

**Mining Taxes in Minnesota:
An Overview
and a Recommendation for Reform**

Final Report

**Prepared for the Minnesota Department of Revenue
and
Iron Range Resources**

March 2004



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And Recommendation for Reform**

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by
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March 2004

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For a complete listing of the members and support staff of the committee, see Appendix B.

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About the Minnesota Taxpayers Association

Since 1926, the Minnesota Taxpayers Association has been an independent voice for good government and sound tax policy. MTA is a non-profit, non-partisan organization and membership is statewide, open to all, and representative of every category of taxpayer. MTA provides state and local policy makers with objective non-partisan research about the impacts of tax and spending policies; and advocates for the adoption of rational public fiscal policy.

The Association is supported by membership dues. For information about membership call 651-224-7477, or visit our website at www.mntax.org.

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Executive Summary

Why This Study?

- This study is not the report of a commission. Its contractor is charged with “seeking agreement on the specific problems with the current tax system and distribution of revenues to determine reform goals.” This final report combines two previous rough drafts: an assessment report (Phase I, September 2003), and a reforms report (Phase II, January 2004). In the assessment phase, the only considerations required to be used in evaluating the mining taxes were the principles of good tax policy, as stated in this report. Within the framework of that evaluation, several tax reforms were proposed in Phase II as ideas for consideration. Based on feedback from those rough drafts, this report was finalized with only one recommendation for reform.

This final report has been prepared in the hope that an outside voice speaking from the principles of good tax policy may be able to offer a tax reform scenario that could contribute to the long-term health of the mining industry and the Iron Range communities.

Spending History

- The reputation of local governments on the Iron Range is one of spending that far exceeds what is typical in other Minnesota cities, but the most recent numbers available (2001) do not support that contention. It is necessary to see long-term historical trends to discover the source of that reputation for Iron Range communities.

In 1930, all Iron Range cities spent on average 378.5% more per capita than non-Range cities outside the Twin Cities area, or nearly 5 times as much per capita. This level of spending was supported primarily by the local property tax on unmined iron ore, significant amounts of which still remained in the ground at that time.

- By the mid-1950s, the most significant mining of iron ore was in the past. Values plummeted, and the property tax no longer was able to provide the levels of revenues to which these communities had grown accustomed. Significant adjustments were made relative to other cities, so that by 1971, Iron Range cities spent only 7.1% more than non-Range and non-Twin Cities area cities. Cities with over 2,500 population on the Range actually spent 7.4% less per capita on average than their non-Range counterparts in that year.

As taconite production increased and the production tax with it, significant aid distributions were again available to take the place of the lost property tax revenue on unmined iron ore, but spending on the Range was never again to compare to the iron ore days. The modern peak was in 1981, when Iron Range cities spent an average 39% more per capita than non-Range cities. Cities on the Range that are under 2,500 population continue to spend about 50% more than their counterparts in other parts of the state, but by 2001, cities over 2,500 population were spending only 10.5% more than non-Range cities of comparable size.

- The adjustments Iron Range communities have made in the past to precipitous drops in revenue show that they are well positioned today to adapt to changing conditions on the Range with regards to mining activity.

Executive Summary

Tax Policy Principles

- Public finance economists use a nearly-standard set of principles to evaluate the strengths and weaknesses of public sector taxes. The principles normally include equity (fairness), efficiency (both economic and administrative), simplicity, visibility, stability and adequacy, and competitiveness.

Evaluating The Taconite Production Tax

- *Is the Production Tax Fair? (Benefits Received)*—No, businesses generally pay two or more times in taxes than they receive in benefits from government, according to a study by the Federal Reserve Bank of Chicago.
- *Is the Production Tax Fair? (Ability to Pay)*—the production tax satisfies the principle of Horizontal Equity only within the mining industry itself. Across all industries in Minnesota, the mining industry pays taxes that are from three to five times higher than other industries. It does satisfy the principle of Vertical Equity, as applied mostly to investors, with a flat or progressive incidence.
- *Is the Production Tax Efficient?*—Administratively, it is one of the easiest to administer, though the distribution is complex. Allocatively, it distorts investment decisions because it is so high, and because of the Taconite Economic Development Fund program of rebating part of the tax for specific types of investments in the plants and mines.
- *Is the Production Tax Visible?*—like all taxes on business, it is invisible to the voters. This shortcoming is further compounded by the distribution of taconite aids to communities, with the Taconite Homestead Credit targeted especially to homeowners.
- *Is the Production Tax Simple?*—it is one of the simplest types of taxes (a dollar amount per ton produced).
- *Is the Production Tax Stable and Adequate?*—it is not stable, rising and falling with production, but using a 3-year average production for the tax base helps stabilize it some. It provides adequate revenues based on current and historic spending patterns among Range communities.
- *Is the Production Tax Competitive?*—as a cost by itself, it is not at all competitive with other mining jurisdictions outside the state, but it is currently economically competitive when all costs are taken into consideration.

Evaluating The Occupation Tax

- *Is the Occupation Tax Fair? (Benefits Received)*—as with the production tax, businesses generally pay two or more times in taxes than they receive in benefits from government, according to a study by the Federal Reserve Bank of Chicago.
- *Is the Occupation Tax Fair? (Ability to Pay)*—the tax generally satisfies the principles of Horizontal and Vertical Equity.
- *Is the Occupation Tax Efficient?*—it is allocatively efficient, in that it does not produce incentives to mine or not to mine. It is so minimal that it does not likely affect decisions to invest in additional production. It is somewhat administratively inefficient, especially for the amount of revenue collected.
- *Is the Occupation Tax Visible?*—like all taxes on business, it is invisible to the voters.
- *Is the Occupation Tax Simple?*—it is simpler than the corporate income tax, but not nearly as simple as the production tax, and again, for the amount of revenue collected, overly complex.
- *Is the Occupation Tax Stable and Adequate?*—it is especially unstable, rising and falling with net incomes. Its adequacy seems moot because of the small amount collected.
- *Is the Occupation Tax Competitive?*—it is not especially uncompetitive.

A Reform Proposal

Based on an evaluation of mining taxes using the tax policy principles above, recommended elements of a mining tax reform proposal for consideration to be enacted by the Legislature at the earliest possible time are shown in the table below. Each element shows an estimated per ton reduction and corresponding estimated reductions in total taxes collected.

Elements of a Mining Tax Reform Proposal

Reform Element	Cents Per Ton Reduction	Annual Estimated Reduction In Revenue* (millions)
1. Eliminate the 30.1 cents per ton Taconite Economic Development Fund rebate program and lower the statutory rate accordingly, from \$2.103 per ton to \$1.802 per ton	30.1	None**
2. Further reduce the remaining taconite production tax statutory rate to \$1.50 per ton (5¢/ton was refunded as producer grants through 2003, so that has not been available to the IRR)	30.2 (25.2 in 2003)	\$11.2 (9.3 in 2003)
3. Exempt all purchases by Minnesota mining companies from Minnesota's sales and use tax***	10.3	3.8**
4. Repeal the occupation tax on mining companies***	2.4	0.9**
5. Further reduce the taconite production tax to \$1 per ton for tons produced over 32 million tons per year total	6.76**	2.5
6. Eliminate the inflator for the taconite production tax	--	--
<u>Summary of Tax Cuts</u>		
Taconite Economic Development Fund rebates	30.1**	\$0.0**
Taconite Production Tax Reduction	36.96	13.7
Other Tax Reduction	12.7	4.7
Total Reduction	79.76**	\$18.4
(see parenthetical comment in second bullet above)		(\$16.5 in 2003)
Exhibits: Net PRODUCTION TAX per ton after reductions**	\$1.4324	
Estimated total reduction in prod. tax revenues (see parenthetical comment in second bullet above)		\$13.7 (\$11.8 in 2003)
<p>*Assuming 37 million tons of taconite produced. The \$1 per ton tax is applied to the 5 mil. tons above 32 mil., resulting in a total production tax paid of \$1.4324 per ton over all 37 million tons of production.</p> <p>**"None" is listed for the 30.1 cent reduction because this amount is currently being rebated to mining companies and would not result in a loss of revenue (other than nominal investment earnings) to the IRR. The \$3.8 and \$ 0.9 million revenue losses shown for the sales and use tax exemption and occupation tax repeal respectively would be a loss to the state's general fund. Estimates are based on the average of such taxes paid from 2000-2002</p> <p>***These are the per ton reductions for 2002. It will vary from year to year depending on the number of tons produced, amount of purchases made (for sales and use tax), and profitability (for the occupation tax).</p>		

Rationale for the Elements of the Reform Proposal

1. *Eliminate the 30.1 cents per ton Taconite Economic Development Fund rebate program and lower the statutory rate accordingly, from \$2.103 per ton to \$1.802 per ton.*

Requiring companies first to pay 30.1 cents per ton to the IRR, then allowing them to receive it back as a rebate, with certain conditions attached for its investment in improving plant operations is not an efficient way to encourage investment.

Executive Summary

2. *Further reduce the remaining taconite production tax statutory rate to \$1.50 per ton.*

This 30.2 cents per ton reduction contributes to making the taconite production tax more competitive with other jurisdictions, and helps mitigate the horizontal inequity of the mining industry's 15.52% effective tax rate.

3. *Exempt all purchases by Minnesota mining companies from Minnesota's sales and use tax.*

This element of the recommended reform helps improve competitiveness and horizontal equity, but does so by reducing a tax that flows to the state's general fund.

It is also recommended that the rebate program for capital equipment purchases be turned into a direct exemption for the mining industry, reducing the wait for the refunded tax and reducing administrative burden.

4. *Repeal the occupation tax on mining companies.*

Like element number 3 above, the elimination of the occupation tax affects the state's general fund, but only nominally. It modestly improves the competitiveness of the industry.

5. *Further reduce the taconite production tax to \$1 per ton for tons produced over 32 million tons per year total.*

A similar idea has been proposed by Range legislators in previous legislative sessions. It provides an incentive for the owners of Minnesota taconite mines to shift production to Minnesota rather than other mines they might own elsewhere, because taxes would be reduced on all production above 32 million tons. This element improves the competitiveness of Minnesota's taconite while protecting property tax relief aid and the IRR budget.

6. *Eliminate the inflator for the taconite production tax.*

An accountable tax system does not include automatic tax rate inflators. Elected officials should always be required to perform their representative duties by having to vote on tax increases.

7. *Eliminate distributions to non-mining school districts (not shown on the table above).*

In order to limit taconite property tax relief to school districts in which mining actually occurs, it is recommended to eliminate the distribution of taconite production tax dollars for four school districts on the edge of the mining area. These four districts are Aitkin, Cook County, Crosby-Ironton, and Grand Rapids. The estimated distribution for 2004 is about \$1.1 million.

Shortcomings of the Proposal

- Horizontal Inequity and Competitiveness Problems are only mitigated, not solved
- The Stability of Revenues is not markedly improved.
- The dependency of the Iron Range communities on aid is not lessened.

Conclusion

The tax policy problems of mining taxes are not easily solved. A quote from Dr. Walter Hellerstein states clearly the problem of reforming them, with the solution likely requiring one “to amalgamate a variety of competing objectives that are served by a variety of discrete levies.”¹ The competing objectives of improving horizontal equity (among Minnesota businesses) and competitiveness (among other jurisdictions) versus maintaining stability and adequacy of revenues for communities dependent on taconite aid are not easily resolved. Adequacy of aid revenues itself competes against the desired outcome of less dependence by Iron Range communities on such aid.

It was felt by the author that the stability of the aid system weighed more heavily than improving the competitiveness of the mining industry in deciding on a final recommendation at this time. Minnesota taconite pellets should be competitive in the North American market for the next several years, given the huge demand for pellets coming from China. At the same time, the lowered expectations of aid for Range communities, given the rather precipitous drop in the last few years, makes it a good time to reduce the production tax, because aid payments have already been reduced, and it is less costly to keep them at the most recent levels. Adjustments by the communities have already been made to cut spending. With the combination of the tax adjustments recommended in this report and a very competitive market that seems to presage increased production for the next few years, it seems like a good time to provide as much relief as possible without further cutting taconite aid to Range communities.

A final recommendation of this proposal, not part of the formal description, is that production tax revenue not used for aid payments or agency budgets should be set aside and allowed to accumulate in the two trust funds provided for in current law. Since collections could exceed those predicted in this report, it is very important that the temptation to increase aid distributions be resisted so that the trust funds can continue to grow, in anticipation of the day when production will again fall, and cost efficient mining of Minnesota’s reserves draws to an end.

¹ *State and Local Taxation of Natural Resources in the Federal System*, Walter Hellerstein, American Bar Association, 1986, pp. 121.

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I. Introduction

Why Another Mining Tax Study?

With at least two reports on mining taxes issued in the last dozen years, one could easily justify the question of why there is any need for yet another study on how mining operations are taxed in Minnesota. The very comprehensive *Governor's Blue Ribbon Commission on Mining, Final Report and Recommendations*, was commissioned by former Governor Perpich toward the end of his administration. The work was finished and the report published in January of 1991, written primarily by then Commissioner of Revenue John James. He reported that the commission's charge was "to deal with tax laws and their impact on mining in Minnesota." A change of administration and economic recession resulted in few of the commission's recommendations being carried out.

Only five years later, in January of 1996, the Iron Range Resources and Rehabilitation Agency, or IRRRA (now known as IRR for Iron Range Resources, which is how this report references it), submitted a set of less comprehensive recommendations from its Taconite Production Tax Committee to then Governor Arne Carlson and the Minnesota Legislature.

Neither of these reports resulted in any comprehensive reform of mining taxes in the state. The continued decline of the mining industry in Minnesota has led many to reconsider the industry's claims that they are subject to a non-competitive level of tax. The precipitous nature of the decline, to the point that there are now essentially only five taxpayers of the taconite production tax, has resulted in a new concern that the distribution of the proceeds of the taconite production tax to local communities on the Iron Range may actually be in jeopardy from a cessation of all mining activity in the area.

In the face of this decline, the outgoing IRR commissioner decided to authorize another study with several objectives: 1) to assess the current mining tax situation as it relates to good tax policy and the relationship of the mining tax proceeds to local governments on the range; 2) to identify reforms in taxation and local government aids that are in accord with good tax policy; and 3) to recommend a specific set of policy changes and analyze their impacts on key stakeholders.

This study is not the report of a commission. Its contractor is charged with "seeking agreement on the specific problems with the current tax system and distribution of revenues to determine reform goals." This final report combines two previous rough drafts: an assessment report (Phase I), and a reforms report (Phase II). In the assessment phase, the only considerations required to be used in evaluating the mining taxes were the principles of good tax policy, as stated in this report. Within the framework of that evaluation, several tax reforms were proposed in Phase II as ideas for consideration. Based on feedback from those rough drafts, this report was finalized with only one recommendation for reform.

This final report has been prepared in the hope that an outside voice speaking from the principles of good tax policy may be able to offer a tax reform scenario that could contribute to the long-term health of the mining industry and the Iron Range communities.

I. Introduction

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II. An Overview of Current Mining Taxes

Mining Taxes versus Taxes on Mining Companies

In describing the current mining taxes in Minnesota, there are two broad categories of taxes to consider: general taxes on businesses in Minnesota that mining companies pay as part of doing business but that are not unique to mining, and taxes that are specific to mining activity,

Under the general tax category, the primary taxes paid by mining companies are the sales tax on non-exempt purchases and the ad valorem property tax on property not specifically exempted from such taxes, namely, taconite railroads, unmined taconite ore, auxiliary mining lands, unmined natural ore, and severed mineral interests.

Taxes paid only by companies engaged in mining activity are the taconite production tax, the occupation tax (similar to the corporate franchise tax paid by other businesses), the net proceeds tax on non-ferrous minerals (thus far never collected in Minnesota), and the aggregate material production tax.

This report focuses on the two mining specific taxes on companies involved in mining taconite: the taconite production tax and the occupation tax.

Taconite Production Tax

History and Description

Enacted in 1941, the taconite production tax is a severance tax on each ton of taconite produced. Taconite, a product derived from poorer quality iron ore, was developed in Minnesota as the richer iron ore of the original mines in Minnesota began to be exhausted. The first taconite was produced in 1949, and its production peaked in 1979 at 54.4 million tons.

This tax is paid in lieu of ad valorem property taxes on taconite, lands containing taconite, and structures used in the production of taconite. The exemption includes electric generating plants owned by the company that produce power used exclusively for production of taconite. If electricity generated by these plants is used elsewhere, only the portion used in taconite production is exempt from the property tax.

The tax base of the taconite production tax is the average dry weight in tons of taconite produced in the current year and the previous two years. The rate is calculated by multiplying the prior year's rate by the percentage change in the Gross Domestic Product Implicit Price Deflator from the fourth quarter of the second preceding year to the fourth quarter of the immediately preceding year. The tax is due by electronic fund transfer on February 24 and August 24 each year, or the next working day. The Legislature has routinely suspended the indexing provision in the last several years, to keep the rate frozen at its current level.

Historically, the tax base was simply the weight in tons produced per year. In 1977, a method was enacted calling for the greater of the current year's production or a three-year average. A negotiated settlement of court cases resulted in the use of the current year's production for 1984, the 1984-85 average production for 1985, and the three-year average for 1984-86 for 1986. The

II. An Overview of Current Mining Taxes

three-year average has been used ever since. The dry-weight basis for measuring tonnage has been used since 1990.

Rate and Collections

The current \$2.103 rate per ton of taconite produced can be reduced through a refund to companies paying the tax at a rate of 30.1 cents per ton, for certain reinvestment expenditures made by the mining companies in plant and equipment. In addition to this refund, companies were eligible for a 5 cent per taxable ton grant from the Environmental Fund for environmentally unique reclamation projects, or pit or plant expansions or modernizations that extended the life of the plant. Production must not fall below 30 million tons for these grants to be awarded, and companies are usually required to show a real estate transfer or other asset or service valued at 15% of the grant to qualify. The 5 cent producer grant program expired after the payable 2003 year.

The 30.1 cents per ton refund program made from the Taconite Economic Development Fund is generally awarded to companies, routinely reducing their tax per ton to \$1.802. If they also qualified for a producer grant from the Environmental Fund (also fairly routine), their tax per ton was further reduced to \$1.752, but in both cases, refunded money had to be reinvested in plant and equipment or environmental clean-up or modernization. To the extent that these expenditures would be made with or without the refund, then they can be considered actual reductions in tax burden. Table 1 shows the amounts of taconite production tax collected over the years.

Table 1. Minnesota Production Tax Collected by Year

Production Year	Tax Collected	Production Year	Tax Collected
Before 1981	\$409,595,489	1992	\$82,035,382
1981	99,018,289	1993	80,195,972
1982	80,305,437	1994	81,500,355
1983	67,341,038	1995	85,704,654
1984	64,514,255	1996	90,512,836
1985	65,091,787	1997	94,704,666
1986	48,657,782	1998	94,268,103
1987	51,184,126	1999	93,063,942
1988	57,402,070	2000	79,773,313
1989	72,149,188	2001	62,288,000
1990	78,929,646	2002	64,404,747
1991	82,411,317	Grand Total	\$2,095,607,202

Source: MN Mining Tax Guide, 2003

Occupation Tax

History and Description

Enacted in 1921 subsequent to a constitutional amendment (Article X, section 3) and first imposed in 1922, the occupation tax is a tax on the value of the ore removed from the ground. It now more closely conforms to the corporate income tax, but with important differences. The tax is paid in lieu of the corporate income, or franchise, tax, and thus mining companies are exempt from paying that tax.

The starting point of the occupation tax is the mine value of ore transferred or sold, which is determined by the Department of Revenue. Because much ore is not sold, but used in vertically integrated mining companies with their own steel mills, determining the value of the mine has not been without its difficulties. Historically, the price of the ore at steel mills on Lake Erie, called the Lake Erie value, was used. Since December of 1990, though, an agreement between the Department and taconite producers provided that any change in mine value would be determined by two factors:

1. the change in the Steel Mill Products Index from June of the prior year to June of the current year (this factor is weighted 75%) and
2. the change in the actual selling price of non-equity sales (this factor is weighted 25%).

This mine value, used as an indicator of sales proceeds, is further distinguished from the corporate income tax in two ways:

1. the tax is “non-unitary” because it applies only to the Minnesota mine and plant, and not the entire U.S. operations of the company, and
2. percentage depletion allowances are deductible as a tax preference item for the alternative minimum tax calculation.

Rate and Collections

The rate of the occupation tax is 9.8% and applies to both ferrous and nonferrous mining. The rate is 9.8% of taxable income. The same sales-weighted three-factor apportionment (12.5% property, 12.5% payroll, and 75% sales) that applies to the corporate franchise tax also applies to the occupation tax. All transfers to out-of-state steel plants are considered non-Minnesota sales. That results in an effective tax rate on net income of 2.45%, rather than the 9.8% statutory rate. There has been some recent natural ore mining, but more than 99% of the tonnage in recent years is attributable to taconite. Table 2 shows the amounts of occupation tax collected over the years, from both iron ore and taconite.

Table 2. Minnesota Occupation Tax Collected by Year

Production Year	Tax Collected (000's)	Production Year	Tax Collected (000's)
1960-1981	\$268,506	1992	1,589
1981	12,604	1993	1,709
1982	719	1994	2,324
1983	2,885	1995	3,159
1984	11,048	1996	2,636
1985	4,464	1997	2,721
1986	6,209	1998	2,238
1987	6,145	1999	2,280
1988	3,287	2000	2,183
1989	510	2001	60
1990	2,068	2002	1,341
1991	2,040	Grand Total	\$342,725
Source: MN Mining Tax Guide, 2003			

II. An Overview of Current Mining Taxes

How Does Minnesota Mining Compare to Other Industries in Minnesota?

The Department of Revenue routinely conducts a tax incidence study every other year. Its most recent study was released in March of 2003 for taxes paid in 2000. In that report, taxes for each industry sector are presented as a percent of the gross state product each industry contributes to the state. Table 3 reproduces that information.

Table 3. Taxes as a Percent of Contribution to Gross State Product (Effective Tax Rates) by Industry Sector for Calendar Year 2000

Industrial Sector in Minnesota	Effective Tax Rate
Agriculture	3.56%
Mining	15.52
Construction	4.74
Durable Manufacturing	2.81
Nondurable Manufacturing	3.95
Transportation, C, Public Utilities	5.05
Finance, Insurance, Real Estate	2.11
Services	4.37
Retail Trade	2.76
Wholesale Trade	9.29

Source: 2003 Minnesota Tax Incidence Study, Minnesota Department of Revenue, March 2003, page 22.

The only industry remotely close to mining in terms of its effective tax rate is the wholesale trade, and as Department of Revenue officials stated at a legislative hearing to explain their report last year, this is primarily because tobacco excise taxes were counted as a tax on businesses for this year's study at the wholesale level, because wholesalers are the ones who remit the taxes. Absent tobacco taxes, the mining industry shows a tax burden that is from three to five times higher than other industries in Minnesota. (Minnesota's mining industry competitiveness to other states and countries is discussed under the evaluation of tax and economic competitiveness in part IV below.)

Where Do the Tax Collections Go? The Distribution of Mining Taxes

History of Distributions

No overview of the mining of iron ore in Minnesota would be complete without an examination of where the mining taxes go. Because the taconite production tax is paid in lieu of the local ad valorem property tax, it is distributed primarily to local jurisdictions in the mining area. If mining companies' property were subject to the local property tax, local jurisdictions would have access to the revenues from those facilities and lands, so the fact that the proceeds from the production tax are distributed to local jurisdictions has not been particularly controversial. Of more controversy is how the taconite production tax proceeds are distributed.

When the taconite production tax was first enacted in 1941 at 5 cents per ton (deliberately low to foster the development of taconite processing as higher quality ore began to diminish), a very simple method of distributing the proceeds was put in place. Jurisdictions in which the mines or facilities were located divided most of the proceeds, with schools receiving 25%, towns or cities 25%, counties, 25%, and the remaining 25% going to the state. In 1955 this was changed to give

schools half of the proceeds, with the state’s share lowered to 6% and cities and towns to 22%, and this formula remained in place until 1969.²

There was a significant increase in the production tax enacted in 1969, with a corresponding change in the distribution of the proceeds. For the first time, a sizeable amount of the proceeds were diverted from directly reimbursing local jurisdictions. A Property Tax Relief account was created to pay for a new taconite homestead credit for homeowners living in areas which had lost property value because of the depletion of iron ore within their borders.

Perhaps determined to learn from history, the production tax was again increased in 1977 and besides increasing the taconite homestead credit, two new funds were created—the Taconite Area Environmental Protection Fund and the Northeastern Minnesota Economic Protection Fund. No such funds were provided for as higher quality iron ore began to be depleted. With predictions already being made in 1977 that taconite production would be in serious decline by 2001, these funds were to help clean up the environment from the result of mining activity, and to try to diversify the economy to ease the transition from a taconite downturn that was expected.

Automatic escalators in the production tax rate meant increasingly more revenue to these funds. The legislature responded by extending the areas eligible for taconite aids. The 1977 changes to the rate and escalator included a much more complex distribution of the proceeds to accommodate the additional areas to be receiving the distributions. Changes since 1977 consisted mostly of increasing the rate through changes in the inflator used, and moving to a three-year average of production instead of the current year production as the tax base.

Because the distribution formulas are so complex, they are not presented here. A full discussion of them is available in the Department of Revenue’s *Mining Guide 2003*, issued in September of 2003. Table 4 shows how the taconite production tax proceeds were distributed for production year 2002, payable and distributed in 2003.

Table 4. 2003 Distribution of the Taconite Production Tax, Production Year 2002

Taconite Aid Payments for:	Amount Received	Cents per Taxable Ton
Cities and townships	\$9,872,338	32.3
School districts	9,578,975	31.3
Counties	12,951,621	42.3
Property tax relief and miscellaneous	10,928,934	35.7
Iron Range Resources (IRR)	18,069,418	59.0
Taconite Economic Development Fund	9,425,759	30.8
Taconite Producer Grants	1,531,259	5.0
Total Aid	\$72,358,304	236.4*
<small>Source: <i>Minnesota Mining Tax Guide 2003</i>, MN Department of Revenue, September 2003, inside cover. *This total is higher than the statutory 210.3 cents per ton because of state general fund money used to supplement aid distributions in 2003.</small>		

How Reliant on Taconite Aids Are Local Governments?

Given the severe economic hardships experienced in the mining industry in recent years, it is important to have an overview of just how dependent local governments are on taconite aid distributions should the industry continue to decline. As has happened just within the last three

² This history of the taconite production tax distribution is taken from “Taconite Taxation, An Overview”, by Alfred E. France, in the June 19, 1993, issue of *Skilling’s Mining Review*, pages 4-9.

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production years with LTV, EVTAC, and National Steel, when a mine seeks bankruptcy protection, it is reasonable to assume that any production tax owed will not be paid in full, if at all.

How severely would local governments currently receiving taconite aid be impacted if all the mines shut down and there were no more production tax payments or distributions? What follows are two ways of answering that question.

Aid and Spending

Table 5 on page 9 lists in detail the local governments currently receiving taconite tax distributions, the amount of taconite aids and total aids they received in 2001 as a percent of their total revenues, and their 2001 total spending per capita. The detail is also summed and averaged, in order to compare the taconite-aid-receiving subset of jurisdictions in the state with all other jurisdictions that do not receive any taconite aid distributions.

Taconite cities on average support spending that is \$152 per person higher at \$1,265 than all the rest of the cities in the state at \$1,113, with total aid that comprises nearly 59% of that spending. That is \$744 per person of aid, compared to only \$279 per person total aid for non-taconite cities. The tax base of taconite cities, however, is significantly lower than non-taconite cities--\$485 per person versus \$862 per person for non-taconite cities.

If the \$139 per person of taconite aid for taconite cities were subtracted from their average spending, taconite aid cities' average spending would be only \$1,126, very close to the non-taconite cities' average of \$1,113. The taconite cities would still be receiving much more aid than the average for other cities, but that would be largely to compensate for the much smaller tax base available to taconite cities (as stated above, \$485 per person compared to \$862 per person for non-taconite cities). Taconite cities average total tax rate was about 19% higher than non-taconite cities in 2001.

Taconite counties' average spending was \$249 per person, or about 30%, higher than all non-taconite counties combined for 2001. The portion of spending supported by total aid for taconite counties was comparable to non-taconite counties—about 47% to about 44% respectively. The tax base for non-taconite counties was 28% higher than for taconite counties--\$843 per person versus \$657—but the tax rate for taconite counties was only a little under 4% higher to compensate for it. With only \$39 of taconite aid per person in the taconite counties, it seems it has little effect on the comparative spending of the two groups.

Taconite school districts received 32% more aid per pupil, or \$2,306 in 2000-01, than the average of all non-taconite school districts (\$9,515 versus \$7,209). Interestingly, the \$9,515 per pupil taconite school districts received in aid exceeded their average total spending for that year, which was at \$9,154 per pupil. This meant that taconite districts received nearly 104% of their spending in aid, while the rest of the state averaged under 74% (this aid includes federal money). Taconite districts still spent \$638 per pupil less than non-taconite districts, \$9,154 versus \$9,792 (which includes capital expenditures and debt payments).

Table 5. Total Aids as a Percent of Spending for Minnesota Jurisdictions Receiving Taconite Aids versus the Rest of the State, 2001

County	Jurisdiction	Taconite Aid Per Capita	Total Aid Per Capita	Taconite Aid as a % of Spending	Total Aid as a % of Spending	Total Spending Per Capita	2001 Per Capita Tax Capacity	2001 Average Total Tax Rate
COOK	County Government	\$56	\$1,343	1.9%	46.8%	\$2,871		
	Cities and Towns							
CROW WING	Schroeder Township	\$308	\$854	34.8%	96.4%	\$886		
	County Government	\$0	\$371	0.0%	48.5%	\$765		
	Cities and Towns							
	Crosby	\$76	\$375	6.8%	33.6%	\$1,117	\$358	145.88
	Ironton	\$80	\$639	6.7%	53.5%	\$1,194	\$336	163.83
	Riverton	\$45	\$211	7.3%	34.2%	\$618	\$669	112.95
	Trommald	\$29	\$185	8.3%	52.6%	\$351	\$260	120.67
	Irondale Township	\$25	\$99	8.3%	32.5%	\$304		
ITASCA	Rabbit Lake Township	\$11	\$76	6.5%	43.7%	\$174		
	Wolford Township	\$14	\$69	6.7%	33.0%	\$209		
	County Government	\$21	\$494	1.8%	42.7%	\$1,157		
	Cities and Towns							
	Bovey	\$106	\$939	6.9%	61.7%	\$1,522	\$203	171.98
	Calumet	\$93	\$1,883	3.6%	73.6%	\$2,558	\$199	157.90
	Cohasset	\$0	\$112	0.0%	10.7%	\$1,042	\$4,045	119.83
	Coleraine	\$82	\$734	4.8%	43.3%	\$1,697	\$344	143.68
	Keewatin	\$192	\$689	21.1%	75.6%	\$911	\$169	146.58
	Marble	\$80	\$871	7.2%	78.1%	\$1,116	\$181	124.35
	Nashwauk	\$176	\$828	10.5%	49.5%	\$1,672	\$314	92.07
	Taconite	\$98	\$816	8.7%	72.2%	\$1,131	\$293	169.99
	Grand Rapids Township	\$9	\$10	4.1%	4.6%	\$217		
	Greenway Township	\$42	\$132	13.2%	41.0%	\$321		
LAKE	Iron Range Township	\$27	\$230	3.4%	28.7%	\$800		
	Lone Pine Township	\$70	\$81	138.5%	159.4%	\$51		
	Nashwauk Township	\$197	\$370	43.2%	81.0%	\$457		
	County Government	\$107	\$1,140	5.4%	57.7%	\$1,975		
	Cities and Towns							
	Silver Bay	\$222	\$1,178	14.0%	74.2%	\$1,588	\$255	153.02
	Beaver Bay Township	\$27	\$57	23.3%	50.0%	\$114		
	Crystal Bay Township	\$11	\$168	6.7%	99.7%	\$168		
	Silver Creek Township	\$17	\$80	2.9%	13.2%	\$603		
	Stony River Township	\$112	\$146	34.6%	45.0%	\$324		
ST. LOUIS	County Government	\$53	\$467	5.3%	46.4%	\$1,006		
	Cities and Towns							
	Aurora	\$134	\$684	12.8%	65.6%	\$1,042	\$248	160.39
	Babbitt	\$343	\$510	27.1%	40.4%	\$1,263	\$303	170.91
	Biwabik	\$145	\$1,237	5.8%	49.0%	\$2,526	\$277	246.85
	Buhl	\$137	\$1,039	7.6%	57.8%	\$1,797	\$227	160.30
	Chisholm	\$104	\$1,165	7.2%	80.1%	\$1,454	\$258	189.09
	Ely	\$79	\$224	7.6%	21.7%	\$1,033	\$379	186.29
	Eveleth	\$126	\$874	9.0%	62.5%	\$1,398	\$273	144.89
	Gilbert	\$163	\$1,215	9.6%	71.5%	\$1,698	\$228	193.25
	Hibbing	\$114	\$681	11.5%	68.4%	\$996	\$358	155.60
	Hoyt Lakes	\$342	\$1,045	20.1%	61.5%	\$1,701	\$631	153.83
	Kinney	\$420	\$557	23.8%	31.6%	\$1,762	\$235	131.14
	Leonidas	\$242	\$1,651	6.7%	45.6%	\$3,624	\$245	92.30
	McKinley	\$164	\$1,429	13.5%	117.2%	\$1,219	\$238	90.01
	Mountain Iron	\$334	\$584	30.0%	52.5%	\$1,113	\$563	142.99
	Virginia	\$128	\$758	9.6%	56.8%	\$1,334	\$364	140.01
	Balkan Township	\$53	\$534	6.1%	62.4%	\$857		
	Bassett Township	\$322	\$526	53.2%	87.0%	\$605		
	Biwabik Township	\$58	\$269	8.4%	38.9%	\$691		
	Breitung Township	\$9	\$295	0.9%	27.7%	\$1,065		
	Clinton Township	\$24			Not Reported			
	Eagle's Nest Township	\$0			Not Reported			
	Fayal Township	\$40	\$266	7.9%	52.6%	\$506		
	Great Scott Township	\$115	\$276	34.8%	83.3%	\$331		
	McDavitt Township	\$237	\$290	80.8%	98.7%	\$294		
	Waasa Township	\$40	\$88	33.7%	74.4%	\$118		
White Township	\$205	\$850	15.7%	65.2%	\$1,304			
Wuori Township	\$188	\$204	72.1%	77.9%	\$261			

continued on next page.

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Table 5 (cont'd) Total Aids as a Percent of Spending for Minnesota Jurisdictions Receiving Taconite Aids versus the Rest of the State, 2001

County	Jurisdiction	Taconite Aid Per Capita	Total Aid Per Capita	Taconite Aid as a % of Spending	Total Aid as a % of Spending	Total Spending Per Capita	2001 Per Capita Tax Capacity	2001 Average Total Tax Rate	
AITKIN COOK CROW WING ITASCA LAKE ST. LOUIS	All Taconite Townships only	\$65	\$223	14.0%	48.3%	\$462	not readily available		
	All non-taconite Townships only	\$0	\$74	0.0%	33.8%	\$219	not readily available		
	All Taconite Cities only	\$139	\$744	11.0%	58.8%	\$1,265	\$485	144.29	
	All non-taconite Cities only	\$0	\$279	0.0%	25.0%	\$1,113	\$862	121.69	
	Total Taconite Counties	\$39	\$503	3.7%	46.9%	\$1,073	\$657	129.28	
	All Non-taconite Counties	\$0	\$360	0.0%	43.7%	\$824	\$843	124.72	
	School Districts		Taconite Aid Per ADM*	Total Aid Per ADM*	Taconite Aid as a % of Spending	Total Aid as a % of Spending	Total Spending Per ADM*	Local Levy per ADM	
	Aitkin	\$256	\$7,851	3.1%	95.3%	\$8,240	\$1,537		
	Cook County	\$1,209	\$8,305	12.5%	86.0%	\$9,659	\$3,558		
	Crosby-Ironton	\$255	\$7,070	3.2%	89.2%	\$7,925	\$2,042		
	Deer River	\$511	\$9,383	4.3%	79.2%	\$11,854	\$1,441		
	Greenway	\$880	\$10,970	8.5%	106.5%	\$10,303	\$715		
	Grand Rapids	\$373	\$7,641	4.0%	82.3%	\$9,280	\$2,425		
	Nashwauk-Keewatin	\$780	\$10,475	9.0%	121.6%	\$8,618	\$174		
	Lake Superior	\$726	\$8,400	9.0%	104.6%	\$8,032	\$678		
	Chisholm	\$1,252	\$10,322	12.8%	105.7%	\$9,765	\$40		
Ely	\$397	\$8,278	4.9%	102.5%	\$8,076	\$1,221			
Hibbing	\$696	\$11,551	8.5%	140.5%	\$8,224	\$500			
Virginia	\$975	\$10,434	9.7%	104.1%	\$10,022	\$622			
Mt. Iron-Buhl	\$2,155	\$13,193	19.8%	121.2%	\$10,884	\$160			
St. Louis County	\$744	\$9,922	7.5%	99.8%	\$9,944	\$1,585			
Eveleth-Gilbert	\$988	\$8,754	12.6%	111.4%	\$7,856	\$327			
Mesabi East	\$1,145	\$14,459	11.8%	149.0%	\$9,702	\$358			
Total Taconite School Districts		\$719	\$9,515	7.9%	103.9%	\$9,154	\$1,224		
Total Non-taconite School Districts		\$0	\$7,209	0.0%	73.6%	\$9,792	\$2,160		

Source: Aids and spending from the Offices of State Auditor Government Finance Information for 2001. Tax capacity and tax rate information is from the League of Minnesota cities at <http://www.lmnc.org/pdfs/taxtable01.pdf>. School district data is from the Department of Education *School District Profiles* for 2000-01. Taconite aid is from the MN Department of Revenue. Calculations are by the MTA.

Taconite townships also spent more on average than non-taconite townships, \$462 per person versus \$219 per person. However, only \$65 per person of their total aid of \$223 was from taconite aid. The taconite townships' overall aid as a percent of spending was just over 48% compared to about 34% for non-taconite townships.

All jurisdictions except school districts in the taconite aid distribution area spend more than the average of their non-taconite counterparts in the rest of the state. Tax bases of taconite areas are significantly lower than elsewhere, while their tax rates are moderately higher. In all cases, the portion of their spending supported by aid is significantly higher than the average for non-taconite areas.

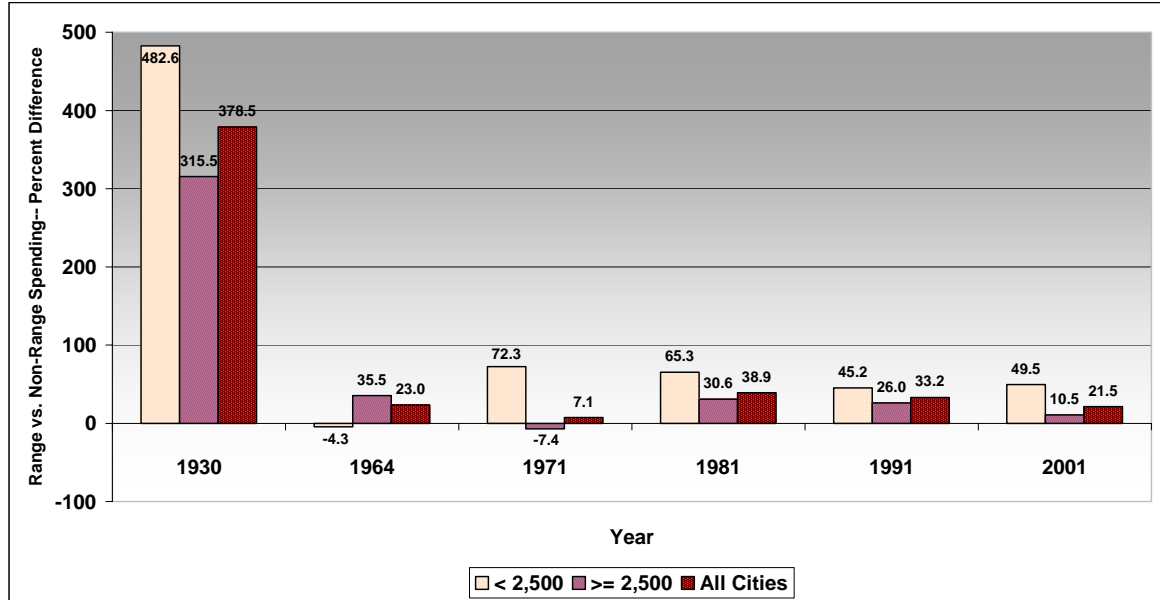
Historical Perspective

The reputation of local governments on the Iron Range is one of spending that far exceeds what is typical in other Minnesota cities, but the most recent numbers presented in the section above do not support that contention. It is necessary to see long-term historical trends to discover the source of that reputation for Iron Range communities.

City data is the most readily available for such a long-term comparison. In order to try to compare cities that are as similar to each other as possible, historical and current spending per capita is presented in Figure 1 on page 11 only for non-Range cities that are outside the 7-county Twin

Cities metropolitan area to cities on the Iron Range. Cities are also grouped into two population sizes, those above and below 2,500 population.

Figure 1. Percent Difference Between Iron Range City Per Capita Spending versus Non-Range City Spending (non-Twin Cities counties only), for Selected Periods from 1930 to 2001



Source: 1930 data: *Taxation in Minnesota*, Roy G. Blakey, The University of Minnesota Press, Minneapolis, November, 1932, page 600; Other years: State Auditors city spending reports for the respective years.

As is easily seen in Figure 1, the Iron Range’s reputation for high spending comes from an earlier period in Minnesota history. All Iron Range cities spent on average 378.5% more per capita than non-Range cities outside the Twin Cities area, or nearly 5 times more per capita, in 1930. This level of spending was supported primarily by the local property tax on unmined iron ore, significant amounts of which still remained in the ground.

The end of this prosperous era was already in sight, however, and by the mid-1950s, the most significant mining of iron ore was in the past. Values plummeted, and the property tax no longer was able to provide the levels of revenues to which these communities had grown accustomed. Significant adjustments were made relative to other cities, so that by 1971, Iron Range cities spent only 7.1% more than non-Range and non-Twin Cities area cities. Cities over 2,500 population on the Range actually spent 7.4% less per capita on average than their non-Range counterparts in that year.

As taconite production increased and the production tax with it, significant aid distributions were again available to take the place of the lost property tax revenue on unmined iron ore, but spending on the Range was never again to compare to the iron ore days. The modern peak was in 1981, when Iron Range cities spent an average 39% more per capita than non-Range cities. Cities on the Range that are under 2,500 population continue to spend significantly more than their counterparts in other parts of the state, but by 2001, cities over 2,500 population were spending only 10.5% more than non-Range cities of comparable size.

The numbers used to produce Figure 1 are shown in the table on the next page.

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Table 6. Per Capita Spending for Selected Time Periods, Range vs. Non-Range Cities by Size

Year and Comparison Category	Less than 2,500			2,500 and up			All Size Cities		
	Iron Range	All Non-Range	Non-Range without TC	Iron Range	All Non-Range	Non-Range without TC > 20k	Iron Range	All Non-Range	Non-Range without TC > 20k
1930									
Spending	\$40.17	NA	\$6.89	\$43.17	NA	\$10.39	\$42.66	NA	\$8.92
1964									
Tax Base	1,083.77	463.61	445.60	784.43	688.78	585.13	831.58	649.92	545.14
Tax Levy	65.53	26.16	26.39	81.34	46.74	37.86	78.85	43.18	34.01
Spending	94.65	99.49	98.91	108.65	98.93	80.22	106.45	99.03	86.56
Aid as % of Spending	21.6%	9.9%	10.1%	34.9%	10.7%	13.6%	33.1%	10.6%	12.2%
1971									
Tax Base	301.21	468.83	430.74	681.69	626.03	411.20	628.81	603.86	427.54
Tax Levy	46.37	34.09	34.73	89.78	51.29	30.90	83.74	48.86	31.80
Spending	113.71	68.35	65.99	154.91	175.35	167.30	149.19	160.26	139.24
Aid as % of Spending	55.1%	36.4%	39.6%	32.9%	22.8%	21.6%	35.3%	23.6%	23.6%
1981									
Tax Base	2,463.01	3,235.39	3,022.46	2,873.99	4,682.70	3,428.23	2,794.71	4,819.32	4,025.33
Tax Levy	148.10	88.50	88.56	105.99	112.61	98.03	114.12	109.42	95.54
Spending	527.41	308.70	318.99	488.88	442.58	374.43	496.31	424.86	357.27
Aid as % of Spending	85.8%	41.3%	41.7%	76.2%	43.0%	39.6%	78.2%	42.8%	40.0%
1991									
Tax Base	243.04	477.66	437.11	267.21	663.12	530.27	259.63	641.91	517.71
Tax Levy	88.64	108.92	103.59	92.74	145.98	117.46	91.46	141.74	115.42
Spending	1,029.01	697.56	708.81	848.02	850.96	673.30	904.78	833.42	679.09
Aid as % of Spending	65.1%	37.9%	40.4%	66.4%	25.7%	30.6%	65.9%	26.8%	32.4%
2001									
Tax Base	711.44	464.54	384.42	340.04	832.17	701.14	470.58	797.42	652.54
Tax Levy	677.49	161.61	154.04	212.86	207.24	195.56	376.18	202.93	188.58
Spending	1,430.17	953.56	956.70	1,173.07	1,133.37	1,062.07	1,263.44	1,116.37	1,039.78
Aid as % of Spending	54.4%	32.6%	33.4%	61.8%	24.5%	26.1%	58.9%	25.1%	27.3%

Sources: See sources for Figure 1 above. "TC" = Twin Cities metro (7 county) area, except for 1930, which excludes Minneapolis and St. Paul only. Tax base, levy, and aid information is not available for 1930.

Property Taxes without Taconite Aid

A second way to look at how dependent on taconite aid Iron Range communities are is to model their property taxes with all aid removed from the system. Table 7 on the next two pages shows in some detail the effect on property taxes of replacing all taconite aid with property taxes. The areas shown are each of the six counties receiving some taconite aid and the six-county total, plus all the townships, cities, and school districts in St. Louis County.

It might not be readily apparent why townships and cities in St. Louis county that do not receive taconite aid would show an increase in their property taxes if taconite aid were eliminated. The reason they do show an increase is because the county government of St. Louis receives taconite aid, some \$10.6 million in 2001.

Areas shown on Table 7 that are in bold and italicized are those areas that will receive some kind of taconite aid for taxes payable in 2004. The effects on local taxes are shown in several ways. First, the percent change in total net tax levy for all classes of property is shown in column 3. In column 6, the change in net tax on the average home is shown, and in the final column (8), the total change in net tax for the commercial/industrial class of property is shown.

The increases shown are based on a model simulation from the Minnesota Department of Revenue, and assume that all taconite related aids, including the taconite homestead credit, are eliminated and replaced with local property taxes.

As is easily seen, the increases for areas receiving taconite aid range from as little as 2.7% in Crow Wing county for total net tax for all classes, to more than tripling. Taxes on average homes for areas receiving taconite aid would more than double in most areas. Taxes on commercial and industrial properties would typically increase in total from 30% to 60%. (The business tax increases are lower than homes because they do not benefit from the taconite homestead credit.)

Table 7. Net Tax Increases for Selected Areas if Taconite Aid Were Replaced with Property Taxes, Payable 2004

Area	Pay 2004 Current Law Net Tax (000's)	Pay 2004 Net Tax Replacing Taconite Aid with Levy	Increase in Total Net Tax Replacing Taconite Aid with Levy 2004	Avg. Value Home	Pay 2004 Current Law Net Tax on Avg. Home	Pay 2004 Net Tax on Avg. Home Replacing Taconite Aid with Levy	Increase in Avg. Home Tax Replacing Taconite Aid with Levy 2004	Commercial/Industrial Class Net Tax Change Replacing Taconite Aid with Levy 2004
6 County Total	\$286,150	\$344,040	20.2%	\$105,958	\$1,054	\$1,252	18.8%	8.4%
<i>Aitkin</i>	13,991	15,168	8.4%	97,225	761	784	3.0%	1.2%
<i>Cook</i>	7,754	9,406	21.3%	155,902	1,065	1,298	21.9%	3.5%
<i>Crow Wing</i>	63,313	65,031	2.7%	140,373	1,003	1,018	1.5%	0.4%
<i>Itasca</i>	42,986	51,654	20.2%	104,747	1,096	1,278	16.6%	4.4%
<i>Lake</i>	11,990	16,180	34.9%	93,994	1,172	1,530	30.5%	13.8%
<i>St. Louis</i>	146,116	186,601	27.7%	96,376	1,172	1,476	25.9%	13.5%
TOWNSHIPS IN ST. LOUIS COUNTY								
Alango	\$66	\$105	59.1%	\$69,913	\$500	\$589	17.8%	0.0%
Alborn	209	276	32.1%	93,223	713	832	16.7%	0.0%
Alden	67	101	50.7%	102,148	924	1,143	23.7%	0.0%
Angora	328	387	18.0%	73,865	308	402	30.5%	7.9%
Arrowhead	706	788	11.6%	91,220	554	667	20.4%	0.0%
Ault	124	160	29.0%	67,295	546	690	26.4%	0.0%
Balkan	362	781	115.7%	80,786	849	1,536	80.9%	38.5%
Bassett	98	135	37.8%	58,831	388	615	58.5%	0.0%
Beatty	1,226	1,453	18.5%	193,106	1,425	1,671	17.3%	7.7%
Biwabik	582	978	68.0%	94,658	1,078	1,627	50.9%	25.5%
Breitung	913	1,083	18.6%	89,156	939	1,060	12.9%	0.0%
Brevator	435	515	18.4%	113,246	1,013	1,125	11.1%	0.0%
Canosia	1,592	1,705	7.1%	149,951	1,639	1,765	7.7%	4.7%
Cedar Valley	123	168	36.6%	80,268	693	856	23.5%	0.0%
Cherry	198	327	65.2%	86,302	495	613	23.8%	0.0%
Clinton	264	465	76.1%	79,506	507	766	51.1%	27.3%
Colvin	155	261	68.4%	62,078	488	742	52.0%	100.0%
Cotton	328	425	29.6%	101,291	833	962	15.5%	9.5%
Culver	102	135	32.4%	87,054	623	734	17.8%	0.0%
Duluth	1,175	1,601	36.3%	140,830	1,604	1,905	18.8%	9.8%
Eagles Nest	436	524	20.2%	134,297	1,087	1,258	15.7%	0.0%
Ellsburg	260	310	19.2%	90,135	731	846	15.7%	0.0%
Elmer	36	55	52.8%	57,616	345	418	21.2%	8.3%
Embarrass	161	262	62.7%	60,479	624	701	12.3%	0.0%
Fairbanks	104	132	26.9%	69,070	623	771	23.8%	0.0%
Fayal	917	1,872	104.1%	109,049	1,094	1,834	67.6%	35.4%
Field	104	161	54.8%	63,750	394	475	20.6%	0.0%
Fine Lakes	355	391	10.1%	79,766	867	934	7.7%	0.0%
Floodwood	303	350	15.5%	69,946	720	779	8.2%	25.0%
Fredenberg	1,084	1,172	8.1%	165,384	1,546	1,684	8.9%	5.9%
French	682	1,018	49.3%	144,081	1,269	1,794	41.4%	16.7%
Gnesen	1,362	1,475	8.3%	171,683	1,593	1,737	9.0%	4.9%
Grand Lake	1,952	2,102	7.7%	154,723	1,557	1,687	8.3%	4.6%
Great Scott	209	488	133.5%	89,268	668	1,480	121.6%	57.6%
Greenwood	2,417	2,842	17.6%	210,825	1,710	1,978	15.7%	6.1%
Halden	270	299	10.7%	53,874	571	616	7.9%	0.0%
Industrial	273	370	35.5%	104,588	951	1,084	14.0%	0.0%
Kelsey	80	102	27.5%	49,678	428	491	14.7%	0.0%
Kugler	40	66	65.0%	67,843	511	597	16.8%	0.0%
Lakewood	1,144	1,238	8.2%	142,210	1,401	1,520	8.5%	4.4%
Lavell	1,079	1,211	12.2%	66,596	403	491	21.8%	0.0%
Leiding	325	406	24.9%	80,814	406	509	25.4%	7.7%
Linden Grove	33	52	57.6%	66,000	412	496	20.4%	0.0%
McDavitt	133	306	130.1%	60,878	251	674	168.5%	36.4%
Meadowlands	92	134	45.7%	57,846	396	470	18.7%	0.0%
Midway	932	995	6.8%	107,539	1,133	1,223	7.9%	4.1%
Morcom	33	47	42.4%	50,861	370	435	17.6%	0.0%
Morse	1,922	2,386	24.1%	161,011	1,353	1,612	19.1%	8.6%
Ness	22	33	50.0%	56,603	282	354	25.5%	0.0%

continued on next page

II. An Overview of Current Mining Taxes

Table 7. (cont'd) Net Tax Increases for Selected Areas if Taconite Aid Were Replaced with Property Taxes, Payable 2004

Area	Pay 2004 Current Law Net Tax (000's)	Pay 2004 Net Tax Replacing Taconite Aid with Levy (000's)	Increase in Total Net Tax Replacing Taconite Aid with Levy 2004	Avg. Value Home	Pay 2004 Current Law Net Tax on Avg. Home	Pay 2004 Net Tax on Avg. Home Replacing Taconite Aid with Levy	Increase in Avg. Home Tax Replacing Taconite Aid with Levy 2004	Commercial/Industrial Class Net Tax Change Replacing Taconite Aid with Levy 2004
TOWNSHIPS IN ST. LOUIS COUNTY (cont'd.)								
New Independence	93	139	49.5%	87,794	526	638	21.3%	12.5%
Normanna	307	335	9.1%	131,398	1,142	1,252	9.6%	0.0%
North Star	237	254	7.2%	147,545	1,472	1,596	8.4%	0.0%
Northland	118	153	29.7%	115,778	948	1,095	15.5%	0.0%
Owens	61	100	63.9%	77,880	369	468	26.8%	12.5%
Pequaywan	248	314	26.6%	134,833	1,358	1,647	21.3%	0.0%
Pike	100	245	145.0%	74,426	509	911	79.0%	33.3%
Portage	166	207	24.7%	78,667	529	629	18.9%	33.3%
Prairie Lake	94	105	11.7%	63,369	661	714	8.0%	0.0%
Rice Lake	2,304	2,470	7.2%	118,027	1,271	1,370	7.8%	4.6%
Sandy	90	203	125.6%	71,583	532	923	73.5%	0.0%
Solway	1,063	1,139	7.1%	118,752	1,287	1,386	7.7%	2.9%
Stoney Brook	50	79	58.0%	87,675	512	624	21.9%	0.0%
Sturgeon	50	74	48.0%	66,128	593	677	14.2%	0.0%
Toivola	104	137	31.7%	60,243	509	586	15.1%	0.0%
Van Buren	99	124	25.3%	73,557	928	990	6.7%	0.0%
Vermilion Lake	211	282	33.6%	124,661	874	1,033	18.2%	4.2%
Waasa	64	109	70.3%	46,227	295	409	38.6%	20.0%
White	1,197	2,060	72.1%	77,799	1,165	1,848	58.6%	27.6%
Willow Valley	24	40	66.7%	64,760	255	337	32.2%	0.0%
Wuori	138	448	224.6%	90,627	496	1,343	170.8%	66.7%
Unorg 13 - NE	24,882	31,027	24.7%	112,869	4,766	5,869	23.1%	18.5%
CITIES IN ST. LOUIS COUNTY								
Aurora	\$779	1,403	80.1%	\$44,139	\$993	1,447	45.7%	32.2%
Babbitt	1,182	2,031	71.8%	46,889	1,196	1,793	49.9%	35.3%
Biwabik	701	1,071	52.8%	43,964	1,292	1,725	33.5%	24.1%
Brookston	22	32	45.5%	56,731	442	514	16.3%	0.0%
Buhl	423	831	96.5%	45,426	1,087	1,760	61.9%	13.6%
Chisholm	1,700	3,753	120.8%	55,926	777	1,409	81.3%	42.4%
Cook	359	435	21.2%	55,987	820	891	8.7%	4.4%
Ely	2,095	3,009	43.6%	68,171	935	1,198	28.1%	12.9%
Eveleth	1,155	2,572	122.7%	47,408	628	1,157	84.2%	47.4%
Floodwood	272	337	23.9%	40,886	943	977	3.6%	2.4%
Gilbert	1,020	1,820	78.4%	50,357	1,252	1,883	50.4%	33.3%
Hermantown	7,409	7,880	6.4%	144,050	1,498	1,619	8.1%	4.9%
Hibbing	7,498	13,325	77.7%	66,872	768	1,235	60.8%	30.2%
Hoyt Lakes	2,169	3,536	63.0%	41,563	892	1,365	53.0%	36.4%
Iron Junction	18	47	161.1%	57,677	311	651	109.3%	0.0%
Kinney	184	306	66.3%	25,333	1,419	2,211	55.8%	43.5%
Leonidas	32	62	93.8%	46,048	1,134	1,866	64.6%	0.0%
McKinley	22	64	190.9%	37,572	555	996	79.5%	0.0%
Meadowlands	45	56	24.4%	34,765	601	645	7.3%	9.1%
Mt Iron	1,883	4,239	125.1%	76,930	941	2,102	123.4%	73.3%
Orr	139	178	28.1%	64,891	793	876	10.5%	4.0%
Proctor	1,890	1,995	5.6%	90,504	1,162	1,238	6.5%	3.9%
Tower	349	424	21.5%	57,233	907	980	8.0%	4.6%
Virginia	5,243	9,070	73.0%	63,099	946	1,557	64.6%	37.1%
Winton	44	65	47.7%	37,093	471	531	12.7%	20.0%
Duluth	51,882	55,266	6.5%	106,300	1,052	1,140	8.4%	4.7%
SCHOOL DISTRICTS IN ST. LOUIS COUNTY								
Chisholm	2,030	4,494	121.4%	\$59,530	\$781	1,420	81.8%	42.9%
Ely	4,782	6,332	32.4%	97,033	1,030	1,279	24.2%	12.7%
Floodwood	1,851	2,108	13.9%	57,893	691	737	6.7%	3.3%
Hermantown	8,862	9,450	6.6%	146,646	1,499	1,622	8.2%	4.8%
Hibbing	8,694	15,196	74.8%	71,434	783	1,255	60.3%	30.1%
Proctor	7,719	8,239	6.7%	121,704	1,346	1,448	7.6%	4.3%
Virginia	5,685	10,392	82.8%	71,983	881	1,503	70.6%	37.6%
Duluth	56,623	60,386	6.6%	109,909	1,089	1,180	8.4%	4.7%
Mt Iron - Buhl	3,032	6,446	112.6%	70,886	884	1,840	108.1%	65.4%
St. Louis County	35,094	43,429	23.8%	92,702	1,833	2,218	21.0%	13.9%
Eveleth-Gilbert	3,653	7,385	102.2%	66,743	835	1,444	72.9%	40.5%
Hinckley-Finlays	270	270	0.0%	103,424	686	686	0.0%	0.0%
Pine River-Backus	2,927	2,927	0.0%	215,594	1,295	1,295	0.0%	0.0%
East Central	47	47	0.0%	149,218	1,519	1,519	0.0%	0.0%
Mesabi East	6,039	10,047	66.4%	59,867	1,049	1,593	51.9%	31.3%

Source: Output from a Minnesota Department of Revenue property tax simulation model run. Calculations by MTA.

Areas not receiving taconite aid would also see increases, but most commonly in the 10% to 50% range, but with some increasing much more. From the exercise of modeling property taxes in the taconite areas with no taconite aid distributed, and its loss replaced by levy, it is easy to see what a dramatic increase in property taxes would occur, and why recipients are so concerned it will be reduced or eliminated.

III. Principles of Tax Analysis

Importance of Analyzing Taxes

Public finance economists use a nearly-standard set of principles to evaluate the strengths and weaknesses of public sector taxes. The principles normally include equity, efficiency, simplicity, visibility, stability and adequacy, and competitiveness.

Underlying Premise of Most Tax Principles

Since the competitive market model provides the context for most public sector tax analysis and forms the basis for most of the evaluation principles used, a brief overview of the market paradigm is useful.

In well-functioning markets, prices are determined by the free interplay of buyers and sellers, no one of which has sufficient market power to significantly affect supply, demand, prices, or profits. In such a market, capital moves freely from one industry to another in response to differences in rates of return on capital. Abnormally high profits in one industry lead to more investment, higher output levels, and lower prices and profits. The chain of events is reversed in industries with abnormally low profits.

Competitive markets connect the individual decisions of consumers with those of producers to provide what consumers want, when they want it, in sufficient quantities and at the lowest possible cost-based prices, given existing technologies and resource constraints.

It is generally accepted that competitive markets tend to produce the greatest level of goods and services (GDP) possible from the stock of productive resources (land, labor, capital, risk-taking). Economists call this outcome "economic efficiency" or "allocative efficiency." The belief that competitive markets bring economic efficiency gives rise to several of the principles used to evaluate taxes.

But markets are not perfect, and even those that are nearly so can sometimes produce an outcome that is politically unacceptable. In some cases government intervenes to correct the causes of "market failure" (allocative policy). In others, it might act to change the market-determined distribution of income (distributive policy).

If markets are not working well, allocative interventions must be carefully designed to treat the causes of market failure without degrading or destroying those markets that work well. If markets are working well, distributive interventions to "correct" the distribution of income should be designed to minimize market distortions.

In this context, public policy is largely evaluated on how it deals with the difficult trade-off between allocative efficiency and distributive equity. Overemphasis of either will detract from the other. Allocative efficiency (the outcome of ideal markets) requires sufficient competition, fully informed consumers, and near-frictionless movement of investment capital among industries. Distributive equity is a subjective concept. A "correct" or "acceptable" distribution of income can only be defined through the legislative process.

III. Principles of Tax Analysis

The history and nature of mining in Minnesota has been such that the State has intervened with taxes more so perhaps than with other industries. It has sought at various times either to encourage the mining of ore (such as with the very low 1 cent per ton tax from 1881 to 1897) or recover additional costs incurred by the extractive process and transportation by taxing the mining of ore more heavily than other business enterprises.

Additional factors in the taxing of mining are two rationales for taxing mining activity more heavily than other industries. One is something referred to as the “natural heritage” theory³, which states that because iron ore is an irreplaceable resource, the state should be compensated for its removal. Once the ore is removed, it cannot be replaced, and therefore, those who remove it should pay a high tax. Another is commonly referred to as the “captive” theory. Its philosophy is that since the ore cannot be moved to another location, any mine can be taxed with impunity.⁴ Both theories have been used as a rationale for imposing higher taxes on iron ore producers.

Still another factor regarding how mining companies are taxed was the dominance of Minnesota iron ore in world markets. In 1950, the U.S. accounted for nearly 50% of the world’s steel production, with most of the ore used to produce such a large share of the world’s steel coming from Minnesota. With historically such a market dominance, Minnesota mining companies had a ready market for their product, and did not have to be overly concerned about the level of taxation.

As early as 1930, however, it was obvious that the most easily extractable iron ore was being depleted, and work began on developing taconite production, a lower grade ore. Tax levels were kept at a lower level for taconite production to encourage its development through the adoption of a constitutional amendment in 1963. By the mid-1980s, though, the U.S. share of world steel production had fallen to under 13%, even with the development of taconite mining.⁵ Tax levels rose again, more consistent with the “natural heritage” theory, using much of the higher taxes for development of alternative industries in view of the eventual depletion of the natural resource.

This background should be kept in mind when considering the principles of good tax policy, and will be especially relevant in evaluating mining taxes by these principles.

Tax Principles

Equity (Fairness)

Equity is rather more in the eye of the beholder, than an empirically measured principle. Definitions and concepts of equity are numerous, and attitudes about it diverse. But it is clear that policymakers care about equity. Because equity debates are often emotionally charged and personalized, they provide more political drama than the more arcane notions of allocative efficiency.

Broadly defined, equity relates to the distribution of income and people's ability to buy things, especially necessities, in the marketplace.

³ “Taconite Taxation, an Overview”, by Alfred E. France, in *Skilling’s Mining Review*, June 19, 1993, pages 4-9.

⁴ “Mineral Taxation & DCFROR”, a PDF document on the web at <http://web.umn.edu/~tien/270/270-Tax.pdf>, from class notes for University of Missouri-Rolla. Mining Industry Economics.

⁵ “Governor’s Blue Ribbon Commission on Mining, Final Report”, Minnesota Department of Revenue, January, 1991, p. 3.

In tax policy, there are two competing notions of equity: (1) benefits-received, and (2) ability to pay. The first of these forms the basis of many fees, but also can play a role in the design of taxes. When benefits are less direct and more difficult to define, the case for more general taxation is strengthened.

In the evaluation of taxes, the ability-to-pay notion of equity takes on two dimensions: (1) horizontal equity and (2) vertical equity. A tax is said to be horizontally equitable if the tax paid by two or more entities in the same economic circumstances (income, consumption, or wealth, depending on the tax) pay identical tax amounts. The Minnesota Department of Revenue, in its 1992 report entitled *Model Revenue System for Minnesota*, asserts that horizontal equity is achieved when tax bases are broad; deductions, exclusions and exemptions are minimized; and differential tax rates on essentially similar activities or tax bases are avoided. This particular notion of fairness is related to efficiency because when equals are treated equally, it's more likely that the tax will be economically neutral and hence less likely to disrupt private economic decisions. The economic neutrality of mining taxes must be considered in light of the "natural heritage" theory discussed earlier, in that many believe the extraction of an eventually exhaustible resource justifies additional taxes on mining relative to other industries.

Vertical equity looks at the other dimension of fairness—how tax burdens compare across people with different amounts of tax base (usually income). A tax is said to be progressive, regressive, or proportional if the tax burden as a percentage of income rises, falls, or stays constant, respectively, as income rises. Whether taxes should be progressive, regressive, or proportional requires a value judgment.

Generally, some amount of tax progressivity is widely accepted, particularly as it relates to the extremes of the income distribution. Regressivity can be a policy outcome, but it's rarely, if ever, a policy goal. It is important to note that while some taxes like the gas tax and cigarette tax have flat rates, their "incidence" with respect to income is progressive or regressive depending on how consumption (and hence taxes paid) varies by income class.

The Department of Revenue's *Tax Incidence Study 2003* estimates that the incidence of Minnesota's state and local tax system is progressive through the sixth population decile (or incomes of about \$45,000), and regressive after that. For the lower incomes, the personal income tax offsets the regressivity of the property, sales and excise taxes, but not for the higher incomes.⁶ A 50-state study of tax system incidence prepared for the Citizens for Tax Justice shows that most other state tax systems are markedly regressive.⁷

Efficiency

The principle of efficiency relates directly to the condition of "economic efficiency" discussed at the beginning of this section. It is important that tax policy not distort private market decisions, unless distortion is an explicit goal (as might be the case for example with a very high level of tax on unmined ore to spur extraction, or a very low level on such ore to provide incentives to leave it in the ground).

⁶ Minnesota Department of Revenue, 2003 Minnesota Tax Incidence Study (Advance Copy), March 2003.

⁷ *Who Pays? A Distributional Analysis of the Tax Systems in All 50 States*, Citizens for Tax Justice and The Institute on Taxation and Economic Policy, June 1996.

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Market distortion can occur when taxes change the price of some products or inputs, relatively more than others, causing private decisions about production and consumption to change. Though the evidence is inconclusive regarding whether taxes alone have affected the mining of ore in Minnesota, an example of economic distortion would be a tax that is so prohibitively high as to provide no economic incentive to mine it.

To promote economic efficiency, the Department of Revenue generally recommends broad-based taxes with low rates, as opposed to narrow ones with high rates.

Taxes should also be administratively efficient, meaning they should be designed to minimize the cost of collection. Lower collection costs reduce government spending and taxes. Taxes should be designed to maximize voluntary compliance, and minimize taxpayer compliance costs.

Visibility

The important principle of visibility is often overlooked, particularly in legislative settings. The reasons are clear. Taxpayers rarely complain about hidden taxes, but if taxpayers don't know they're paying taxes they can't provide the important citizen oversight presumed by our founding fathers. Taxpayers need to be able to make informed judgments about the cost of government and how their tax burden will change as a result of personal and policy decisions. This principle is fundamental to the notion of accountability.

Because the principle of visibility is often overlooked, many taxpayers suffer from what can be called a "fiscal illusion." They're convinced that a tax diverted to business is a tax avoided. In reality, taxes are paid by people, not entities. Through a process of "tax shifting", taxes on businesses or other organizations are eventually paid by people in the form of higher prices, lower wages or lower investment returns.

Hidden taxes mask the true cost of government and facilitate its growth beyond what taxpayers might knowingly support. Economic efficiency, accountability, and the health of democracy are improved when taxes are made more visible.

Simplicity

A good tax is also a simple tax. Taxpayers should know why the tax is being levied, who's responsible for the tax, and how it's calculated and paid. Tax administrators should know the same. Besides reducing administrative and compliance costs, simplicity breeds an increased sense of fairness, better compliance and more accountability. If over exercised, the simplicity principle can produce inequities. Equity and simplicity are two tax principles most in conflict. Blind pursuit of either can lead to too little of the other.

To further the goal of simplicity, the Department of Revenue recommends that tax systems minimize the use of deductions, exclusions, and exemptions. Simplicity is particularly important for taxes in which taxpayers must initially determine their own tax assessment or when they are responsible for recognizing what constitutes a taxable transaction.

Stability and Adequacy

Taxes are assessed to meet public funding needs. As such, they should raise the required amount of revenue. This is usually no problem in the short run, since tax bases can generally be forecasted a short time ahead with sufficient accuracy.

The issues here are long run. The public finance literature generally says the demand for public services rises when incomes rise. Though the cost of income support and human service programs tend to fall in good times, public support for enhancing program benefits and enacting new spending commitments increases when the economy is strong. Consequently, tax collections that grow proportionately with income will more likely provide adequate revenues over time.

The principle favoring stable and adequate taxes is understandable. No one likes disruption. Government employees like to get paid, the state has near contract-like arrangements with local governments, and businesses and other taxpayers hate the sudden, unexpected changes in the tax code that often accompany budget crises.

Competitiveness

New information technologies and other advances are reducing the significance of "place" in the conduct of economic activity. In the case of mining, even though iron ores are specifically located in discrete areas of the world, improved technology and transportation have placed competitive pressures on the mining industry in Minnesota, which it cannot afford to ignore. John Shannon, a veteran public finance practitioner, compares the states to a convoy of ships. When the seas get rough, they stay closer together. In times of rapid change and uncertainty, he advises states not to fall too far behind in providing quality education and important public infrastructure like roads and telecommunications facilities. He also warns states not to get too far ahead of the convoy in assessing new or unusually high tax burdens.

The Department of Revenue's Model Revenue report advises that Minnesota should "make the general tax structure competitive for all types of businesses and their employees, rather than to devise special targeted tax breaks for particular businesses or business expansions." Similarly, one could argue that the era of collecting as much tax revenue from a particular industry as possible is also over. Opinions are divided on this point, but the electric utility industry is a good example of changing conditions necessitating a change in tax levels.

When that industry was a regulated public monopoly, there was little incentive for the industry or policy makers to be much concerned with the level of taxation, since there was little or no competitive pressure and tax costs could be recovered through rates charged to customers. Once the industry began to be deregulated, however, all costs, including those attributable to taxes, became an issue.

Steps have been taken to lower tax costs for electric utilities as part of the 2001 property tax reform effort. The mining industry has been saying for over 20 years that their industry is also facing competitive pressures, that costs have been lowered in nearly every area except taxes, and that it is time for tax relief as well. This study attempts to measure these claims by the industry by comparing mining tax burdens of key competitor states and countries.

III. Principles of Tax Analysis

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IV. Evaluating Mining Taxes

The Impact and Incidence of Mining Taxes—Who Really Pays?

Before evaluating the mining taxes, it can be helpful to clarify the distinction between the initial “impact” of a tax on mining (that is, who collects and remits the tax), and the final “incidence” of the tax (who really bears the burden of the tax).

Incidence

The previous discussion shows the impact of the mining taxes on the companies who are taxpayers in Minnesota. As mentioned earlier, however, taxes are always “shifted” either backward to suppliers and investors, or forward to consumers. Taxes on mining companies are taxes on people, not companies. This truth is central to a complete understanding of the impact of mining taxes and to the making of good tax policy.

Though they may differ in their character or their initial impact, the various mining taxes are generally paid in Minnesota by investors in mining companies, through reduced profits after taxes. According to estimates from the Minnesota Department of Revenue, over 99% of the taconite production tax is exported, as is a significant proportion of the occupation mining tax.⁸ (The occupation tax detail is not available, as it is included in the corporate franchise tax in the Department’s tax incidence study.)

Taxes on businesses are also borne by consumers and workers, through higher prices and lower wages. In the case of the taconite production tax, however, it is assumed by the Department of Revenue that most of the shifting of this tax to workers and consumers is to those outside the state.

Table 8 below shows the Department of Revenue’s estimates of how the taconite production tax is actually borne by residents of Minnesota for taxes paid in 2000.

Table 8. Distribution of the Tax Burden for the Taconite Production Tax by Population Decile, 2000

Population Decile	Household Income	Taconite Production Tax as a % of Income
1	\$8,945 and under	0.00066%
2	8,945 - 14,734	0.00027%
3	14,735 - 20,731	0.00025%
4	20,732 - 27,424	0.00037%
5	27,425 - 35,029	0.00031%
6	35,030 - 44,822	0.00032%
7	44,823 - 56,869	0.00029%
8	56,870 - 72,622	0.00033%
9	72,623 - 102,411	0.00048%
10	102,412 and over	0.00086%
Total	All	0.00057%
Source: Unpublished background data from the Minnesota Department of Revenue's <i>Tax Incidence Study 2003</i> .		

⁸ 2003 Minnesota Tax Incidence Study, Minnesota Department of Revenue, March 2003.

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The table shows, for example, that Minnesotans in the first decile of household income, with incomes between \$0 and \$8,945, paid an estimated 0.00066% of their income (indirectly) in taconite production taxes, while the top decile paid 0.00086% of their income in that tax.

In summary, there are two points about the incidence of Minnesota's taconite production tax:

1. The taconite production tax is overwhelmingly exported to non-Minnesota payers.
2. The taconite production tax is progressive, in that the highest income taxpayers pay the highest portion of their income in taconite production tax. This is due to two assumptions by the Department of Revenue: 1) that the tax is borne in Minnesota primarily by investors (that small portion of the tax that is not exported) and 2) it is borne in proportion to dividend income of Minnesota filers.

Because the incidence of the taconite production is so nominal on Minnesota residents the most significant policy questions surrounding the tax (and by inference the occupation tax, too) are on its impact on the mining companies themselves, rather than the incidence of the tax, and how the tax revenue is used.

Impact

The initial impact of mining taxes, as distinct from their incidence, is borne entirely by the remaining five operating mines in the state. Because the incidence of the taxes is so nominal in the state, the evaluation of the taxes with respect to good tax policy appropriately focuses on the impact of the taxes on the mining operations.

The following table shows how various mining taxes in Minnesota impact these companies. The tax is expressed in total dollars paid and dollars (or cents) per ton produced.

Table 9. Impact of Taxes on Mining Companies in Minnesota by Mine
(all amounts in dollars, net of grants to companies)

Type of Tax and Production Year	Mines ¹											
	EVTAC		Ispat (Minorca)		HibTac		Minntac		National		Northshore	
	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Taconite Prod. Tax												
2000	8,338,934	2.17	5,096,653	1.92	14,530,909	1.81	25,611,691	1.89	10,443,092	1.91	7,813,109	1.92
2001	7,067,983	1.70	4,610,334	1.75	11,975,983	2.03	21,952,509	1.85	0 ²	0	5,976,545	2.26
2002	0	0.00	4,575,376	1.72	12,427,032	1.68	22,901,045	1.66	7,343,298	1.62	6,200,978	1.56
Occupation Tax												
2000	0	0	2,372	.001	309,188	.039	1,032,493	.076	18,844	.003	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	21,111	.008	15,150	.002	859,319	.062	13,153	.005	0	0
Prop. Taxes on Non-mining prop.												
2000	0	0	138,471	.052	258,735	.032	222,000	.016	0	0	52,719	.013
2001	0	0	107,918	.041	245,435	.042	214,000	.018	0	0	32,672	.012
2002	0	0	na	0	212,967	.029	202,000	.015	0	0	21,730	.005
Total All Taxes³												
2000	8,338,934	2.170	5,237,496	1.973	15,098,832	1.881	26,866,184	1.982	10,461,936	1.913	7,865,828	1.933
2001	7,067,983	1.700	4,718,252	1.791	12,221,418	2.072	22,166,509	1.868	0	0.000	6,009,217	2.272
2002	0	0.000	4,596,487	1.728	12,655,149	1.711	23,962,364	1.737	7,356,451	1.625	6,222,708	1.565

Source: MN DOR, September 2003.

¹Ownership of mine (% ownership in parentheses): **EVTAC**: Rouge Steel Co. (45%), Virginia Horn Taconite (40%), Ontario Eveleth Co. (15%). EVTAC filed bankruptcy May 1, 2003. As of 09/03, the mine remained closed. **Ispat**: Ispat Inland Mining Company (Minorca Plant). **HibTac**: Hibbing Taconite Company (International Steel Group (62.3%), Steel company of Canada, Ltd. (14.7%), Cliffs Mining Co., (23%); **Minntac**: USS Corporation (100%). **National**: USS Corporation (100%, National Steel Pellet Co. was purchased 5/20/03 by USS in bankruptcy proceedings, now called Keewatin Taconite Co.). **Northshore**: Cliffs Mining Co. (100%).

² Production tax assessed but not paid due to bankruptcy.

³Sales and use taxes are not included in order to avoid disclosing protected information. See Table 12 for aggregate sales tax data.

Evaluating the Taconite Production Tax

The tax that is known as the taconite production tax in Minnesota falls in the technical category of a severance tax. A severance tax is most typically applied to extractable resources, and is distinguished from other types of taxes because it is assessed as the resources are extracted, not on the value of the resources while they are still in the ground, as in a property tax, or on the basis of the profit generated by the sale of the resources, as in the income tax. (See the general description of the production tax at the beginning of this report for the rates and base of the tax.)

Is the Production Tax Fair?—Benefits Received

The benefits-received principle says a good tax is one that taxes according to benefits received from government.

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There is no explicitly stated benefit from state and local governments' perspective that is provided to mining companies in return for their paying the taconite production tax. In general benefits to businesses from government services are attributable to the common benefit to businesses and households in an area from police and fire protection, transportation and public utility infrastructure, and a court system that enforces private and business contracts and helps protect private property.

Of further benefit to the mining industry in particular, one could add regulatory functions of state government that help provide safe work environments and environmental protections. Without arguing the effectiveness of such regulations, and even though the industry itself might not regard these as benefits of their taxes, a case could be made that a cleaner environment benefits everyone in the state in the long run, while safer working conditions lower medical and workers compensation costs.

An additional part of the benefit to the mining industry that is unique in extractive industries, is the "natural heritage" theory mentioned in the previous section, which states that because iron ore is an irreplaceable resource, the state should be compensated for its removal. Under this view, severance taxes such as the taconite production tax are merely payment for the privilege of removing and eventually exhausting a non-renewable natural resource. As far back as 1932, however, the "natural heritage" theory was questioned as a basis for additional taxation of the mining industry. Roy G. Blakey, a professor of economics at the University of Minnesota, and a renowned expert on taxation wrote regarding the theory that:

A more practical view of the problem [of whether to tax mines more heavily] must, moreover, take account of the fact that the development of a mining center adds to the opportunities for labor, merchandising, transportation, and all other economic enterprises. It must be remembered too that mining is usually a speculative venture, more hazardous to capital than are most economic activities. Too often men are inclined to look only at the enormous profits made in successful ventures and to ignore the losses of the unsuccessful. Our conclusion is that the natural heritage argument is not a strong one and that it does not of itself justify heavier taxation of mines.⁹

This author shares Dr. Blakey's view regarding the natural heritage theory. The iron ore is worthless while it remains in the ground. Discoveries that the ore is valuable for specific purposes led to its extraction and use, for the good of the economy of the region and beyond. The risks involved in discovering uses of the ore, then extracting it with sufficient efficiency to yield a profit, are compensated for by the return on the investment of the entity extracting the ore. Rather than taxing such extractions at a higher rate in order to compensate governments' eventual depletion of the ore, the economic benefits provided by extraction companies, both to the individuals and governments in the area, are compensation enough beyond a more typical level of taxation.

Was the \$72,358,304 paid by the industry in 2003 a fair payment for the benefits they received from state and local government? William A. Testa of the Federal Reserve Bank of Chicago has estimated the benefits that businesses in Minnesota received from state and local governments here in his paper on a benefits principle approach to taxing business.¹⁰ In that paper, through a systematic allocation of certain government expenditures considered to benefit households or

⁹ *Taxation in Minnesota*, Roy G. Blakey, The University of Minnesota Press, Minneapolis, November, 1932, page 248.

¹⁰ "A Benefits Principle Approach to State-Local Business Taxation: Policies for Midwestern Growth and Development", William A. Testa, Federal Reserve Bank of Chicago, July 17, 1996.

businesses exclusively, others shared 50/50 by households and business, and still others prorated between households and businesses, Mr. Testa estimated that in general business taxes are higher than the amount spent on providing services to them.

Mr. Testa's estimates were that in fiscal year 1995, Minnesota government spent \$2.3 billion dollars providing services to businesses, while collecting \$5.2 billion from them in taxes. Under his assumptions, then, Minnesota businesses paid 2.29 times more in taxes to government than they received in services from government.

It has already been shown from the Department of Revenue's latest Tax Incidence study (see Table 3 on page 4) that the mining industry in Minnesota pays taxes that result in an effective tax rate at least triple that of most other industries in Minnesota. It follows, then, that if the ratio of taxes paid by the mining industry was compared to the benefits it receives from government, that the ratio would far exceed 2.29 to 1, and thus it is difficult to describe the production tax as fair based on any benefits the mining industry receives from government.

Is the Production Tax Fair?—Ability to Pay

As stated previously, there are two aspects of ability to pay—horizontal equity and vertical equity.

Horizontal Equity

A tax is said to be horizontally equitable if the tax paid by two or more entities in the same economic circumstances (income, consumption, or wealth, depending on the tax) pay identical tax amounts. Within the mining industry itself, because the production tax is applied the same to all ore mined, the production tax passes the test of horizontal equity. Because the production tax base is the average production for the previous three years, the actual tax paid per ton produced in a particular year can vary from one company to another, a minor deviation from horizontal equity.

However, across industries, the Department of Revenue's *Tax Incidence Study* (previously cited) shows that the mining industry pays an effective tax rate that is three to five times higher than most other industries in the state. (See Table 3 on page 6 for the specific rates by industry.) The production tax fails the principle of horizontal equity because in applying exclusively to mining, it results in a much higher tax burden for that industry than all other industries in Minnesota.

Vertical Equity

Vertical equity looks at the other dimension of fairness—how tax burdens compare among taxpayers with different amounts of tax base (usually income), and because of its focus, is usually considered in terms of a tax's final incidence.

Table 8 on page 21 shows that the incidence of the production tax in Minnesota is mostly proportional across all deciles except the highest, with an overall incidence that is progressive. Because the tax is considered to fall mostly on investors, it falls more heavily on higher incomes than lower incomes. Though progressivity is a political choice and not an economic one, most would consider a proportional tax to be fair, with many considering a progressive tax to be fairer still.

IV. Evaluating Mining Taxes

Fairness Conclusion

- No estimates have been made to price the services provided by state and local governments to the iron mining industry in Minnesota, but research by the Federal Reserve Bank of Chicago indicates that in general, businesses in Minnesota paid 2.29 times more in taxes to governments in the state than they received in services from the governments. The “natural heritage” theory ignores or minimizes the risks of financial loss and economic benefits to the area associated with mining activity. On the basis of “benefits received” it is difficult to argue for the fairness of the taconite production tax.
- The production tax is not fair regarding horizontal equity. Even though all similarly situated mining taxpayers pay the same amount on the same tax base, (with the exception of the difference per ton produced in any given year due to the assessment being based on the three-year average production), there is severe horizontal inequity across industries in Minnesota. Minnesota’s Revenue Department indicated in its 2003 Tax Incidence Study that the mining industry’s effective tax rate in Minnesota is about three to five times higher than other industries.
- The production tax is fair regarding vertical equity, either in its largely proportional incidence when allocated back to taxpayers with incomes in the lowest 8 deciles of households, or in its progressive incidence when considering the top two income deciles, for those who view the political policy of progressivity as the appropriate measure of fairness.

Is the Production Tax Efficient?

Allocative Efficiency

The principle of efficiency is often presented in two parts—allocative efficiency and administrative efficiency. Considering allocative efficiency first, to what extent does the production tax distort private market decisions? A tax that in the last three years has consumed from 52% to 71% of net operating profits before taxes (in 2002 and 2000 respectively, when there were such profits industry wide in Minnesota) is bound to be taken into consideration in deciding whether investments for additional production can be made profitably or not.

An added feature of the production tax that violates the principle of allocative efficiency is the program designed to rebate 30.1 cents of the \$2.103 per ton production tax to producers of taconite as part of the Taconite Economic Development Fund. (The 5-cent per ton Producer Grant Program also violated this principle, but it ended with the close of 2003 production year.) Beginning in 1993, the Legislature provided for a 14.7 cents per ton rebate of the production tax paid by companies with requirements for the rebated tax to be used for investment in improving the productivity of the mines receiving the money. In 2001, the amount rebated was increased to 30.1 cents, with another requirement that the additional 15.4 cent rebate was matched at least 50% by the mining company in productivity improvements.

These rebates amount to the state’s dictating whether, and to some extent, how, companies are to spend investment dollars. The rebate policy directly intervenes in the marketplace by not leaving these investment decisions to the companies themselves.

There is anecdotal evidence that the mining companies themselves were advocates of this kind of program. Most of the mines operated in Minnesota are owned by steel companies, and are thus vertically integrated. Steel companies have been fighting to improve their competitiveness for some time in this country and may have been reluctant to invest in the mines themselves when there was such a need for investment in furnaces located outside the state. Whether the mine management wanted this arrangement or not, the fact remains that this kind of state interference in investment decisions violates the principle of allocative efficiency.

Administrative Efficiency

Administrative efficiency is important, too. Taxes should be designed to maximize voluntary compliance, minimize taxpayer compliance costs, and minimize administrative costs of collecting taxes.

The taconite production tax is one of the easiest taxes to administer from the collection point of view. There are only five taxpayers left, minimizing the volume of reporting, and the tax is straightforward in its calculation at a gross rate of \$2.103 per taxable ton. According to provisions in the law, the ore is weighed without moisture and at a particular point in processing. There are two complicating factors. One is that the tax is paid on the three-year average tonnage of production, rather than the most recent year, but that is a minor arithmetic calculation. The other is that grants are provided to mining companies for investments in upgrading equipment through the Taconite Economic Development Fund (TEDF), at 30.1 cents per ton, and previously through the Producer Grant Program, at 5 cents per ton. Nearly half of the TEDF refund requires matching expenditures to qualify. (See the discussion of the rebate program above under *Allocative Efficiency*.) This gross tax with a net tax after grants complicates the tax somewhat. Still, the state of Minnesota spent only about \$318,000 in FY2003 in administering the collection of the production and occupation tax, which is less than a half of a percent of the amount the tax raised.

From a distribution point of view, however, the taconite production tax is one of the most complex taxes. Since the tax is assessed in lieu of property taxes, it is logically distributed back to local governments on the Iron Range. As mentioned in the history of the tax earlier, however, what began as a very straightforward formula of various percentages to types of local governments has turned into a very complicated formula based on cents per ton produced.

The explanation for the distribution of the taconite production tax proceeds takes up four full pages of small print in the most recent Mining Guide for 2003 of the Department of Revenue, and is not reproduced here. Only small handful of Department of Revenue employees and a few other stakeholders really know the ins and outs of the distribution formula.

The state calculates the distributions, St. Louis county is the fiscal agent for the TPTRA, and all counties are fiscal agents for recipients within their county. As of this writing, the cost of acting as fiscal agent for the distributions is not available. Because it is so complex, it is possible that proceeds of the tax used to make distributions to local jurisdictions is not an economically efficient use of the money, but it is assumed that the amount St. Louis county spends is not as much as the state, which is fairly nominal.

Efficiency Conclusion

- The production tax is high enough certainly to affect investment decisions for investment in further mining activity among mining companies. In addition to that aspect of allocative inefficiency, the policy of rebating 30.1 cents per ton to mining

IV. Evaluating Mining Taxes

companies, with matching expenditure requirements for 15.4 cents per ton of the rebate, directly interferes with companies' investment strategies and violates the principle of allocative efficiency.

- Administratively, the production tax is relatively straightforward to collect and does not present administrative efficiency problems. The distribution is much more complex, however, and probably requires more resources to process than a simple distribution would, but is also probably not inordinately expensive to distribute.

Is the Production Tax Visible?

Taxpayers need to be able to make informed judgments about the cost of government and how their tax burden will be changed as a result of their decisions. The principle of visibility is most fundamental to this notion of accountability. The production tax fails when evaluated against the tax policy principle of visibility, in two fundamental ways.

First, the impact of the tax falls on mining companies. Taxes on businesses in general are largely invisible to voters, who many times do not realize that taxes for businesses are a cost of doing business that must eventually be recovered like all other costs in order for the business to survive. Recovering the costs means that the tax on a business is recovered either through lower wages paid to employees, higher prices in the product sold, or a lower return to investors or prices paid to suppliers. In a market as competitive as the one for taconite pellets, it isn't always possible to recover the costs through pricing, which has exerted downward pressure on wages, prices paid to vendors, and returns to investors. Two mining companies recently could not recover costs and have closed down. LTV, which closed down in January of 2001, is not expected to reopen. EVTAC closed in May of 2003 and filed for bankruptcy protection shortly thereafter. It has recently reopened at a reduced level, but in any case, neither company paid the production tax after closing.

The second way the production tax fails with respect to the principle of visibility is that the proceeds of the tax are distributed to jurisdictions which had no responsibility for paying the tax in the first place. Several dozen townships, cities, counties, and school districts receive distributions from the taconite production tax, but have put no direct tax money into the funds used to distribute this revenue. Furthermore, the taconite homestead credit is a very visible form of tax relief to local homeowners who receive it, but they are not required to pay any other tax in order to benefit from it. (The homestead credit common to Minnesota in the early 1980s was widely criticized for paying more than 50% of the property tax bill of the homeowner, but homeowners were at least paying income and sales taxes that contributed to the credit.)

Any system of intergovernmental aids is fraught with danger in a self-governing society in that one level of government is taxing its citizens to send money to another level of government. The subsidy to the second level of government masks its costs, however much the aid is felt to be necessary. This fundamental problem of aids has been known for some time, and is described along with other problems in a 1947 publication of the Minnesota Institute of Governmental Research (MIGR), an organization with which MTA merged in 1956. The MIGR lists among the problems with aids in a series of paragraph titles: "Loss Of Citizen Control, Aids Encourage Extravagance, Aids Delay Reorganization Of Local Government, Adequate Formulas Not Developed, Aids Expand Amount Of Dedicated Funds".¹¹

¹¹ *Problems of State Aids in Minnesota*, State Governmental Research Bulletin No. 18, issued by The Minnesota Institute of Governmental Research, Inc., St. Paul, MN, February, 1947, quotes from page 5.

It is common knowledge on the Iron Range in the jurisdictions that receive taconite aid distributions that this money is coming from a mining tax, so in that sense the tax is not entirely mysterious and invisible to the recipients. However, it is also common knowledge that none of the voters in the jurisdictions receiving this money pays any of this tax.

When local government services are heavily subsidized, as is shown to be the case in Table 5 on page 9, spending is likely to be higher, which is also shown to be the case for most of these jurisdictions.

Visibility Conclusion

- The production tax fails the tax principle of visibility, both because it is not at all visible to voters as a tax on business, and because the voters of the jurisdictions that are recipients of the distributions of the tax do not pay anything toward the distributions received.

Is the Production Tax Simple?

The simplicity principle has already been touched on with respect to the principle of administrative efficiency above. The fact is that for the Minnesota Department of Revenue, the taxpayers, and the beneficiaries of the taconite production tax distributions, the tax is very simple.

Simplicity Conclusion

- The production tax is relatively simple.

Is the Production Tax Stable and Adequate?

Taxes are assessed to meet public funding needs. Does the production tax provide enough revenue growth to adequately compensate for the property taxes it is replacing? A second question is: Does the production tax provide a stable and predictable source of revenue for local governments to plan ahead for future budgets?

In terms of adequacy, it has generally been assumed that the taconite production tax liability of mining companies exceeds any property taxes they would pay if they were subject to that tax like other businesses. For this study, the Department of Revenue Minerals Section of the Special Taxes Division produced an estimate of the value of mining property that is not currently subject to the property tax, in lieu of the production tax.

Table 10 shows taxes mining companies might be expected to pay if they were subject to the property tax like all other industries, compared to what they paid in production taxes in 2003. As is readily seen, the production tax is about 2.4 times the amount these companies would likely have paid in property taxes.

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Table 10. Estimated Property Taxes of Currently Non-taxable Mining Property by Type of Property, Taxes Payable 2003

Type of Property	Estimated Market Value	Estimated Property Tax (at 3.7%)*	Production Tax
Unmined Ore	\$603,550,000	\$22,331,350	
Equipment (mostly power plant pers. prop.)	11,603,953	429,346	
Buildings (not currently taxable)	77,614,528	2,871,738	
Land (not currently taxable)	34,712,223	1,284,352	
Total	\$727,480,704	\$26,916,786	\$64,404,747

Source: Minnesota Department of Revenue (DOR) estimate prepared for this report. See Appendix A for a methodology description. *Property taxes as a percent of market value were 3.7% on average for commercial/industrial property in 2003 on the Range (from a 6-county average reported by DOR).

Further evidence that the production tax is adequate is shown in Table 3 on page 6. That table shows that total taxes paid by mines as a percent of the industry's contribution to Gross State Product are generally three to five times higher than other businesses in the state. This is evidence that the production tax is higher than the property tax would be. Further evidence regarding adequacy of the tax for the local governments is the higher level of spending shown by most of the jurisdictions receiving the aid distributions, shown in Table 5 on page 9.

Besides adequacy, however, it is desirable that a tax be stable. This has always been one of the strongest points of the property tax, but because the production tax is assessed only on tons produced (with the three-year average production used to address concerns of stability), it will logically be less stable than the property tax.

Table 11 below shows the history of the production tax distributions for the previous 12 years compared to the total local property tax changes during that time.

Table 11. History of Taconite Production Tax Distributions to All Recipients, 1991-2002

Production Year	Amount Distributed	Change from Previous Year	Change In Total Local Property Taxes in the State
1991	\$82,411,317	--	
1992	82,035,382	-0.5%	6.1%
1993	80,195,972	-2.2%	6.5%
1994	81,500,355	1.6%	2.8%
1995	85,705,654	5.2%	6.2%
1996	90,512,836	5.6%	5.2%
1997	94,704,666	4.6%	4.3%
1998	94,268,103	-0.5%	-1.9%
1999	93,063,942	-1.3%	-0.4%
2000	79,773,313	-14.3%	1.6%
2001	75,254,934	-5.7%	7.6%
2002	72,358,304	-3.8%	-8.9%
12 year avg.	\$84,315,398	-1.0%	2.6%

Source: MN Tax Mining Guide 1997 and 2003, and MN DOR Property Tax Bulletin 2002.

If the property tax reform changes that were effective for 1998, 1999, and 2002 are excluded from the table above, the average property tax change for nine years is 4.5% per year. This is in

contrast to the average *decrease* in taconite distributions over the 12 years. From the peak year of recent distributions of \$94.7 million in 1997, they fell 23.6% to only \$72.4 million in 2002, a loss of \$22.3 million in just 5 years.

This dramatic loss of revenue seriously affects local governments’ ability to adapt, especially with a history of generous aid distribution.

Adequacy and Stability Conclusion

- The production tax is not stable, rising and falling with production. The three-year average method of calculating production does help stabilize collections and distributions somewhat.
- The production tax raises more money than the property tax would if mining companies were generally subject to the ad valorem tax. Revenues from the tax seem to be adequate for local governments receiving the distributions, given the higher level of spending compared to jurisdictions not receiving the tax.

Is the Production Tax Competitive?

This portion of the evaluation of the production tax will consider not just the tax competitiveness of the production tax, but also the economic competitiveness of the industry as a whole. Before doing so, it is important to identify the key competitors to Minnesota’s taconite mining industry.

Key Competitors

Table 9, under the impact versus incidence discussion above, shows that Minnesota’s total taxes on mining per ton ranged from \$1.48 to \$2.13 in production year 2002, payable in 2003. (The rate is lower in some cases than the statutory rate of \$1.752, net of grants, because the tax base is the three-year average production.) One of the industry’s main contentions over the years is that its industry has first of all been taxed at a much higher rate than other businesses, and second, that the tax on mining activities in Minnesota is higher than most of its direct competitors in the world market. There are measures available to evaluate the industry’s claim about lack of competitiveness, but before doing so, it is important to answer the question: who are Minnesota’s key competitors for the production of taconite pellets?

According to the U.S. Geological Survey Mineral Commodity Summaries of January 2002, the major iron ore producers in the world estimated for 2001 were as follows:

<u>Country</u>	<u>Iron Ore Production</u>
China	230 million metric tons
Brazil	220 “
Australia	190 “
Russia	88 “
India	80 “
Ukraine	60 “
United States	50 “
South Africa	37 “
Canada	35 “
All other	<u>110</u> “
Total	1,100 “

IV. Evaluating Mining Taxes

The top nine iron ore producing countries of the world accounted for 90% of the world's production in 2002.¹² China is a huge importer of ore, ore quality is poor and transportation costs are prohibitive should they have any ore to export, so they are not a competitor. Australia is too far away to compete with U.S. mines. Brazil and Canada are the only serious international competitors for Minnesota mines.

Within the U.S., according to the USGS, there are only five states with usable iron ore production: Minnesota, Michigan, South Dakota, New Mexico, and California. Minnesota and Michigan are one and two in iron ore production in the country, and Michigan is the only serious competitor to Minnesota's mines, with production in the other three states only minimal. The 31 operating blast furnaces in the United States (as of March 2003)¹³ consumed 60 million metric tons in 2002, therefore only importing 10 million tons from outside the country, with most of that coming from Canada.

The key Minnesota competitors, then, for iron ore production are Michigan in the U.S., and Canada and Brazil, in the international market.

Tax Competitiveness

First, combining all the company specific information into a total for the taconite industry in Minnesota gives the results in Table 12.

Table 12. Total Impact of All Taxes on Mining in Minnesota
(all amounts in dollars, net of grants to companies)

Tax & Production Year	Amount	Per Ton
Sales and Use Tax		
2000	\$6,229,705	\$0.16
2001	2,480,886	.08
2002	2,543,913	.07
Taconite Production Tax		
2000	71,834,388	1.91
2001	51,583,354	1.63
2002	53,447,729	1.46
Occupation Tax		
2000	1,362,897	0.04
2001	0	0.00
2002	908,733	0.02
Property Taxes on Non-mining Property		
2000	671,925	0.02
2001	600,025	0.02
2002	436,697	0.01
Total All Taxes		
2000	\$80,098,915	\$2.13
2001	54,664,265	1.73
2002	57,340,072	1.56
Source: See Table 9, where the detail is also presented except for the sales and use tax.		

¹² *Mineral Commodities Summaries*, U.S. Geological Survey, prepared by William S. Kirk, January 2002, from the web at http://minerals.usgs.gov/minerals/pubs/commodity/iron_ore/340303.pdf

¹³ "Iron Ore Production", Special Report, Skillings Mining Review, July 2003, by Dr. Peter Kakela.

The author has not been able to compile similar data for Michigan, Canada, and Brazil. However, it is obvious from the data in Table 12 that the taconite production tax comprises the overwhelming majority of the tax burden for Minnesota mining companies. The occupation tax is in lieu of income taxes, and since most of the mines in recent years are barely making a profit, there is very little occupation tax paid (or federal income tax, included in “other” above). Tangible products consumed in manufacturing are exempt from the sales tax, and qualifying capital equipment purchases are available for a refund of sales taxes paid at the time of purchase. While the sales tax is a significant tax, one could safely assume that over time, most mining companies would incur similar sales tax costs.

In the absence of a comprehensive tax comparison, Table 13 shows comparative tax burdens from the Cliffs Mining Company mines that operate in two of the three major sources of competition, namely, Michigan and Canada.

Table 13. Property and Production Tax Comparison of Statutory Rates for Mines For Minnesota and Selected Competitive Areas
(in dollars per Ton)

Area and Tax	2000	2001	2002
MN Production Tax	\$1.97	\$1.75	\$1.75
MI Specific Ore Tax	0.40	0.39	0.27
Eastern Canada Ad Valorem Tax (US\$)	0.30	0.46	0.44
Source: private FAX from Dr. Peter J. Kakela, Michigan State University, Department of Resource Development. Rates in MN are net of grants.			

Another source of tax comparison, this time only with Canada, comes from the Fraser Institute’s *Survey of Mining Companies* report, citing data from PriceWaterhouseCoopers (PWC) Canadian Mining Taxation, 2002 edition. In that report, a table is shown of total taxes paid over the 13-year life of a hypothetical gold mine in various provinces in Canada. Taxes as a percent of net income before taxes range from a low of 34.8% in Newfoundland to a high of 45.7% in New Brunswick, with an average rate across all the 12 provinces shown of 39.5%. This is presumably for the 13 years preceding 2002, the year of the PWC report.

Putting the information in Table 9 in the same terms, taxes as a percent of net income before taxes, shows that for the years 2000 through 2002, Minnesota’s taxes were 122.3% of net income before taxes. Because net income of all the mines was negative for 2001, and because Minnesota’s primary mining tax is a fixed dollar amount per ton, taxes in 2001 actually exceeded net income before taxes for that year. Excluding the loss year of 2001 results in a tax rate of 67% for just 2000 and 2002, years for which sales of taconite exceeded costs for the industry in Minnesota. These results are summarized in Table 14.

Table 14. Taxes on Mines as a Percent of Net Income Before Taxes, Canada vs. Minnesota

Mining Area	Range	Avg.	Period Covered	Type of Mine
12 Canadian provinces	34.8% to 45.7%	39.5%	13 years prior to 2002	Gold (a hypothetical mine)
Minnesota	-119.3% to 78.1%	122.3%	2000, 2001, 2002	Taconite (actual mines)
Minnesota	55.8% to 78.1%	67%	2000, 2002 (excludes loss year)	Taconite (actual mines)
Source: 2002/2003 <i>Survey of Mining Companies</i> , The Fraser Institute, page 56. The negative number for MN is due to net losses in 2001.				

From this brief comparison, it is clear that Minnesota’s tax on production, paid in lieu of property taxes, is much higher than in Michigan or Canada. The data in Table 14 also suggests that the total tax burden is higher in Minnesota than in Canada on mining operations. Table 14 is not an

IV. Evaluating Mining Taxes

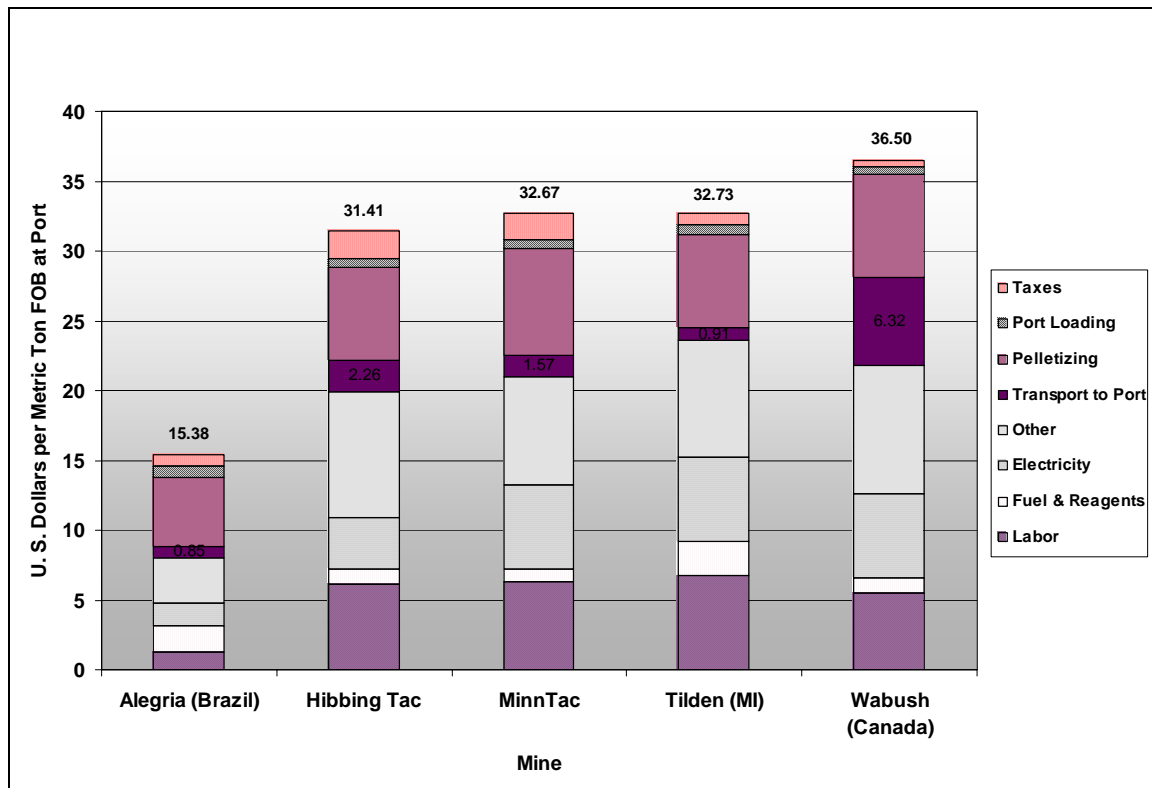
“apples to apples” comparison, so caution is warranted. The Canadian data is for a hypothetical gold mine, while Minnesota’s is actual income and taxes from active mines. The gold mine data is also for 13 years, while Minnesota’s is two or three.

Before concluding just on the basis of taxes that Minnesota is completely not competitive, it is important to consider the bigger competitive picture.

Economic Competitiveness

Taxes are an important cost of doing business for any industry, but they are not the total picture of costs. A look at total estimated costs for 2003 from surveys of mining costs provided by World Mine Cost Data Exchange, Inc. indicates that Minnesota mines are still competitive with other mines in the Great Lakes area. No North American mine shown is competitive with Alegria, an iron mine in Brazil.

**Figure 2. Taconite Production Costs per Metric Ton of Pellets by Mine, 2003
Delivered to Port (before shipping to blast furnaces)**



Source: World Mine Cost Data Exchange, Inc., www.minecost.com, mining cost surveys.

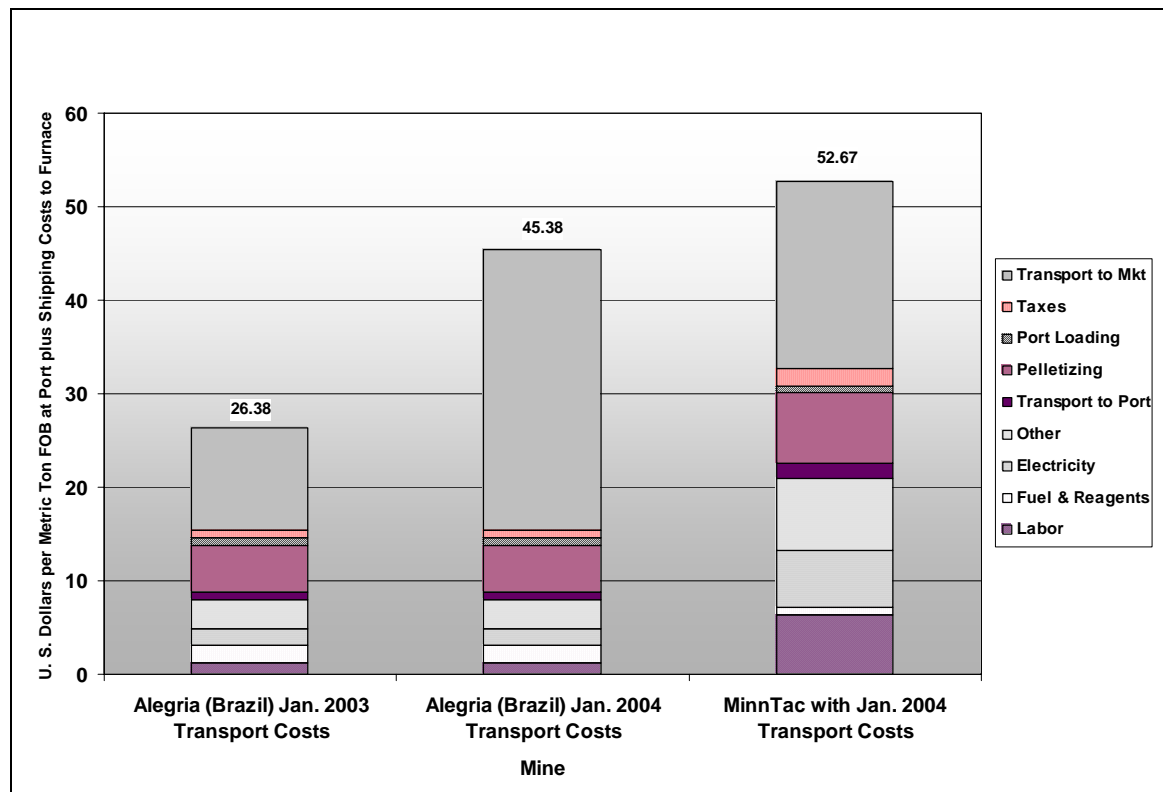
The Alegria mine in Brazil shows costs of barely over \$15 per ton, with some of the lowest cost of production in the world, due among other things, to very low labor and regulatory costs. (This mine was picked for comparison because according to industry sources, it has sold some pellets into Alabama, a potential market for Minnesota pellets.) All other companies costs are substantially higher than Alegria. Falling right in the middle of the costs is the MinnTac mine in Mountain Iron, MN, owned by US Steel, which is just barely lower than the Tilden mine in Michigan. Wabush in Canada is the least competitive of the mines shown.

In spite of the data shown earlier on taxes alone, Minnesota’s active mines are not the highest cost mines, showing slightly lower overall costs than Michigan, and more significantly lower costs than Canada.

Even Figure 2 does not show all the costs in a competitive market. The costs per ton shown above are for pellets delivered to port, before shipping to blast furnaces. Significant additional transportation costs are incurred when shipping the pellets to the blast furnaces. In the case of the Alegria mine in Brazil, these costs are paid for bulk shipping on the open ocean, costs which have skyrocketed in the last year.

Though transportation costs to the blast furnace are not widely available for this report, Figure 3 below shows how one Minnesota mine’s (MinnTac) rail costs would compare to Alegria’s ocean shipping costs to ship pellets to Fairfield, Alabama. This area near Birmingham is a steel-producing area and is a potential market for Minnesota ore, depending on the competitiveness of Minnesota’s mining costs.

Figure 3. Taconite Production and Shipping Costs per Metric Ton of Pellets for Delivery to Furnaces in Birmingham-Fairfield, AL, 2003-04, Before Reductions from Reform Recommendation



Source: World Mine Cost Data Exchange, Inc., www.mincost.com, mining cost surveys. Shipping rates are from mining industry sources and Internet press coverage of the shipping industry.

As is obvious from Figure 3, even with historically high bulk ocean shipping rates of \$30 per ton, pellets from the Alegria mine delivered to Birmingham-Fairfield, Alabama, are still over \$7 per ton cheaper than Minnesota pellets shipped primarily by rail to the same area.

The January 2003 bar for Alegria shows how dramatically ocean shipping costs have changed in just one year. At that time, the costs for shipping Alegria pellets to Alabama would have been about \$11 per ton.

IV. Evaluating Mining Taxes

Competitiveness Conclusion

- Minnesota's taconite production tax by itself is not competitive with taxes imposed in other taconite producing areas. All evidence points to Minnesota's mining industry being taxed from two to five times more than its nearest competitors, and the overwhelming majority of that difference is due to the production tax.
- Are the mining industry's costs in Minnesota competitive with other areas? Information from World Mine Cost Data Exchange indicates Canadian and Michigan mines have higher costs than Minnesota mines, though Brazil's costs remain the standard of low cost for iron ore mining among Minnesota's key competitors.
- Minnesota moves closer to competitiveness with Brazil when shipping costs to the blast furnace are taken into consideration, but under current costs, Minnesota still exceeds Brazil's costs by over \$7 per ton of pellets.

Evaluating the Occupation Tax

The tax that is known as the occupation tax in Minnesota is essentially a proxy for the corporate income tax. It is not nearly as significant a revenue producer for the state as the production tax is for local governments on the Iron Range. (See the general description of the occupation tax at the beginning of this report for the rates and base of the tax.) In recent years, the level of the tax has been so minimal that its significance is far outweighed by the production tax. For this reason, the discussion on this tax is not presented in as much depth as for the production tax.

Is the Occupation Tax Fair?—Benefits Received

Only a little over \$1.3 million was collected from the occupation tax for production year 2002, payable in 2003. With a combined mine value that year for the six mines that were then operating of more than \$1.2 billion, based primarily on sales of pellets, the resulting occupation tax effective rate of about 1.1% does not seem excessive as a rate of tax, but there is no readily available method to estimate how much the state spent to provide services to the mining industry with respect to the \$1.3 million it received in occupation tax collections.

Just because the tax is minimal does not mean it meets the test for fairness regarding benefits received. As the Minnesota Tax Study Commission report of 1984 said:

A state corporate income tax is likely to be a poor approximation to a benefits tax. This is true for two reasons. First, as argued above, the services that are provided to corporations by the state and local governments are not likely to be related to the net income of the corporations...Second, because businesses other than corporations benefit from state services, there is no compelling reason to apply this approximate benefits tax to only the corporate form of the business enterprise.¹⁴

¹⁴ *Final Report of the Minnesota Tax Study Commission, Volume I Findings and Recommendations.* Butterworth Legal Publishers, St. Paul, MN, 1984, page 212.

Is the Occupation Tax Fair?—Ability to Pay

Horizontal Equity

The occupation tax is a tax based primarily on net operating profits. Unlike the corporate income tax, the industry is not required to file on a unitary basis, so that only a company's mining operations in Minnesota are subject to the tax, and companies are allowed a percentage depletion as a deduction for a tax preference item for the AMT.

With cost deductions allowed, and the tax assessed only when there is an operating profit, this tax meets the test of fairness regarding a company's ability to pay.

Vertical Equity

The tax is so nominal that the Department of Revenue has not allocated it separately to taxpayers in its Tax Incidence Study. It is likely it follows the same pattern as the production tax, which was proportional for most incomes and mostly progressive for all 10 deciles of households.

Fairness Conclusion

- There is no data to relate the \$1.3 million paid in occupation tax to benefits received by mining companies from the state, so its fairness on this point cannot be empirically evaluated. In theory, the corporate income tax, which the occupation tax closely resembles, is not a good proxy for benefits received, and by inference, neither is the occupation tax.
- The occupation tax does meet the test of fairness with regard to ability to pay, both for companies regarding its impact (horizontal equity) and households regarding its incidence (vertical equity).

Is the Occupation Tax Efficient?

Allocative Efficiency

The occupation tax is so over-shadowed by the production tax that private market decisions are not likely to be made on the basis of it alone. It also does not create incentives to mine or not to mine, since it is paid only at production.

Administrative Efficiency

The occupation tax is more administratively efficient than the corporate income tax would be, in that a significant portion of ore is shipped to parent companies based on long-term contracts. (The portion of pellets so shipped has dropped significantly however, according to Dr. Peter Kakela of Michigan State University, from a high of about 85% of shipments to his estimate of 40% for 2003.¹⁵) Under these kinds of contract arrangements between parent and subsidiary companies, the determination of corporate net income can be very difficult.¹⁶ From an administrative

¹⁵ "Iron Ore Production 2003", Special Report, in *Skullings Mining Review*, July 2003, page 18.

¹⁶ *Final Report of the Minnesota Tax Study Commission, Volume I Findings and Recommendations*. Butterworth Legal Publishers, St. Paul, MN, 1984, page 247.

IV. Evaluating Mining Taxes

standpoint, then, the value of the ore at the mouth of the mine minus allowed deductions is a good substitute for taxable net income, and less difficult to determine.

The setting of the value of the mines each year by the Department of Revenue is a fairly complex process, with mine value varying depending on the type of pellets (flux, acid, chips, or concentrates) with different formulas for each. The expertise to value the mines is held again by a few state employees with no immediate replacements.

Efficiency Conclusion

- The occupation tax is allocatively efficient, in that it does not produce incentives to mine or not to mine, and is so minimal that it does not likely affect decisions to invest in additional production.
- The occupation tax is relatively administratively efficient, but only as compared to the corporate income tax, which is notoriously complex. The methods for establishing mine value are understood by only a few Department of Revenue employees with limited plans to pass on the knowledge of that expertise as these employees approach retirement. Given the amount of revenue generated, the occupation tax can be considered administratively inefficient in terms of time needed by both the Department and mining companies to comply with the tax.

Is the Occupation Tax Visible?

All the arguments regarding the lack of visibility for the production tax apply identically to the occupation tax, including the fact the proceeds are distributed to entities that have no connection to the payment of the tax. (The proceeds go to the general fund, but 50% is dedicated to education, 40% to elementary and secondary schools, and 10% to the University of Minnesota.) The case regarding the occupation tax's visibility will not be repeated here.

Visibility Conclusion

- The occupation tax is not visible.

Is the Occupation Tax Simple?

The occupation tax is simpler than the corporate income tax would be if it were applied to mining activity in the state, as mentioned in the allocative efficiency discussion above. The formulas for determining mine value each year are not simple, but are well-established from many years of refinement.

Simplicity Conclusion

- While not nearly as simple as the calculation of the production tax, the occupation tax is simpler than the corporate income tax would be for mining activity.
- The distribution of the occupation tax proceeds is much simpler than that of the production tax.

Is the Occupation Tax Stable and Adequate?

The occupation tax was enacted in 1921 as a result of a constitutional amendment. It was put in place under the theory of “natural heritage” mentioned previously, that companies engaged in extracting a depletable resource should compensate the state for the privilege. Its rate in the early years got as high as 15%, but credits reduced the actual rate paid. Nevertheless, collections in the past were higher than now.

The little amount of tax still being collected by the state is not directly tied to providing any government services related to mining, and is insignificant to the state, so the question of its adequacy seems moot.

The tax is notoriously unstable, even more so than the production tax, because it is based on net operating profits. In years when there are no profits there are no occupation taxes paid. The tax swings sharply up and down with the value of the production of ore.

Stability and Adequacy Conclusion

- The revenue from the tax is so minimal that any question of adequacy is irrelevant.
- The occupation tax is not stable.

Is the Occupation Tax Competitive?

Minnesota’s 9.8% tax rate for the corporate income and occupation tax is high compared with similar rates in other states, but depletion allowances and credits reduce the tax. Even in profitable years, net operating loss carry forwards can reduce or eliminate tax liabilities. It is not considered to be a tax that disadvantages mining companies in Minnesota versus other competitors.

Competitiveness Conclusion

- The occupation tax as applied in Minnesota is not particularly uncompetitive.

IV. Evaluating Mining Taxes

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V. Tax Policy Summary

What Are the Primary Tax Policy Problems?

Minnesota’s mining taxes have been evaluated using six standard tax policy principles. The author’s evaluation of Minnesota’s mining taxes is summarized in the table below, with further discussion following the table.

Table 15. Summary of Tax Policy Evaluation of Minnesota’s Mining Specific Taxes

Mining-Specific Tax and Tax Policy Principle	Summary Rating*
<i>Taconite Production Tax</i>	<i>6- and 4+</i>
1a. Equity: Benefits Received	-
1b. Equity: Horizontal	-
1c. Equity: Vertical	+
2a. Efficiency: Allocative	-
2b. Efficiency: Administrative	+
3. Visibility	-
4. Simplicity	+
5a. Stability	-
5b. Adequacy	+
6. Competitiveness	-
<i>Occupation Tax</i>	<i>5- and 4+</i>
1a. Equity: Benefits Received	-
1b. Equity: Horizontal	+
1c. Equity: Vertical	+
2a. Efficiency: Allocative	+
2b. Efficiency: Administrative	-
3. Visibility	-
4. Simplicity	-
5a. Stability	-
5b. Adequacy	Moot**
6. Competitiveness	+
*A “+” indicates this tax is evaluated positively relative to the principle named. A “-“ indicates it generally fails to conform to the named principle. **Because of its small amount of collections, the question of adequacy is posited as moot in this report for the occupation tax.	

Problems with Both the Production and Occupation Tax

Both taxes share three negatives from a policy perspective that are generally true of all taxes on business, namely 1) the taxes have little connection to benefits received; 2) they are not visible to the voters; and 3) they are not particularly stable. (This last point is true of nearly all taxes on businesses or individuals because of economic cycles, with some taxes less stable than others. The property tax is the only major exception to general instability.)

In addition to these three, the occupation tax falls short under the principle of adequacy, but just barely. The section above evaluating this principle concludes that “the revenue from the tax is so minimal that any question of adequacy is irrelevant” (see page 39 above). Because its revenues are so minimal, its relative simplicity compared to the corporate income tax still leaves it

V. Tax Policy Summary

unnecessarily complex for the amount of tax dollars generated by it, which holds true for the principle of administrative efficiency, also.

This report concludes that the occupation tax has enough drawbacks from a tax policy point of view to be considered “unimprovable”, and it is therefore recommended that the tax be eliminated. Further discussion for the rationale of this recommendation is made below under a description of this report’s recommendation for reform.

Additional Problems with the Production Tax

Besides the three negatives common to all business taxes mentioned above, the taconite production tax is rated negatively regarding the tax policy principles of horizontal equity, allocative efficiency, and competitiveness, principles that are closely related to each other.

It is true that among mining companies, the production tax is horizontally equitable, in that mining operations similarly situated pay similar amounts of tax. The Department of Revenue’s tax incidence study shows, however, that the tax results in inequitable treatment of the mining industry compared to other industries in Minnesota. The Department’s study presents taxes for each industry sector as a percent of the gross state product each industry contributes to the state. Table 16 reproduces that information from Section II on page 6 of this report.

Table 16. Taxes as a Percent of Contribution to Gross State Product (Effective Tax Rates) by Industry Sector for Calendar Year 2000

Industrial Sector in Minnesota	Effective Tax Rate
Agriculture	3.56%
Mining	15.52
Construction	4.74
Durable Manufacturing	2.81
Nondurable Manufacturing	3.95
Transportation, C, Public Utilities	5.05
Finance, Insurance, Real Estate	2.11
Services	4.37
Retail Trade	2.76
Wholesale Trade	9.29

Source: 2003 Minnesota Tax Incidence Study, Minnesota Department of Revenue, March 2003, page 22.

The only industry that has an effective tax rate nearly as high as mining is the wholesale trade, and this is primarily because tobacco excise taxes were counted as a tax on businesses at the wholesale level for that study. Absent tobacco taxes, the mining industry shows a tax burden that is from three to five times higher than other industries in Minnesota.

The fact that the production tax does not result in a similar level of tax compared to other industries in Minnesota means that there is a violation of the principle of horizontal equity, especially compared with the other manufacturing sectors, to which the production of taconite pellets is most closely related. The disproportionate level of taxes on mining compared to other industries can easily be argued to distort economic activity by making the cost of additional mining activity much higher than other industrial activity. The high mining taxes compared to other jurisdictions can also discourage additional mining in the state.

Clearly, the taconite production tax rate of \$2.103 per ton, or the net rate of \$1.802 per ton (with the sun setting of the 5-cent per ton grant provision at the end of 2003), is not a competitive tax rate with jurisdictions outside Minnesota either. When total costs of production are considered, however, it is just as clear that the production tax has not kept Minnesota mines from being competitive in the Great Lakes market for taconite pellets. The World Mine Cost Data Exchange information shows that as of 2003, Minnesota mines for which cost surveys were obtained were from 6 cents to \$1.32 per ton less than a competitor mine in Michigan.

Because Minnesota's production tax is based on an average of the last three years' production, its production tax per ton cost is likely to decline in the next several years as production rises. Also, the combination of historically high ocean shipping rates and rising production mean that for probably the first time, the cost differential between Minnesota's pellets and Brazil's could drop below \$7 per ton in the next several years. The World Mine Cost Data Exchange information shows a differential of only 16% for 2003 (a cost of \$52.67 per ton of pellets shipped to Alabama from Minnesota compared to \$45.38 per ton from Brazil to Alabama).

A final issue with respect to the principle of allocative efficiency is the current system of requiring companies to apply for producer grants in order to reduce their overall production tax burden. These grants are awarded with stipulations about how the money is to be spent. These kinds of rules make it less certain that equipment improvement expenditures are done in the most efficient manner.

V. Tax Policy Summary

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VI. Reform Proposal

The Ideal Reform Proposal

Any mining tax reform proposal must address the problem of how high the mining taxes are with respect to taxes paid by other industries, and how high the mining taxes are relative to such taxes in other jurisdictions. The ideal proposal should address these equity, efficiency, and competitive issues of the tax while not overly complicating the nearly ideal simplicity of the production tax and its relative administrative efficiency. Finally, the ideal proposal should not dramatically shift or reduce aid to local jurisdictions benefiting from the proceeds of the current production tax. Any reduction in the level of tax paid by the mining industry should not be so sharp that local jurisdictions do not have time to adjust to potentially lower aid levels.

In considering the above description of the ideal reform proposal, a cautionary word is in order from a standard textbook on the taxation of natural resources:

From what has been said above, [in the author's discussion of pros and cons of various taxes on natural resources] it is apparent that any attempt to provide an overall ranking of natural resource taxes will be futile. Not only does the suitability of a particular levy for a particular objective depend on a host of theoretical and empirical variables, the choice of a tax to satisfy one objective is likely to frustrate others. Hence the net production tax which ranks high in terms of efficiency and equity considerations ranks low in terms of administrability and revenue stability. Production taxes measured by quantity and gross value tend to be rated lower than the net production tax from an efficiency and equity viewpoint but are easier to administer and produce more stable revenue flows than the net production levy. The traditional ad valorem property tax is even worse from an administrative perspective and even better in terms of revenue stability. And the suitability of a particular levy may also turn on whether its use is being considered by a national, state, or local government.

In the end, any comprehensive approach to natural resource tax policy would have to amalgamate a variety of competing objectives that are served by a variety of discrete levies.¹⁷

There is simply no ideal tax system that perfectly captures a positive evaluation relative to all six tax policy principles considered in this report. Amalgamating "a variety of competing objectives" includes giving considerations to the current tax structure and political climate as well, for as Dr. Hellerstein goes on to say in describing the likely outcome of attempted reforms, "And the recipe for that mix would no doubt be shaped as much by political as by economic considerations."¹⁸

This author's recommendation tries to balance the six principles of good tax policy with an eye to political and economic realities.

What Is Not Recommended

A Return to the Ad Valorem Property Tax

Though converting to an ad valorem property tax on the mining industry would immediately solve a couple of the most visible problems with the taconite production tax, and though it was part of a preliminary rough draft for the Phase II report, this final report does not recommend

¹⁷ *State and Local Taxation of Natural Resources in the Federal System*, Walter Hellerstein, American Bar Association, 1986, pp. 120-121.

¹⁸ *Ibid.*, p 121.

VI. Reform Proposal

reinstating that tax on the industry. The property tax would solve the allocative efficiency problem of taxing the mining industry much more heavily than other industries in Minnesota, by taxing the mining industry the same as other industries. It would go a long way toward solving the competitive problem with other jurisdictions, in that estimates from the Department of Revenue show that a property tax on all mining property not now subject to the tax would have resulted in a liability of an estimated 74 cents per ton for taxes payable in 2003. This is far below the net \$1.751 per ton for that year (statutory), and is less than double the tax reported for Canada (44 cents per ton). It would remain nearly three times higher than the Michigan tax of 27 cents per ton, however. Still, reducing Minnesota's tax on taconite production to 74 cents per ton would do a lot to enhance the competitiveness of its taconite pellets in today's markets.

Another attractive feature of the property tax is its stability. It alone of the major kinds of taxes used in this country provides a very stable source of revenue for local governments, and it is adequate for local governments by design, with local authorities setting rates each year to raise the amount of revenue they propose based on budget considerations. Returning to the property tax system would provide stability to local revenues that is not available from the production tax. It would also give local officials more control over their own budgets, while cutting dependency on aid distributions.

Even with these advantages, though, the property tax fails on the tax principle of simplicity. Again, according to Dr. Hellerstein "the ad valorem property tax, at least in its traditional form, has proven to be an administrative nightmare as applied to natural resources."¹⁹ Besides the obvious problem of how to value the property annually, especially unmined ore, there is the additional disincentive such a system carries for mining companies to acquire additional reserves. If reserves are to be taxed on the value of the unmined ore, then the tax is paid before any gain is realized from selling the finished product.

Because the system of ad valorem property taxes has not been used in Minnesota for mining property for many years, and because of its inherent administrative problems and economic disincentives for mining companies to acquire reserves, it will not be part of a final recommendation for mining tax reform for this report.

Use of Other Reserves for a Trust Fund

Another goal mentioned as part of three proposals in the Phase II rough draft of this report was to use other reserve funds from various sources on the Iron Range and funds related to mining to accumulate a trust fund whose earnings could provide a source of reliable aid money in future years. This is still a laudable goal, but one fraught with difficulty. Local jurisdictions have reserves for a variety of reasons, most of which are not related to having "too much money" available. The political and practical problems of trying to assign the use of the earnings of these reserves seems prohibitive. It is the recommendation of this author, however, that any taconite production tax revenues above those needed to provide property tax aid to local jurisdictions and to keep Iron Range Resources fully funded should be saved in the Douglas Johnson Fund and Taconite Environmental Protection Fund. These two funds should accumulate as much principal as possible, especially in the next several years, so that earnings from those funds can be used to supplement aid payments as the likely eventual cessation of taconite production approaches.

¹⁹ Ibid., p. 118.

Repealing the Taconite Homestead Credit

Throughout the preparation of the first two phases of this report, it was assumed that any final recommendation would include the elimination of the taconite homestead credit program. This final report does not include such a recommendation.

From a tax policy point of view, the reason for recommending elimination of such a credit is that it overly subsidizes government services to the primary group of voters who are responsible in a self-governing society to hold their local officials accountable to budget decisions through the ballot, and that is the homeowners. By subsidizing homeowners like this, especially with revenue that has no connection to them and is entirely invisible to them (taconite aid), conditions are favorable for much higher levels of government spending than would be the case in a more accountable system. Indeed, historical data indicates that this has been the case in the past and continues to be the case for cities under 2,500 population (see Figure 1 on page 11, and Table 6 on page 12 for this data).

On the other hand, contrasting one good tax policy principle (visibility) with another (stability and adequacy), the sharp increases in homeowners' property taxes that would occur with the repeal of the taconite homestead credit would be disruptive at best, and could cause widespread hardships. Even with the taconite homestead credit, property taxes on homes in Iron Range communities are generally higher when expressed as a percent of market value than is typical for other non-metropolitan areas in the state. Results from one Department of Revenue property tax simulation model run provided for this study showed that property taxes as a percent of market value for the cities of Chisholm, Ely, Eveleth, Hibbing, Mountain Iron, Virginia ranged from 1.35% to 1.70% compared to just 1.0% for the average for all six counties in the Range area (Aitkin, Cook, Crow Wing, Itasca, Lake, and St. Louis).

Because of this disparity in homestead taxes among taconite cities and other areas of the state, the taconite homestead credit is not recommended to be repealed in this report.

Mining Tax Reform Proposal

Elements of the Proposal

Table 17 shows the recommended elements of a mining tax reform proposal for consideration to be enacted by the Legislature at the earliest possible time, with the elements' corresponding reductions in estimated taxes per ton of taconite produced that would be paid. The rationale for each element is discussed following the table.

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Table 17. Elements of a Mining Tax Reform Proposal

Reform Element	Cents Per Ton Reduction	Annual Estimated Reduction In Revenue* (millions)
1. Eliminate the 30.1 cents per ton Taconite Economic Development Fund rebate program and lower the statutory rate accordingly, from \$2.103 per ton to \$1.802 per ton	30.1	None**
2. Further reduce the remaining taconite production tax statutory rate to \$1.50 per ton (5¢/ton was refunded as producer grants through 2003, so that has not been available to Iron Range Resources)	30.2 (25.2 in 2003)	\$11.2 (9.3 in 2003)
3. Exempt all purchases by Minnesota mining companies from Minnesota's sales and use tax***	10.3	3.8**
4. Repeal the occupation tax on mining companies***	2.4	0.9**
5. Further reduce the taconite production tax to \$1 per ton for tons produced over 32 million tons per year total	6.76**	2.5
6. Eliminate the inflator for the taconite production tax	--	--
<u>Summary of Tax Cuts</u>		
Taconite Economic Development Fund rebates	30.1**	\$0.0**
Taconite Production Tax Reduction	36.96	13.7
Other Tax Reduction	12.7	4.7
Total Reduction	79.76**	\$18.4
(see parenthetical comment in second bullet above)		(\$16.5 in 2003)
Exhibits: Net PRODUCTION TAX per ton after reductions**	\$1.4324	\$13.7
Estimated total reduction in prod. tax revenues (see parenthetical comment in second bullet above)		(\$11.8 in 2003)
<p>*Assuming 37 million tons of taconite produced. The \$1 per ton tax is applied to the 5 mil. tons above 32 mil., resulting in a total production tax paid of \$1.4324 per ton over all 37 million tons of production.</p> <p>**"None" is listed for the 30.1 cent reduction because this amount is currently being rebated to mining companies and would not result in a loss of revenue (other than nominal investment earnings) to the IRR. The \$3.8 and \$ 0.9 million revenue losses shown for the sales and use tax exemption and occupation tax repeal respectively would be a loss to the state's general fund. Estimates are based on the average of such taxes paid from 2000-2002</p> <p>***These are the per ton reductions for 2002. It will vary from year to year depending on the number of tons produced, amount of purchases made (for sales and use tax), and profitability (for the occupation tax).</p>		

Rationale for the Elements of the Reform Proposal

1. *Eliminate the 30.1 cents per ton Taconite Economic Development Fund rebate program and lower the statutory rate accordingly, from \$2.103 per ton to \$1.802 per ton.*

Requiring companies first to pay 30.1 cents per ton to the IRR, then allowing them to receive it back as a rebate, with certain conditions attached for its investment in improving plant operations is not an efficient way to encourage investment. Eliminating this provision will not hurt revenues to the IRR or cut aid payments to communities on the Range, because the money is currently being rebated to the mining companies. It will improve the allocative efficiency of the current taconite production tax.

2. *Further reduce the remaining taconite production tax statutory rate to \$1.50 per ton.*

This 30.2 cents per ton reduction contributes to making the taconite production tax more competitive with other jurisdictions, and helps mitigate the horizontal inequity of the mining

industry's 15.52% effective tax rate, some three to five times higher than other industries in Minnesota. This change alone, saving the industry an estimated \$11.2 million (assuming 37 million tons of pellets produced) would have reduced the effective tax rate in 2000, the year of the Department of Revenue's study, from 15.52% to 13.61%, saving the industry slightly over \$13 million that year. These industry savings are accomplished without reducing any property tax relief payments to any jurisdiction on the Range or cutting any part of the IRR operating and project budget. This level of tax reduction would cut only the annual payments to the Doug Johnson Trust Fund and the Environmental Protection Trust Fund (see table below on payment streams affected).

3. *Exempt all purchases by Minnesota mining companies from Minnesota's sales and use tax.*

Because the state gains from increased jobs in mining on the Range and is hurt from job losses in mining (from lost income tax payments and sales tax collections from reduced purchases), this element of the recommended reform helps improve competitiveness and horizontal equity, but does so by reducing a tax that flows to the state's general fund. The three-year average of sales and use tax collections from the mining industry from 2000-2002 was 10.3 cents per ton, and that is the estimated reduction to the mining industry. The total revenue loss is estimated using an assumed 37 million tons produced, and the average sales tax paid of 10.3 cents per ton.

It is also recommended that the rebate program for capital equipment purchases be turned into a direct exemption for the mining industry, reducing the wait for the refunded tax and reducing administrative burden. This exemption will serve as an incentive for mining companies to invest in new purchases of equipment to improve productivity, a partial replacement of the requirement for companies to invest in order to receive the 30.1 cent per ton rebate in current law. This element eliminates the taxation of inputs for the mining industry, taxes which are entirely invisible to the voters.

4. *Repeal the occupation tax on mining companies.*

Like element number 3 above, the elimination of the occupation tax affects the state's general fund, but only nominally. The average per ton occupation tax paid for 2000-02 was only 2.4 cents per ton. Assuming 37 million tons of production, that would result in a loss to the state's general fund of \$909,000 per year (using the actual for 2002). Of course, the potential loss is greater as the mining industry returns to profitability. The repeal of the occupation tax improves administrative efficiency, and also eliminates another tax that is entirely hidden from the voters. It modestly improves the competitiveness of the industry.

5. *Further reduce the taconite production tax to \$1 per ton for tons produced over 32 million tons per year total.*

Again assuming 37 million tons of pellet production per year, if this element were adopted, the last 5 million tons of pellets would be subject to only a \$1 per ton taconite production tax, instead of the recommended \$1.50 per ton for tons produced up to 32 million tons. This 50-cent reduction for tonnage over 32 million would result in additional lost revenue to the two trust funds of \$2.5 million per year. A similar idea has been proposed by Range legislators in previous legislative sessions. It provides an incentive for the owners of Minnesota taconite mines to shift production to Minnesota from other mines they might own elsewhere, because taxes would be reduced on all production above 32 million tons. This element improves the competitiveness of Minnesota's taconite while protecting property tax relief aid and the IRR budget. Such a two-

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tiered tax is reported not to be complicated to administer, according to staff at the Minnesota Department of Revenue.

6. Eliminate the inflator for the taconite production tax.(and any distributions)

An accountable tax system does not include automatic tax rate inflators. Elected officials should always be required to perform their representative duties by having to vote on tax increases. The only indexing that passes the good fiscal policy test is the expansion of income tax brackets for inflation, which is done to *avoid* automatic tax increases. Since the inflator has not been used for several years, this element does not carry an estimated cost. Eliminating inflators for distributions helps hold down the need for tax revenue for the increases.

7. Eliminate distributions to non-mining school districts (not shown on Table 17, see Table 18).

In order to limit taconite property tax relief to school districts in which mining actually occurs, it is recommended to eliminate the distribution of taconite production tax dollars for four school districts on the edge of the mining area. These four districts are Aitkin, Cook County, Crosby-Ironton, and Grand Rapids. The estimated distribution for 2004 is about \$1.1 million.

Revenue Implications of the Reform Proposal for Iron Range Communities

The following table shows the revenue implications of the elements of the reform proposal that affect the current taconite production tax collections and distributions.

Table 18. Current and Proposed Distributions of Taconite Production Tax

Recipient of distribution	Tac. Prod. Tax Rates in Cents per Ton		Total Revenue (at 37 mil. tons)	
	Current	Proposed	Current	Proposed
Taconite cities and towns	4.5	4.5	\$1,665,000	\$1,665,000
" (mining effects)	4.0	4.0	1,480,000	1,480,000
Taconite municipal aid account	12.3	12.3	4,551,000	4,551,000
Taconite schools (mining and/or concentrating in the district)	3.43	3.43	1,269,100	1,269,100
Taconite school districts within the taconite relief area (formula)*	13.72	10.63	5,076,400	3,933,100
Taconite Referendum fund (formula, estimated)**	13.0	13.0	4,810,000	4,810,000
Taconite counties (includes electric power plant)	20.525	20.525	7,594,250	7,594,250
Taconite counties road/bridge	5.525	5.525	2,044,250	2,044,250
Taconite property tax relief	35.38	35.38	13,090,600	13,090,600
Taconite railroad grandfathered amount	6.71	6.71	2,482,454	2,482,454
School bond distributions	12.84	12.84	4,750,000	4,750,000
Occupation tax grandfathered amount to Iron Range Resources (IRR)	3.39	3.39	1,252,520	1,252,520
IRR	7.07	7.07	2,615,900	2,615,900
Range Association of Municipalities and Schools	0.2	0.2	74,000	74,000
Subtotal, property tax relief for local jurisdictions and IRR	142.590	139.500	52,755,474	51,612,174
Northeast MN Economic Protection (Doug Johnson) Fund	3.58	3.58	1,324,600	1,324,600
Taconite Economic Development Fund (refunds to producers)	30.1	0.0	11,137,000	0
Remainder (split 1/3 to DJF and 2/3 to Tac. Env. Prot. Fund)***	34.030	0.160	12,591,100	59,200
Total taconite production tax**	210.3	143.24	\$77,811,000	\$52,998,800

* Distributions to non-mining area school districts is recommended to be eliminated. Those districts are Aitkin, Cook County, Crosby-Ironton, and Grand Rapids. Preliminary distributions for 2004 (2003 production year) were used to estimate a proposed reduction of 3.09 cents per ton. This item is highlighted in bold above.

** Estimated by dividing amount distributed by taxable tons produced.

***Proposed remainder and rate are reduced an additional 6.76 cents per ton for the assumed 5 million tons above 32 million produced that would receive the favorable taconite production tax rate of \$1 per ton, compared to \$1.50 per ton for tons produced up to 32 million.

Source of current rates: 2003 Mining Guide, MN Dep't. of Revenue. Source of proposed rates: MTA recommendations and calculations.

Though the difference in current and proposed total tax amounts shown is \$25.8 million, \$11.1 million of that is attributed to the eliminated Taconite Economic Development Fund refunds to mining companies for investments made in the plants. The net reduction in production tax revenues under this proposal, assuming 37 million tons of production, would be about \$14.7 million, all of which would come from future accumulations to the Douglas Johnson Trust Fund and the Taconite Environmental Protection Trust Fund. All other aid and agency budget amounts are fully funded under this proposal.

In addition to the relief provided by the taconite production tax cut, mining companies would realize an estimated additional 12.7 cents per ton reduction from the exemption from the sales and use tax and the elimination of the occupation tax. The state’s general fund would experience an estimated reduction in revenues from these provisions of \$4.7 million per year.

Combining the taconite production tax rate reduction and the two state tax cuts yields an estimated annual \$19.3 million in tax relief for the mining industry in Minnesota, assuming 37 million tons of taconite pellets produced.

Shortcomings of the Proposal

Horizontal Inequity and Competitiveness Problems Not Solved

One of the major shortcomings of this proposal is that mining taxes are not reduced enough to solve the horizontal inequity problem of the mining industry, nor its tax competitiveness with other jurisdictions. This proposal would have reduced the mining industry’s taxes by about \$42 million in the year 2000, for an effective tax rate of 9.41%, about a 39% reduction compared to the estimated rate of 15.52% reported in the Department of Revenue’s Tax Incidence Study for that year. Table 19 below shows the effect the proposed reduction would have had if it had been in effect in the year 2000.

Table 19. Taxes as a Percent of Contribution to Gross State Product (Effective Tax Rates) by Industry Sector in Rank Order for Calendar Year 2000

Industrial Sector in Minnesota (rank)	Effective Tax Rates	
	Current Law	Proposed Reform
1. Mining	15.52%	9.57%
2. Wholesale Trade	9.29	9.29
3. Transportation, C, Public Utilities	5.05	5.05
4. Construction	4.74	4.74
5. Services	4.37	4.37
6. Nondurable Manufacturing	3.95	3.95
7. Agriculture	3.56	3.56
8. Durable Manufacturing	2.81	2.81
9. Retail Trade	2.76	2.76
10. Finance, Insurance, Real Estate	2.11	2.11

Source: 2003 Minnesota Tax Incidence Study, Minnesota Department of Revenue, March 2003, page 22, for current law, and MTA calculations for proposed law for mining. Actual sales and occupation tax receipts for payable year 2000 were used, along with the estimate of \$1.368 per ton production tax paid on 43.5 million tons (\$1.50 for the first 32 mil. tons, and \$1 for the rest).

Even with a significant 39% reduction in the effective tax rate of the mining industry in 2000, it still would have been the highest taxed industry in Minnesota. This is likely to hold true for future years as well.

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As is seen from Table 20, the competitiveness of the production tax, though improved, does not close very much of the gap between Minnesota and other jurisdictions.

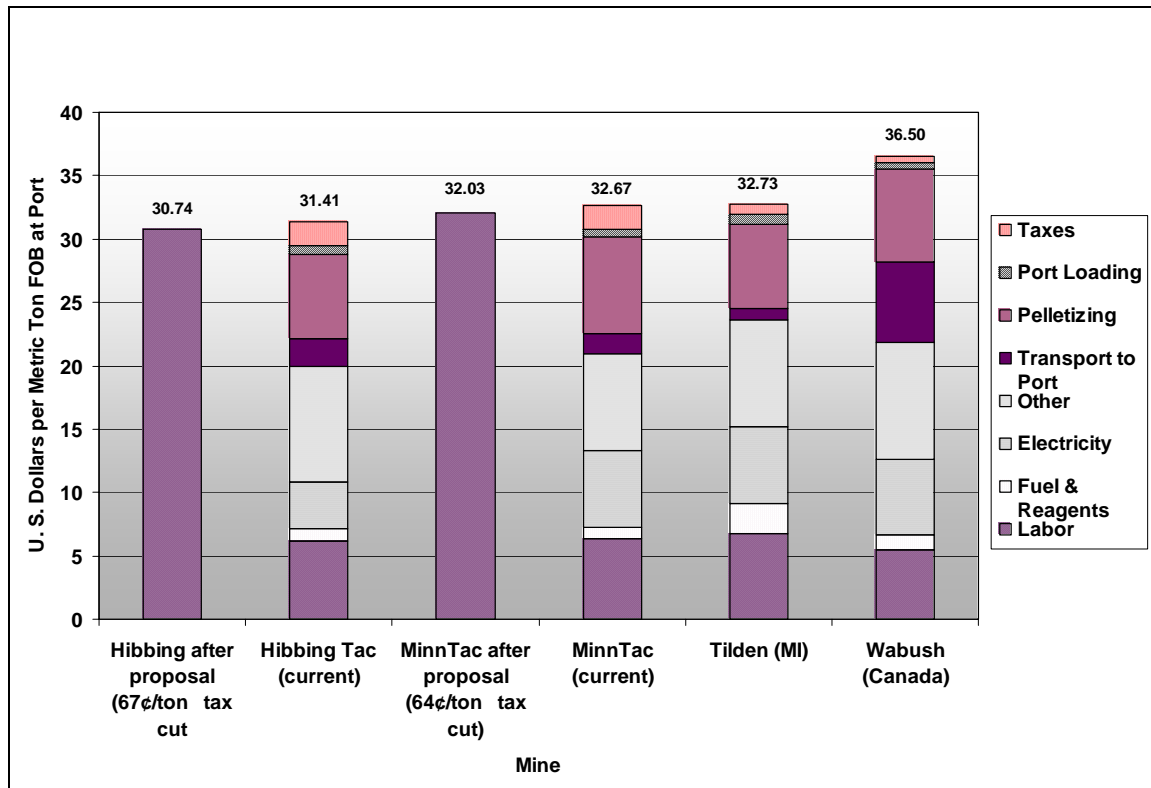
Table 20. Property and Production Tax Comparison of Statutory Rates for Mines For Minnesota and Selected Competitive Areas versus Proposed Change
(in dollars per Ton)

Area and Tax	2000	2001	2002	Proposed Change
MN Production Tax	\$1.97	\$1.75	\$1.75	\$1.4324
MI Specific Ore Tax	0.40	0.39	0.27	
Eastern Canada Ad Valorem Tax (US\$)	0.30	0.46	0.44	

Source: private FAX from Dr. Peter J. Kakela, Michigan State University, Department of Resource Development. Rates in MN are net of grants. The proposed rate assumes 37 million tons of production in MN, and does not include an additional estimated 12.7 cent reduction from the sales tax exemption and elimination of the occupation tax.

The overall competitiveness of Minnesota taconite to selected jurisdictions for which cost surveys were obtained for this report, after lowering the total tax burden for the Minnesota mines according to estimates for this proposal, is shown in Figure 4 below.

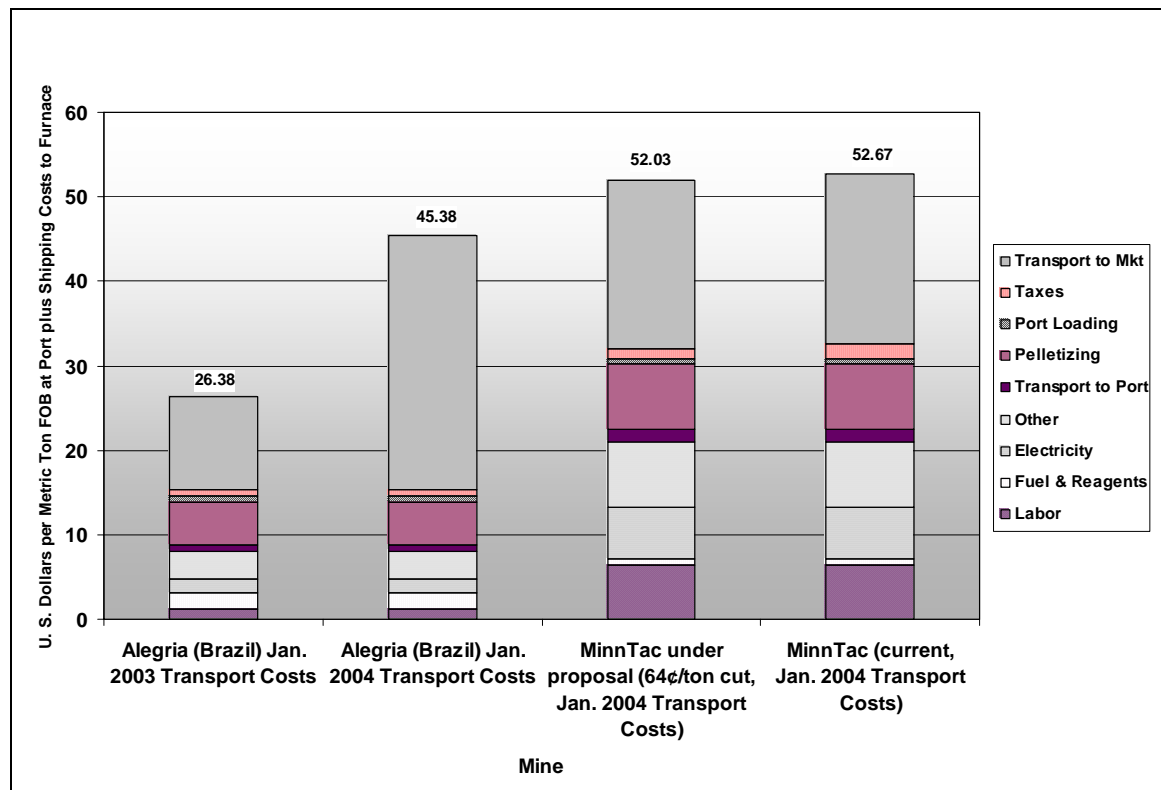
Figure 4. Taconite Production Costs per Metric Ton of Pellets by Mine, 2003, Delivered to Port (before shipping to blast furnaces), Before and After Reduction from Proposed Change



Source: World Mine Cost Data Exchange, Inc., www.minecost.com, mining cost surveys. Estimated reductions from reform proposal calculated by the author based on 2002 actual data for the Minnesota mines shown.

The competitiveness picture with the Brazilian mine picked for comparisons in this report, after adding transportation costs to the suggested market of Fairfield, Alabama in the Birmingham area, is shown in the figure on the next page.

Figure 5. Taconite Production and Shipping Costs per Metric Ton of Pellets for Delivery to Furnaces in Birmingham-Fairfield, AL, After Reduction from Proposed Change



Source: World Mine Cost Data Exchange, Inc., www.minecost.com, mining cost surveys. Shipping rates are from mining industry sources and Internet press coverage of the shipping industry. Estimated reduction from reform proposal calculated by the author based on 2002 actual data for the Minntac mine.

The reduction in total tax burden from the proposal recommended by this report, either for the North American competitors without transportation costs to the furnace, or with the international comparison including final transportation costs, is barely visible to the eye in the figures above.

Stability of Revenues Not Improved

The second major shortcoming of this proposal is that it does not improve the stability of revenues for the Range area. Because the production tax remains the primary means of raising revenues, those revenues will continue to rise and fall with production. It is recommended to keep the three-year average of tons produced as the taxable base for stability purposes.

Dependency Not Improved

A final shortcoming is that the dependency of local governments on the Iron Range is not lessened. The entire aid system is kept in place at the 2003 level, which showed for cities that 58% of their revenues came from aid. The reductions planned over the next several years, to offset city aid from the state with taconite aid, will lessen dependence somewhat, but that is already law and not part of this proposal.

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Conclusion

The tax policy problems of mining taxes are not easily solved. An earlier quote from Dr. Walter Hellerstein states clearly the problem of reforming them, with the solution likely requiring one “to amalgamate a variety of competing objectives that are served by a variety of discrete levies.”²⁰ The competing objectives of improving horizontal equity (among Minnesota businesses) and competitiveness (among other jurisdictions) versus maintaining stability and adequacy of revenues for communities dependent on taconite aid are not easily resolved. Adequacy of aid revenues itself competes against the desired outcome of less dependence by Iron Range communities on such aid.

It was felt by the author that the stability of the aid system weighed more heavily in deciding on a final recommendation than to improve the competitiveness of the mining industry at this time. Minnesota taconite pellets should be very competitive in the North American market for the next several years, given the huge demand for pellets coming from China. At the same time, the lowered expectations of aid for Range communities, given the rather precipitous drop in the last few years, makes it a good time to reduce the production tax, because aid payments have already been reduced, and it is less costly to keep them at the most recent levels. Adjustments by the communities have already been made to cut spending. With the combination of the tax adjustments recommended in this report and a very competitive market that seems to presage increased production for the next few years, it seems like a good time to provide as much relief as possible without further cutting taconite aid to Range communities.

A final recommendation of this proposal, not part of the formal description above, is that production tax revenue not used for aid payments or agency budgets should be set aside and allowed to accumulate in the two trust funds provided for in current law. Since collections could well exceed those predicted in this report, it is very important that the temptation to increase aid distributions be resisted so that the trust funds can continue to grow, in anticipation of the day when production will again fall, and cost efficient mining of Minnesota’s reserves draws to an end.

²⁰ *State and Local Taxation of Natural Resources in the Federal System*, Walter Hellerstein, American Bar Association, 1986, pp. 121.

VII. Appendix A: Methodology & Assumptions Used for Valuing the Taconite Ore Reserves

(Though no return to the ad valorem tax is included as part of the final report’s recommendations, the methodology used to estimate market value of ore reserves for draft versions of this report is kept in this report. It was prepared by Tom Schmucker of the Minnesota Department of Revenue.)

A property tax, or “ad valorem” tax, was one of the primary taxes levied on iron ore mining prior to the conversion to taconite mining which replaced the rapidly depleting reserves of natural ore. Both Michigan and Minnesota, the primary iron mining areas in the U.S., used similar versions of the Hoskold formula for valuing the natural ore reserves. H.E. Hoskold was an English mining engineer who originated the use of the “Hoskold” method of valuing coal mines, timberland, and other types of real estate with depleting assets. It is simply a method to determine the present value of a depleting asset (iron ore in this case), when the value recovered will be some amount per ton over a period of time. Today the Hoskold method has mostly been replaced by various discounted cash flow methods of determining present value. Results obtained are usually similar to what the Hoskold method would yield. It was recognized that the great investments required to develop the large and low grade taconite reserves probably would not occur under the “ad valorem” method of taxation. Both Michigan and Minnesota established a production type of tax initially at a low rate to encourage development of their low grade iron reserves. (commonly called taconite in Minnesota).

Since part of this study was to compare what the taconite industry might pay under a property tax similar to other businesses, a method of estimating the value of the taconite reserves was used by the Department of Revenue. This is similar to how the natural ore reserves were valued with the Hoskold formula. In order to apply the Hoskold formula to taconite, it was necessary to determine several variables.

To start, a 20 year reserve estimate was requested from each company (shown in tons of recoverable pellets) with the reserve broken down by taxing district location. In the case of EVTAC, Ispat-Inland, and Minntac, the company estimates were used as submitted since they were consistent historical average production from those plants. For Northshore, a 13-year average since reopening after the 3.5 year closure of Reserve Mining Company was used. (Reserve was the original owner and operator of this plant) The plant was reopened by Northshore at a greatly reduced capacity. For Keewatin Taconite (formerly National), the average production since the 1994 shutdown was used. For Hibbing Taconite, a 20-year average of production was used since they did not have long shutdowns. These last 3 companies submitted their estimates based on maximum production levels. U.S. Steel, by far the largest producer, submitted an estimate consistent with their long term average production. This approach seems the most logical. Therefore, the estimates by Hibbing Taconite, Keewatin Taconite, and Northshore Mining, which were based on maximum production levels, were reduced to more average levels.

The production estimates used were as follows:

Table 21. Average Taconite Production in Millions of Tons Per Year, by Mine

Minn Tac	EVTAC	Ispat-Inland	Northshore	Keewatin	Hibbing
11.5	3.32	4.1	5.1	2.65	7.5

VII. Appendix A: Methodology & Assumptions Used for Valuing the Tac. Ore Res.

The Hoskold formula Minnesota uses for valuing natural ore utilizes a dual interest rate approach for determining present value. A redemption of capital rate of 6% and interest to the purchaser rate of 12% were used. These are the rates currently used by the Department of Revenue for the few remaining natural ore properties still valued by the Hoskold method. This method has been upheld through numerous court challenges all the way to the Minnesota Supreme Court over the years. The last case was in the early 1980's and now the remaining values have declined to the point they are not large enough to argue over. The 6%-12% rates would be approximately equivalent to a 14% discount rate in a single interest rate present value calculation. A single interest rate method with an income approach might be used to value other commercial real estate.

The 6% - 12% dual rate for a 20 year mine life yields a discount factor of .33971 to obtain a present value.

Since we are attempting to value a property in its entirety, both the royalty per ton and the potential net profit per ton contribute to the value of the property. It is recognized that the royalty value may be attributed to an owner other than the mining company in some instances. The average industry wide royalty rate for 2002 of \$1.10 per ton was used. The profit per ton is more problematical in that much of the iron ore and steel industry has not been profitable in recent years. This is confirmed by the bankruptcy and disappearance of such major steel firms as Bethlehem and LTV. We assumed that if the ore industry is to survive a long term average profit of \$1.50 per ton was a reasonable estimate. This is less than 5% of the selling price of the pellets. The royalty and estimated profit yields a total value of \$2.60 per ton over the 20 year assumed mine left which must be converted to a "present value".

As an example of how each mine was calculated, the U.S. Steel (Minntac) reserve estimate of 11.5 million tons per year is multiplied by \$2.60 per tons times the 20-year mine life. This figure is then multiplied by the 6% - 12% discount factor of .33971 yielding a present value of \$203.1 million for the Minntac ore reserve.

VIII. Appendix B: Mining Tax Study Advisory Committee

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VIII. Appendix B: Mining Tax Study Advisory Committee

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