Mining in Minnesota’s Iron Range: Past and Future Perspectives

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Why the Renewed Interest in Mining in Minnesota?

• The Industry Perspective:
  – Steeply Rising Metal Prices
  – Well Known Mineral Geology
  – A Long Mining Tradition
US Recycled Iron Prices 2001-2007:
American Metal Market Chicago

Price per Metric Ton

http://www.odotnet.net/construction/OCA/Steel_Index_for_PN525.htm
Why the Renewed Interest in Minnesota Mining?

• The Community Perspective:
  – The highest paid blue-collar jobs available
  – Other high-paid professional and technical jobs
  – Taxes and Royalties to State and Local Governments
  – Revitalize Depressed Mining Towns
Lessons from Minnesota’s Mining Past

- Minnesota has had a long and intimate experience with metal mining.
- That history can provide valuable insights into what a future expansion of mining might bring.
- Public policy going forward should be informed by that past experience.
“Coping with the unpredictable fluctuation of mining economy and forces of change, over which there seemed to be no control, became an accepted part of life for the generations who made Iron Country their home. They, like people in other single industry regions….came to know the hurt and anguish of mine and plant closing, loss of jobs, loss of pensions and insurance, strikes, accidents and death. They confronted turmoil and intimidation, experienced poverty and prosperity, and through it all they endured.”

The Economic Anomaly of Mining

• The Economic Promise:
  – Tremendous Wealth Extracted
  – High Wages Paid

• The Economic Outcome:
  – Depressed and Rundown Towns & Regions
  – Lower average incomes, higher unemployment, and higher poverty
  – Mining Regions Are Economically Depressed Regions
A Prosperous Mining Town?

- Appalachia with its coal
- The Ozarks with its lead
- The Upper Peninsula with its iron & copper
- The Silver Valley of Idaho’s Panhandle
- Arizona and Montana Copper Towns
- New Mexico Uranium Towns
- Minnesota’s Iron Range
Explanations for the Failure of Prosperity to Follow Mining

• Unstable metal demand and prices
• Labor displacing technologies
• Ultimate exhaustion of mineral deposits
• Environmental damage to the region
Real Price of Iron Ore (1998 $s)

Note Iron Prices Are NOT at Historically High Levels. Also Note the Instability in Price

In terms of price, we have been here before.
Note the declines after each past high.
The Impact of Labor-Displacing Technological Change

Employment and Labor Productivity in Minnesota Iron Ore Mining

- Employment
  - 20,000 workers
  - 2,050 Tons/Worker
  - 13,000 Tons/Worker
  - 3,200 Workers

- Output per Worker (metric tons)
  - 1900: 2,050 Tons/Worker
  - 1920: 3,200 Workers
  - 1940: 13,000 Tons/Worker
  - 2020: 13,000 Tons/Worker
Lessons from the Past

- High metal prices stimulate world-wide production, constrain demand, and bring prices back down.
- Marginal mining operations layoff workers or shut down completely.
- Even when production remains steady, there on ongoing employment declines due to technological change.
The Positive News

• Communities and Workers Are Resilient After the Decline in Mining Employment
  – Adaptation and Change
  – A New Economy Emerges
  – Communities Do Not Necessarily Go into Terminal Decline after Mining Declines
Real Income from Mining and the Rest of the Economy:
St. Louis County, MN

1979-2005:
- Mining: -$503 million or -63%
- Outside of Mining: +$940 million or +21%
Mining as a Source of Real Income in Itasca County, MN

- Real Income Outside of Mining: +$412 million or +63%
- Mining Real Income: -$130 million or -75%


Real Income (in $1,000s)
Lake Ctny Changes in Real Income: Mining and Other Sectors

Real Income Outside of the Mining Sector
1980-2000: +78%

Real Earnings in Mining Sector
1980-2000: -65%
Non-Mining Sources of Economic Vitality in the Iron Range

• Ongoing development of professional service sectors
  – Especially Health Services
  – *Not* all low wage, “lousy” jobs

• Retention and attraction of retirees
  – Income that follows people’s location choices

• Retention and attraction of residents and small businesses (local “amenities”)

• Recreation and Tourism
<table>
<thead>
<tr>
<th>Sources of Economic Vitality in the Iron Range during the Decline in the Iron Industry</th>
<th>Percent Change in Real Income 1979-2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Itasca</td>
</tr>
<tr>
<td>Services</td>
<td>130%</td>
</tr>
<tr>
<td>Health Services</td>
<td>133%</td>
</tr>
<tr>
<td>Retirement &amp; Investment*</td>
<td>92%</td>
</tr>
</tbody>
</table>

*Government Transfers, Dividends, Rent, and Interest
The Future

• New Metal Mining and Processing Proposals
• On-going Amenity-Supported Economic Vitality
Metal Mining as a “New” Source of Economic Vitality in Minnesota?

• Metal mining is a relatively small source of income both in the Iron Range and in Minnesota as a whole
  – 5% of total personal income in the Iron Range counties
  – 2/10ths of 1% of Minnesota personal income

• No plausible expansion in mining will return it to the preeminent position it held in the past.
The New Metal Industry Proposals

- Minnesota Steel: 700 jobs
- NorthMet: 470 jobs
- New Taconite Processing: 183 jobs

- Total Iron Sector Jobs Lost since 1980: 11,000 jobs
Competing Natural Resource Values

• Natural Warehouse of Commercially Valuable Commodities to be Extracted

• The Source of Valuable Environmental Services to Be Directly Enjoyed
  – Clear water and air
  – Wildlife habitat, fisheries, and recreation
  – Scenic beauty
The Changing Economic Role of Natural Landscapes

<table>
<thead>
<tr>
<th>Commercial Commodities</th>
<th>Environmental Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber</td>
<td>Non-Commercial Recreation</td>
</tr>
<tr>
<td>Minerals</td>
<td>Clean Water</td>
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<tr>
<td>Forage</td>
<td>Wildlife</td>
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<tr>
<td>Outfitting</td>
<td>Fisheries</td>
</tr>
<tr>
<td>Commercial Recreation</td>
<td>Scenic Beauty</td>
</tr>
<tr>
<td>“Tourism”</td>
<td>Air Quality</td>
</tr>
<tr>
<td></td>
<td>Open Space</td>
</tr>
</tbody>
</table>

- Employment & Income in Mills, Mines, Resorts etc.
- Traditional Economic Base Expands Multiplier Impacts
- Additional Economic Activity
- Improved Quality of Life
- Attract and Hold New Residents and Businesses
- Additional Economic Activity

Impact on Local Economic Well Being
<table>
<thead>
<tr>
<th>County Type</th>
<th>Population Change</th>
<th>Net Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retirement</td>
<td>28.4%</td>
<td>25.9%</td>
</tr>
<tr>
<td>Federal Lands</td>
<td>22.3%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Recreation</td>
<td>20.2%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Commuting</td>
<td>15.2%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Services</td>
<td>14.6%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Government</td>
<td>11.5%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Non-Specialized</td>
<td>10.9%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Total Non-Metro</td>
<td>10.3%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>9.5%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Poverty</td>
<td>9.1%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Transfer Payments</td>
<td>8.5%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Farming</td>
<td>6.6%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Mining</td>
<td>2.3%</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>
Amenity-Supported Economic Vitality in Northeast Minnesota

- In-migration of new rural residents to Itasca, Lake, and St. Louis Counties
- New housing, rising property values, and conversion of seasonal homes in “lake country”
  - Ely area: Burntside and Shagawa Lakes
  - Babbitt area: Birch & Bear Island Lakes
  - Hoyt Lakes
  - Orr area: Pelican Lake
  - Island, Boulder, & Fish Lakes areas
A New Part of the Local Economic Base

• The attractiveness of the area
  – Social environment: small cities, safe, uncongested, good schools and services
  – The natural environment: clean water and air, wildlife, outdoor recreation, scenic beauty

• Attract and hold residents and the economic activity associated with them.

• Undermining environmental quality undermines economic vitality
Economic Decision Making about Mining: The Private Perspective

- Mining companies carefully consider the mining costs, the expected market value of the ores produced, and the risks. They only develop the most profitable mineral deposits.
- Most mineral deposits are left un-developed because of high costs, low value, or high risk.
- That is why the sulfide copper deposits were not developed in the 1970s and the taconite ores were not developed until the 1950s. The mining companies were right!
- Economic rationality often requires that mineral deposits be left in the ground, un-developed.
Economic Decision Making about Mining: The Public Perspective

• Public Costs Also Have to Be Considered
  – Environmental damage, especially long-term
  – Community Stability: Boom and Bust
  – Fiscal Pressures on Local Governments

• If the total costs, including the public costs, exceed the benefits, economic rationality requires that public officials reject that mining proposal.
The Public Policy Challenge

• How to support the ongoing revitalization of the Iron Range that’s already underway?
• How to avoid stepping back onto the economic “roller coaster” that is mining?
• How to avoid further damaging the natural environment of the Iron Range and extending that damage to surrounding rivers, lakes, and wetlands?
• How to protect the water resources that are the current and future economic base of northern Minnesota?
Thank You!
Questions?
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