escondida		Resto privadas	
		2006	2005	2006	2005	2006	2005	2006	2005
1	Ingresos de explotación	17,077.03	10,490.57	27,218.07	15,059.53	8,375.07	4,501.93	18,843.00	10,557.60
	<i>incl.: subproductos</i>	3,117.96	3,032.81			153.70	103.70		
2	Costos de explotación	-7,272.31	-4,801.09	-8,592.49	-6,471.31	-1,461.05	-1,221.62	-7,131.44	-5,249.70
	<i>incl: cobre propio</i>	2,959.48	2,879.74						
3	Resultado de la operación	9,484.78	5,427.71	18,015.42	8,186.49	6,687.90	3,197.37	11,327.52	4,989.13
4	Resultado antes de impuestos	9,214.36	4,856.92	18,316.24	8,043.79	6,588.34	3,109.93	11,727.90	4,933.86
5	Impuestos	-5,875.65	-2,295.33	-3,420.60	-1,380.30	-1,263.37	-531.95	-2,157.23	-848.35
6	UTILIDAD DEL AÑO	3,336.41	2,557.88	14,895.64	6,663.49	5,324.97	2,577.98	9,570.67	4,085.51
7	Depreciación y amortización	776.20	624.40	975.10	891.80	244.30	207.50	730.80	684.30
8	EBITDA *	10,260.98	6,052.11	18,990.52	9,078.29	6,932.20	3,404.87	12,058.32	5,673.43

Fuente: Consejo Minero, balance consolidado 2006. www.consejominero.cl y balances CODELCO.

Notas:

- 1 Incluye cobre y subproductos, principalmente oro, plata, molibdeno.
Incluyen costos de extracción, procesamiento, refinación, transporte así como gastos de administración y ventas. Las ventas de subproductos se restan de los costos. Las depreciaciones y el impuesto específico denominado "royalty 2" también se consideran parte de los costos de operación.
- 2 = (ingresos - costos de operación).
- 3 = (Resultados de operación - res. fuera de operación). Los últimos incluyen los gastos financieros.
Las mineras privadas pagan un 17% sobre los resultados antes de impuestos. CODELCO paga un 57% sobre las mismas, y además un royalty de 10% sobre las ventas, que se destina a las FFAA.
- 4 = (Resultados antes de impuestos - Impuestos)
- 5 (*) "Earnings before interest, tax, depreciation, amortization," medido como resultado de operación (2) + depreciación y amortización (6). Se utiliza ampliamente para estimar más correctamente las utilidades en industrias que presentan grandes cargos de depreciación, intereses y amortizaciones.

	Resultados Gran Minería (MM US\$)									
	Gran Minería		CODELCO		Gran Minería Privada		Escondida		Resto privadas	
	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005
Flujo originado por actividades de la operación										
Utilidad del año	18,232.05	8,439.40	3336.409	2557.884	14895.637	6663.485	5324.966	2577.977	9570.671	4085.508
Depreciación y amortización	1,751.30	1,516.20	776.2	624.4	975.1	891.8	244.3	207.5	730.8	684.3
Otros cargos que no representan flujo de efectivo	129.00	475.10	-405.1	37.9	534.1	437.2	311.8	303.3	222.3	133.9
Variación neta de activos y pasivos operacionales	575.00	-112.90	-105.2	-37	680.2	-75.9	165.1	-253.7	515.1	177.8
Flujo positivo originado por actividades de la operación	20,687.35	10,317.80	3,602.31	3,183.18	17,085.04	7,916.59	6,046.17	2,835.08	11,038.87	5,081.51
Flujo originado por actividades de financiamiento:										
	-									
Dividendos y retiros	15,603.70	-5,635.70	-1857	-1389.2	-13746.7	-4246.5	-5330.2	-1600.2	-8416.5	-2646.3
Aporte de capital	684.30	68.80			684.3	68.8			684.3	68.8
Endeudamiento financiero (neto)	-727.50	131.10	182	723	-909.5	-591.9	-27.1	-278.7	-882.4	-313.2
Otros (neto)	-134.60	-219.70			-134.6	-219.7			-134.6	-219.7
	-				-		-			
Flujo negativo originado por actividades de financiamiento	15,781.50	-5,655.50	-1,675.00	-666.20	14,106.50	-4,989.30	5,357.30	1,878.90	-8,749.20	-3,110.40
Flujo originado por actividades de inversión:										
Incorporación de activos fijos	-2,633.70	-3,224.10	-1218.7	-1844.7	-1415	-1379.4	-497.9	-735.7	-917.1	-643.7
Otros (neto)	-1,339.90	-788.60	-95.5	68.6	-1244.4	-857.2	-293.3	-305.3	-951.1	-551.9
	-				-		-			
Flujo negativo originado por actividades de inversión	-3,973.60	-4,012.70	-1,314.20	-1,776.10	-2,659.40	-2,236.60	-791.20	1,041.00	-1,868.20	-1,195.60
FLUJO NETO TOTAL POSITIVO DEL AÑO	932.25	649.60	613.11	740.88	319.14	690.69	-102.33	-84.82	421.47	775.51
SALDO INICIAL DE EFECTIVO Y EFECTIVO EQUIVALENTE	3,284.80	2,635.20	995.88	255.00	3,070.89	2,380.20	170.78	255.60	2,900.11	2,124.60
SALDO FINAL DE EFECTIVO Y EFECTIVO EQUIVALENTE	4,217.05	3,284.80	1,608.99	995.88	3,390.02	3,070.89	68.44	170.78	3,321.58	2,900.11
Otros rubros compilados										
Activo circulante	12,609.50	9,101.70	4,622.00	2,794.80	7,987.50	6,306.90	1,201.50	1,183.70	6,786.00	5,123.20
Activo fijo neto	19,279.50	18,084.90	6,602.20	6,384.90	12,677.30	11,700.00	4,041.10	3,799.10	8,636.20	7,900.90
Otros activos	3,454.60	2,985.80	1,808.60	1,559.30	1,646.00	1,426.50	161.40	161.80	1,484.60	1,264.70
	-				-		-			
Total pasivo circulante 861,7 662,7	6,403.20	4,613.70	2,071.80	2,200.00	4,331.40	2,413.70	861.70	662.70	3,469.70	1,751.00
Total pasivo corto y largo plazo	17,012.80	15,592.70	8,505.20	7,798.00	8,507.60	7,794.70	2,601.80	2,336.50	5,905.80	5,458.20
Impuestos diferidos	1,610.90	1,886.60	675.00	1,008.60	935.90	878.00	257.40	191.30	678.50	686.70
Patrimonio	18,330.80	14,579.70	4,527.60	2,941.00	13,803.20	11,638.70	2,802.20	2,807.50	11,001.00	8,831.20

	Resultados Gran Minería (MM US\$)									
	Gran Minería		CODELCO		Gran Minería Privada		Escondida		Resto privadas	
	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005
Razones de liquidez										
Razón corriente (veces) Activo circulante / pasivo circulante 1,97 1,97	1.97	1.97	2.23	1.27	1.84	2.61	1.39	1.79	1.96	2.93
Test ácido (Activo circulante - existencias) / pasivo circulante 1,63 1,64	1.63	1.64								
Razones de endeudamiento										
Leverage (veces) Pasivo exigible / patrimonio 0,93 1,07	0.93	1.07	1.88	2.65	0.62	0.67	0.93	0.83	0.54	0.62
Leverage de largo plazo (veces) Pasivo exigible largo plazo / patrimonio 0,58 0,75	0.58	0.75	1.42	1.90	0.30	0.46	0.62	0.60	0.22	0.42
Índice de cobertura (veces) (Utilidad antes de impuesto + gastos financieros) / gastos financieros 60,73 31,46	63.72	33.42	40.03	26.67	91.31	39.56	71.82	47.13	107.83	35.95
Razones de rentabilidad										
Margen bruto (utilidad antes de impuesto) Resultado antes de impuesto / ventas 59,19% 47,42%	62.15%	50.48%	53.96%	46.30%	67.29%	53.41%	78.67%	69.08%	62.24%	46.73%
Margen operacional Resultado operacional / ventas 62,08% 53,28%	62.08%	53.28%	55.54%	51.74%	66.19%	54.36%	79.85%	71.02%	60.12%	47.26%
Margen neto (utilidad neta) Resultado después de impuesto / ventas 41,16% 33,03%	41.16%	33.03%	19.54%	24.38%	54.73%	44.25%	63.58%	57.26%	50.79%	38.70%
Rentabilidad sobre activos Resultado después de impuesto / activo 51,58% 27,97%	51.59%	27.97%	25.60%	23.82%	66.76%	34.29%	98.54%	50.11%	56.61%	28.59%
Rentabilidad más gastos financieros sobre activos (Resultado después de impuesto + gastos financieros) / activos	52.83%	29.29%	27.41%	25.58%	67.67%	35.36%	100.26%	51.42%	57.26%	29.58%
Rentabilidad sobre el patrimonio. Resultado después de impuesto / patrimonio 99,46% 57,88%	99.46%	57.88%	73.69%	86.97%	107.91%	57.25%	190.03%	91.82%	87.00%	46.26%
ROCE EBIT/(Activo fijo+capital de trabajo depurado)	119.98%	63.67%								
EBITDA (informado)	28,307.00	13,980.00	10,290.00	6,052.11	18,017.00	7,927.89	6,932.20	3,404.87	11,084.80	4,523.03
EBITDA (medido como resultado de explotación + depreciación y amortización)	29,251.50	15,130.40	10,260.98	6,052.11	18,990.52	9,078.29	6,932.20	3,404.87	12,058.32	5,673.43
EBITDA Sobre ingresos de explotación (%) 64,34% 54,72%	66.04%	59.22%	60.09%	57.69%	69.77%	60.28%	82.77%	75.63%	63.99%	53.74%

Fuente: Consejo Minero, balance consolidado 2006.
www.consejominero.cl

Cifras de impuestos comparables de CODELCO

Resultados antes de impuestos	9215	4901
Impuestos a la renta	5816	2996
Utilidad neta	3399	1905

Fuente: Balance CODELCO

Table 9: Chile, taxes paid by private mining companies, 2005-2007

Chile: Taxes paid by private mining companies, 2005-2007									
	2007			2006			2005		
	Total	Escondida	Resto privadas	Total	Escondida	Resto privadas	Total	Escondida	Resto privadas
Chile: Tributación mineras privadas, 2005-2007 (millones de dólares)									
Income tax	5,500.00	1,881.00	3,619.00	4,301.87	2,145.00	2,034.43	1,709.30	861.00	848.30
Especial mining tax ("Royalty2)	700.00	318.00	382.00	382.00	266.00	116.00	0.00	0.00	0.00
Deferred	0.78	0.00	0.00	-122.44	0.00	0.00	17.54	0.00	0.00
Effective taxation private mining companies	6,200.78	2,199.00	4,001.00	4,561.43	2,411.00	2,150.43	1,726.84	861.00	848.30

Source: CENDA based on DIPRES, Consejo minero, Escondida, Codelco (CODELCO 2007) (Consejo Minero 2007) (DIPRES 2007)

Table 10: Chile, Gasto público, 2005-2006

Chie: Gasto público 2005-2006(millones de pesos)			
	%	2006	2005
Protección del medio ambiente	0%	45,780	40,024
Actividades recreativas, cultura, religión	1%	83,063	78,554
Vivienda y servicios comunitarios	2%	192,930	135,629
Salud	23%	2,159,509	1,845,090
Educación	25%	2,373,194	2,162,290
Previsión	36%	3,371,828	3,174,228
Otros protección social	12%	1,158,172	1,081,163
sub-total Protección social	48%	4,530,000	4,255,391
Total gasto social	100%	9,384,476	8,516,978
Otros gastos del gobierno central	50%	4,710,513	4,235,069
Gasto total Gobierno Central	150%	14,094,989	12,752,047
Gastos gobiernos regionales y municipales	15%	1,387,159	1,291,805
Gasto total Gobierno General	165%	15,482,148	14,043,852
Tipo de cambio \$ / US\$		532	555

Fuente: DIPRES (DIPRES 2008)

Appendix 2: Some factual objections to "*Mineral Rents and Social Development in Chile*"¹

1. Long range series in nominal US\$ dollars are misleading: revenues (pg.18)
2. *Chilenización* of copper took place in 1969, not in 1964 (pg. 7)
3. Private mining accounts for 70% of production in 2007, not 65% (pg 11) (see table 1 in appendix 1)
4. Employment in mining has fallen from 80,084 (1.81% of the total employment, 1.02% in copper) in 1989, to 51,430 (0,80% of total employment, 0,60% in copper) in 2006. (Riesco, Lagos and Lima, The 'Pay Your Taxes' Debate 2005)
5. While it is true that social expenditure has increased considerably since the return to democracy (pg 23), nevertheless, the starting base of comparison is the terribly low levels of social expenditure and wages at the end of the dictatorship. Expenditure in education and health, for example did not recover its pre-coup levels until the mid nineties, in absolute volume measured in constant money, and are still lower when measured in per-capita basis, and even worse as a percentage of GDP where present expenditure in education and health is half what it was. Teachers. Economic growth has played its role as well in the prolonged transition. Under the first three governments after 1989, the economy grew at a very fast pace until 1997, when it entered a recession that lasted until 2003. The impressive economic growth of the 1990s allowed for almost everything in Chile to be multiplied by two, three, or even four, during this quite extraordinary period. Total public expenditure grew faster than GDP between 1989 and 2000, then slightly slower than GDP from 2000 to 2005, under the Lagos government; the same was true of expenditure on social programmes. As a result, although the Chilean budget almost trebled during this period—an increase of 2.8 times—it is still no more than about a fifth of GDP, which is low even by Latin American standards. Nevertheless, public spending on health more than trebled—3.4 times from 1990 to 2005—and on education more than quadrupled—4.4 times in the same time frame. Under President Bachelet public spending has been growing at almost 10 per cent a year, once more significantly above GDP, especially on social expenditure. However, as said, their present levels are still quite modest by international standards and far from pre-coup levels in relative terms. On the other hand, privatisation of social services has failed for the vast majority, prompting current reforms in health, pensions and education. In education, the dismantling by the dictatorship of the public system built throughout the developmentalist period was brutal. Education budget was slashed by half, public schools lost one third of its pupils, overall enrolment decreased during a decade. At the same time, since the 1980s, private schools were intensively stimulated through public subsidies - the voucher system -, and captured the students deserting the crumbling public system and all the new enrolment. However, they were not able to make up for the deterioration of the latter, nor in quality which is mostly deficient, nor in quantity, because the proportion of students in all levels and both in public and private schools to overall population fell from 30% in 1973 to 25% in 1990. After 1990 there were far more public resources, but most went to private schools, with the students, which continued to desert the public system up until today, meanwhile quality is so deficient that it prompted millions of student "penguins" protesting in 2006, and the current reform process. The proportion of all kinds of students to overall population has recovered to 27%, still under 1973. At the same time, a relative decrease in the youth segments of the population pyramid has made it possible to increase the schools coverage, completing it in primary and secondary, but the country has fell behind in tertiary level, where its present coverage (42%) is far behind Argentina (65%) and eons away from Korea (98%) (Riesco, Derrumbe de un mito 2007)
6. Chilean distribution of income, which is "scandalous" according to the Chilean Bishops (Conferencia Episcopal) ¿is it a secular problem deeply rooted in the history of Spanish and Portuguese colonisation (pg 61)? Recent research proves that, quite on the contrary, it has

¹ Juan Carlos Guajardo, *Mineral Rents and Social Development in Chile*, UNRISD (Geneve: UNRISD, 2008).

changed dramatically along the 20-century, in accordance with the prevailing development strategy and corresponding relative influence of workers and employers in public affairs. During the whole transition from traditional agrarian to urban-salaried society in Chile, from 1929 to 2006 (both years of peak in the respective economic cycles), GDP multiplied fourteen-fold, meanwhile the overall wage mass (average real wages multiplied by the number of workers) increased over 20 times. That is, the participation of workers in GDP - universally recognised as the number one determinant in income distribution - increased quite considerably. However, all that improvement took place during the developmentalist period (1924-1973 in Chile), meanwhile was reversed brutally after the military coup, and exception made for very brief periods, it has continued to deteriorate ever since. Considering both periods, from 1929 to 1971 (both peak years), GDP multiplied 3.7 times, meanwhile the overall wage mass multiplied almost seven times, meaning the participation of workers in GDP doubled. In the second period, however, GDP also multiplied 3.7 times from 1971 to 2006 (both years of peak economic activity), meanwhile the mass of wages increased only 3.2 times, that is, the participation of workers in GDP decreased significantly. The bulk of the deterioration occurred in the wake of the 1973 coup, because in the economic 1971-1981 economic cycle (both peak years), GDP grew at a pace which although was very slow (averaged +2.3% a year; really, it slumped from 1972 to 1975 and recovered up to 1981), meanwhile the overall mass of wages stagnated (+0.7% a year), with a subsequent serious regression of their participation in overall income. The next cycle 1981-1997 saw a fast GDP growth (5% a year on the average, really, it slumped in 1982-1985 into the worst crisis since the 1930s, but recovered very fast until 1997), and although the mass of wages also grew (4.2% a year) it did so significantly less, so participation continued to deteriorate in spite of growth. Only during the last cycle, 1997-2006 (both peak years), the mass of wages has grown (4.1% a year in the average) faster than GDP (3.5% a year). It is also remarkable that the improvement during developmentalism was due to wage increase (which multiplied 3.54 times from 1929 to 1971), meanwhile they stagnated (they recovered their pre-coup level only in 2000, and multiplied only by 1.21 (21% increase) for the whole 1971-2006 period. Meanwhile, the number of workers multiplied by 1.9, doubled, from 1929 to 1971, and by 2.4 times from 1971 to 2006, because women workers almost quadrupled during the second period by (CENDA 2007, based in long term series compiled by the Economic Faculty of the Catholic University). (CENDA 2007)