

A More Holistic Economic Evaluation of Mining: Considering Benefits and Costs

Understanding the Impacts of Mining in the Western Lake Superior Region

USGS Workshop, Bad River Reservation, Wisconsin, September 12-14, 2011

Thomas Michael Power
The University of Montana
and

Power Consulting, Inc.
tom@powereconconsulting.com



Why Is There Controversy over Sulfide Copper Mining?

- New High Paying Jobs
- New Income to Households and Governments
- Pure Benefits?
 - That is what “impact” analysis often suggests.



Why Are Mining Areas Not Uniformly Prosperous?

- “The Economic Anomaly of Mining—Great Wealth, High Wages, Declining Communities,” T.M. Power, New Mexico Bureau of Geology and Mineral Resources, 2005
- *Lost Landscapes and Failed Economies: The Search for a Value of Place*,” T.M. Power, Island Press, 1996



Mining and Local Prosperity

- Many mining areas are synonymous with lagging economies and, even, persistent poverty and unemployment
 - Appalachia, Ozarks, Four Corners
 - Copper Towns of Butte, MT, Silver City, NM, Globe-Miami, AZ, the Upper Peninsula of MI.
 - Iron Range, MN
 - Uranium belts of New Mexico and Western Colorado
 - Gold and Silver Mining Towns: Silver Valley, ID, and Lead and Deadwood, SD

Economic Vitality in Mining Dependent Counties

Ratios of Growth in Indicators of Economic Vitality				
Growth in Mining Dependent/Growth in Non-Mining Dependent				
	1980-1990	1990-2000	2001-2008	1980-2008
Personal Income	0.59	0.82	1.09	0.76
Population	-0.85	0.50	0.65	0.17
Per Capita Income	0.72	0.95	1.13	0.83
Earnings	0.41	0.69	1.13	0.54
Level of Per Capita Income: Mining Dependent and Non-Mining Dependent Counties				
	1980	1990	2000	2008
Mining-Dependent	\$8,390	\$13,754	\$20,099	\$30,240
Non-Mining Dependent	\$10,201	\$19,622	\$29,548	\$33,191
Difference	-\$1,811	-\$5,868	-\$9,449	-\$2,951

Source: US Dept. Comm., BEA, REIS Local Area Income, and author's calculations.

“Mining Dependent” = 20% or more of labor earnings are from mining (excluding oil and gas from “mining”)

Why Aren't Mining Towns Prosperous?

1. The Instability/Volatility of Mining Jobs and Earnings
2. The Impact of Labor Displacing Technology
3. Heavy Environmental Damage: An Economic Problem
4. The Displacement of Other, More Sustainable, Economic Activity

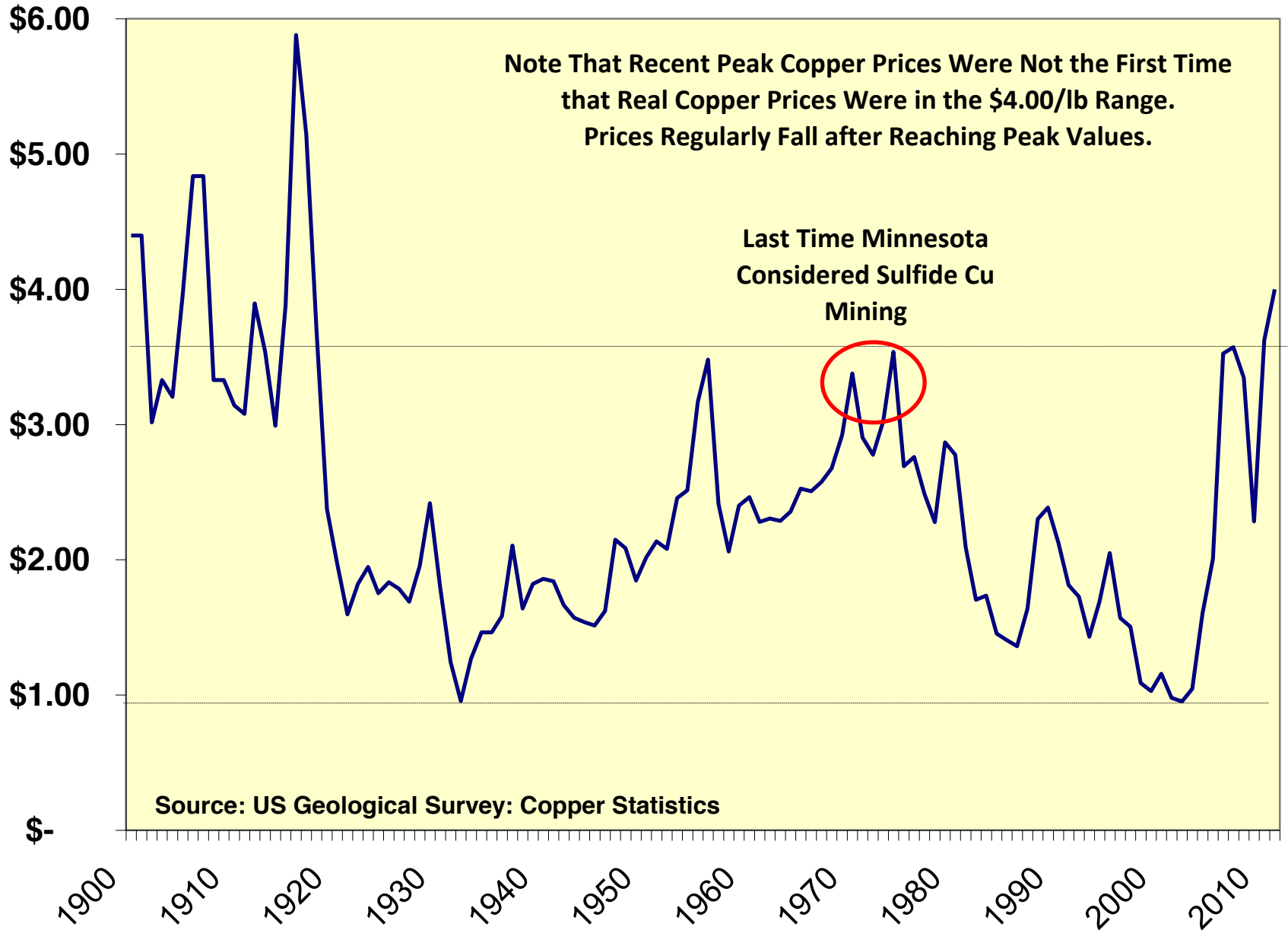


Why Aren't Mining Towns Prosperous?-1

- The Reliability and Stability of the Economic Benefits
 - Unstable, volatile mineral prices
 - Worldwide competition
 - Booms and Busts



Changes in Real Copper Prices 1900-2011

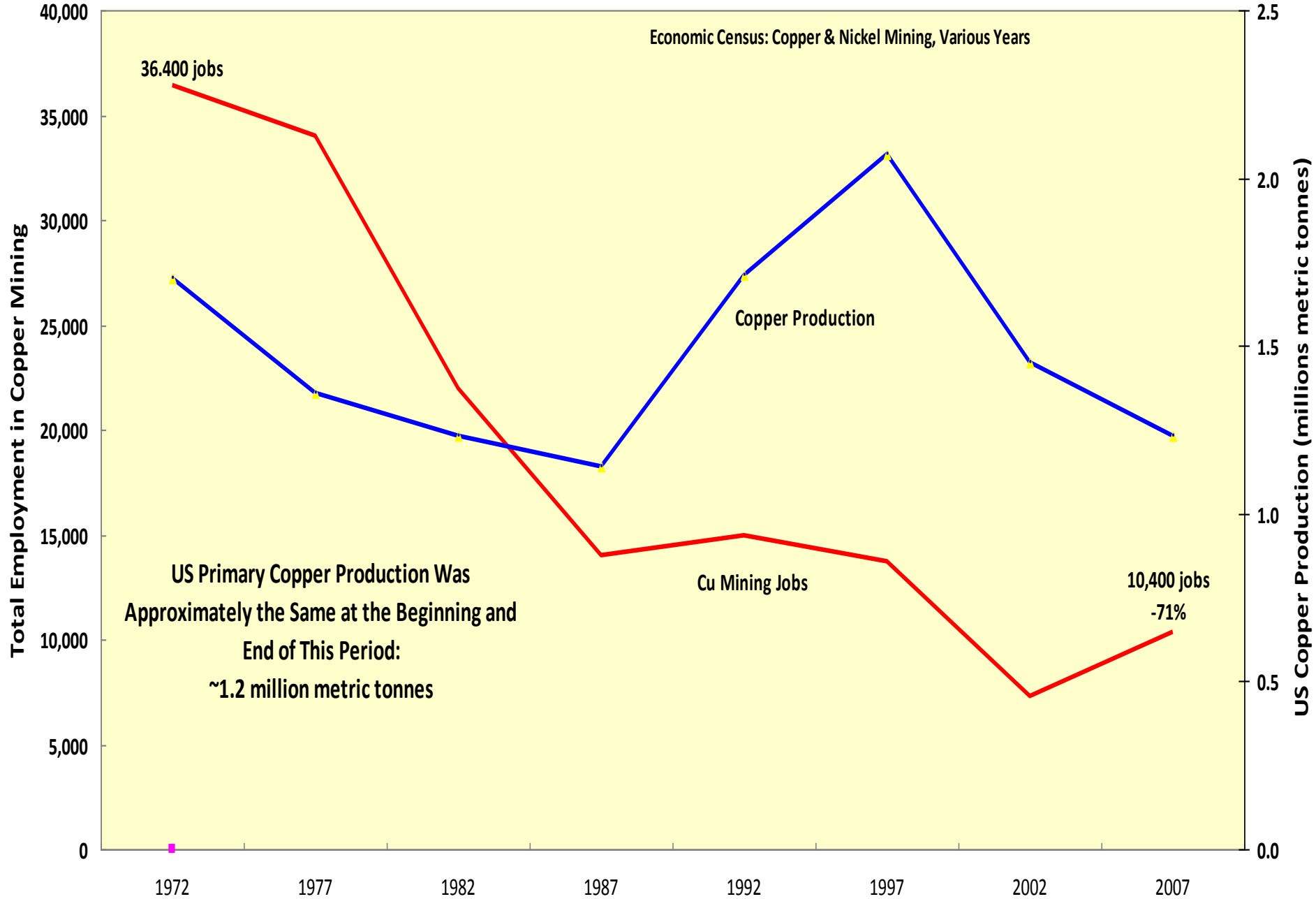


Why Aren't Mining Towns Prosperous?-2

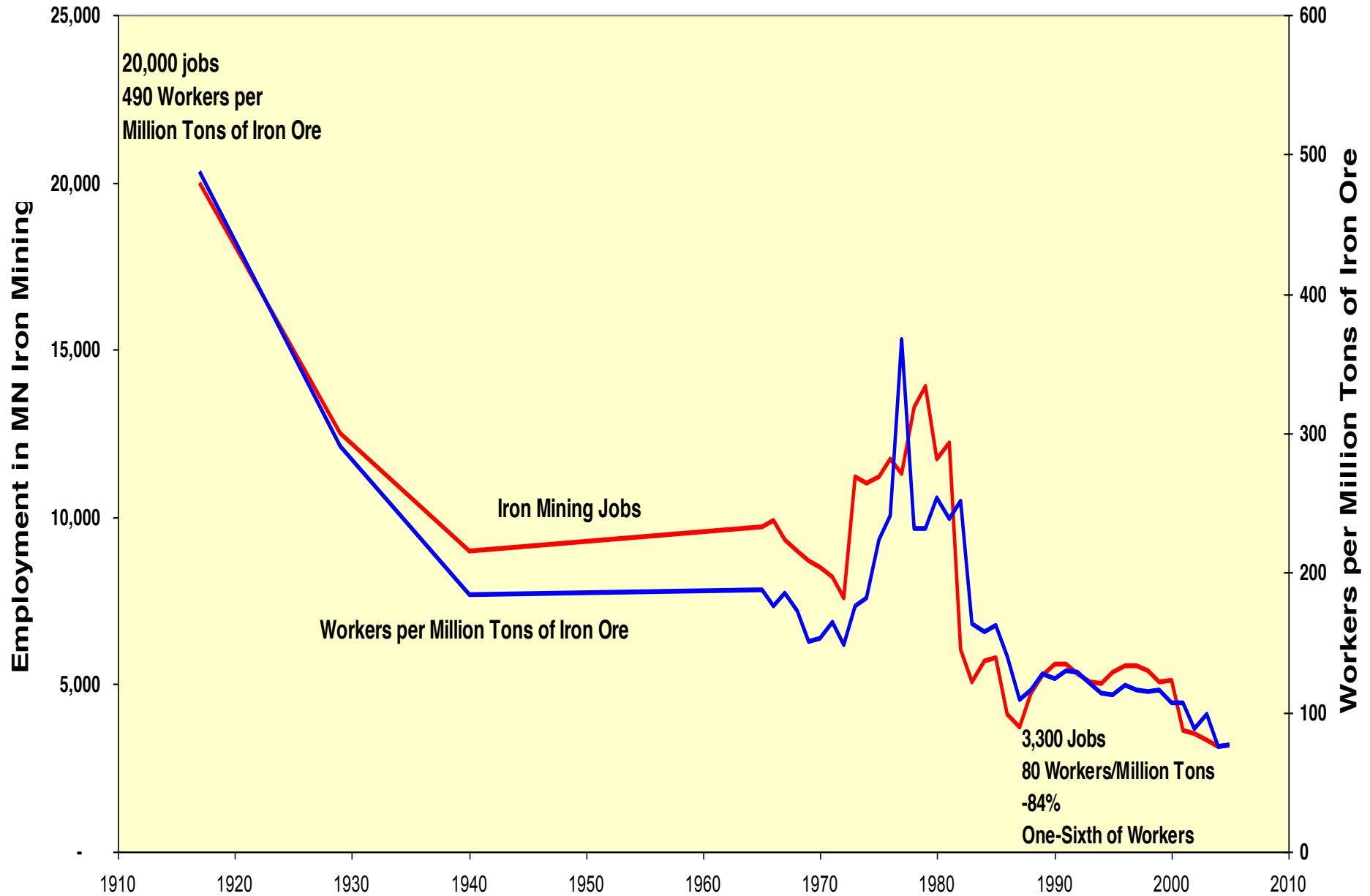
- The Deployment of Labor-Displacing Technology
 - Mining is one of the oldest human economic activities
 - That provides a long time to develop new technologies
 - One of the sources of high unemployment in mining areas
 - High wages + regular layoffs = workers remain in the local area hoping to be rehired



Production and Employment in US Copper Mining



The Impact of Labor-Displacing Technology on Minnesota Iron Mining Jobs

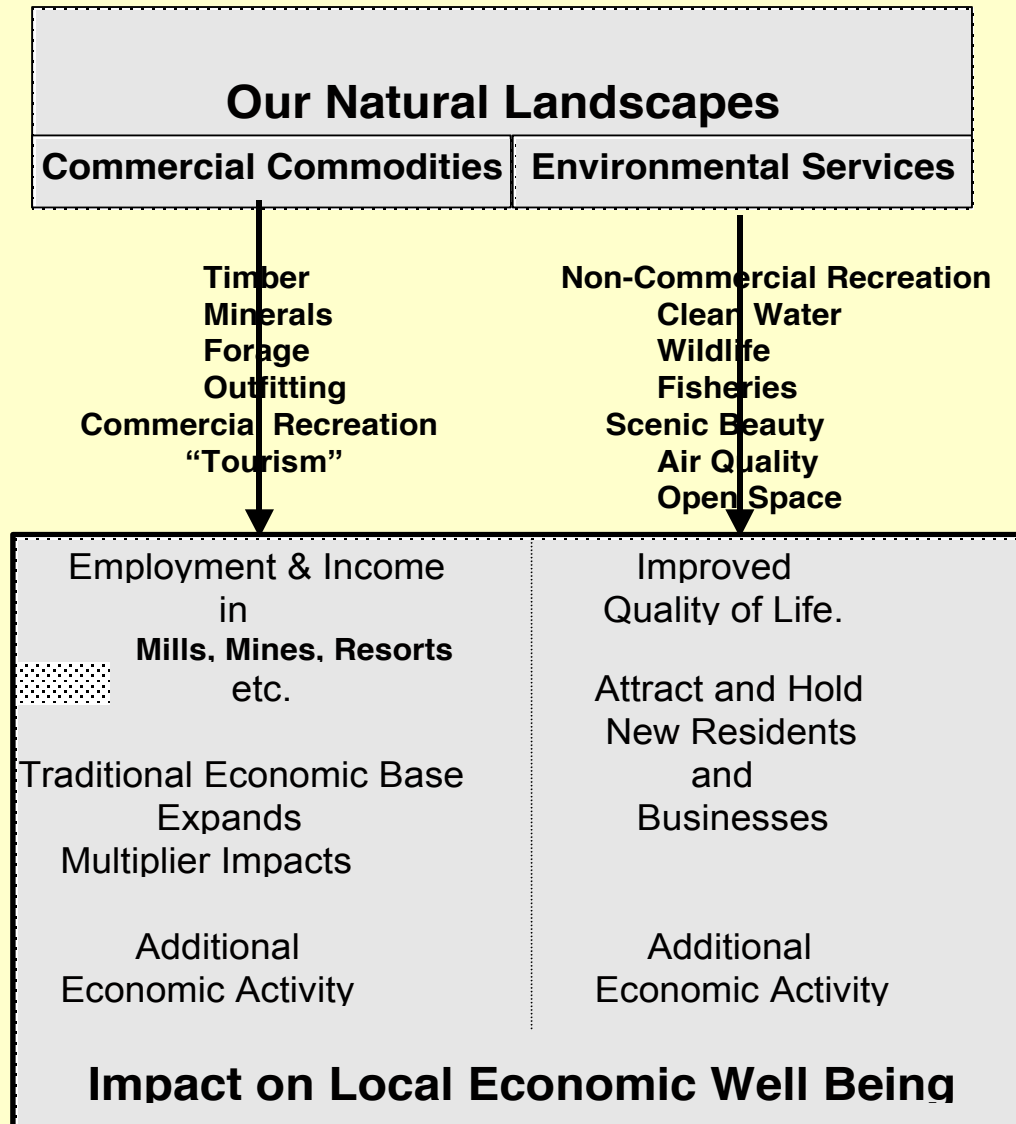


Why Aren't Mining Area's Prosperous?-3

- The Need to Account for the *Costs Too*
 - Mining is landscape intensive
 - Irreparable damage to land: open pits, waste dumps, settling ponds, etc.
 - Destruction of wetlands
 - Potential for near-permanent water pollution
 - Threats to the Lake Superior Region's World Class Landscapes and Recreation Opportunities
 - This is not just an environmental problem. It is also an ***economic*** problem.



The Changing Economic Role of Natural Landscapes

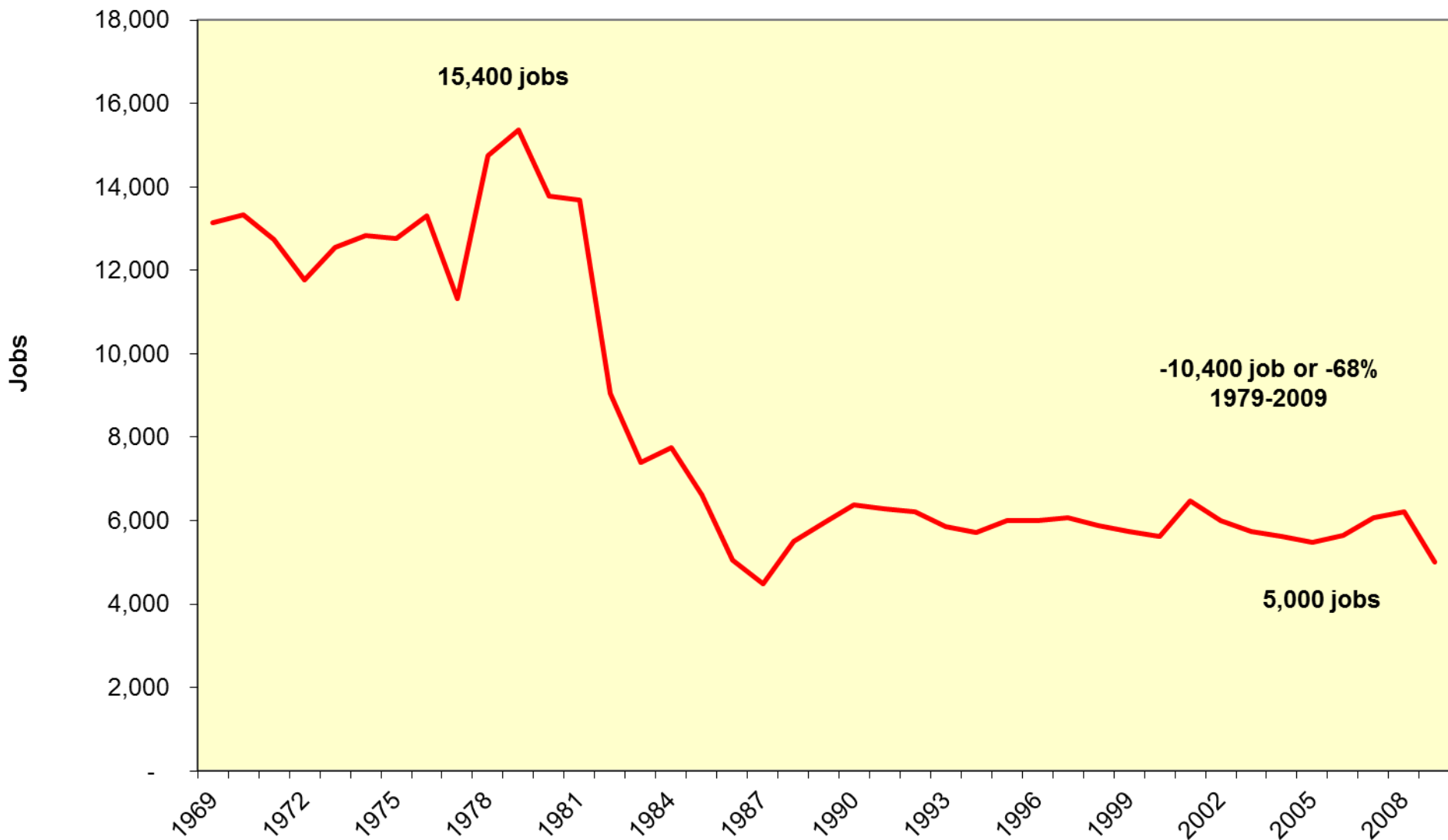


The Lake Superior Region Has Long Experience with Mining and Its Impacts

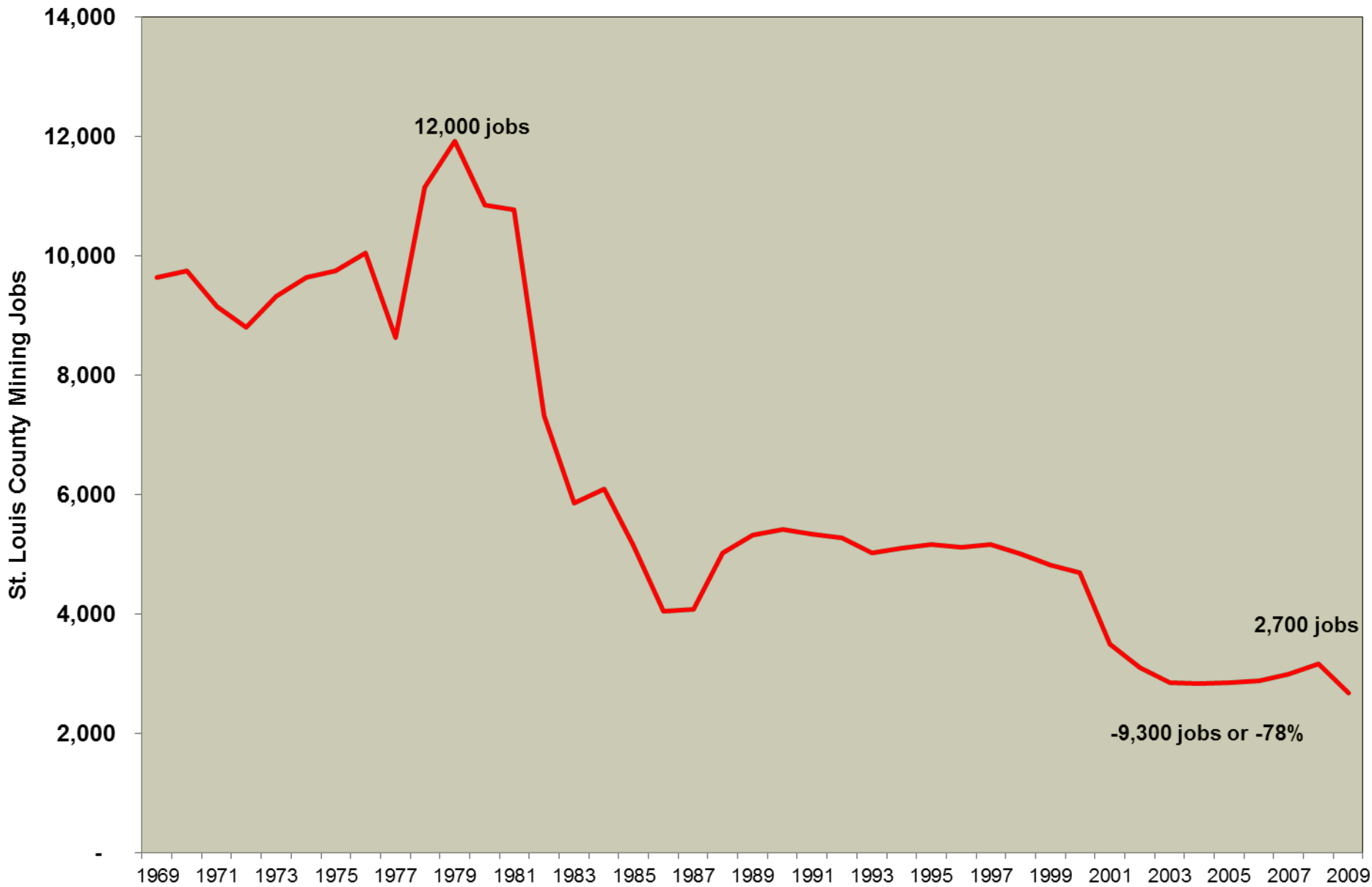
- Consider the collapse the iron and copper industries in the late 1970s and early 1980s
- What happened in the Lake Superior mining communities?
- Use St. Louis County, MN As an Example
 - The source of 75-80% of metal mining earnings in Minnesota



Metal Mining Employment in Minnesota



Mining Jobs in St. Louis County, MN



The Impact of Unstable Employment and Income in Mining

- Uncertainty about the level of employment and income.
- Reduced willingness to invest in homes, businesses, and government infrastructure:
 - Higher mine and household expenditures, tax payments, and demand for public services may be temporary.
 - Miners avoid risking the investment in a home near the mine: Live away from the mine and commute.
 - Mining wages leak out of the local economy
 - Under-Developed / “Run Down” Economy



A Framework for Weighing the Costs and Benefits of Copper Mining

- Carefully and critically evaluate the expected monetary consequences, both positive and negative.
- Carefully and critically evaluate the non-market environmental consequences
- Consider requiring mitigation measures that maximize benefits and minimize costs.
- Make an informed judgment about whether the benefits justify the remaining, unavoidable costs.




Clearly We Need to Weigh Both Benefits and Costs

- Should not just display apparent spectacular positive “benefits.”
- Mining companies regularly weigh private benefits and costs and often decide not to mine.
 - That is why Minnesota’s known copper deposits have not been developed for over a century.
- The public and government agencies need to do the same thing
 - They, too, may rationally decide not to proceed with mining when the costs exceed the benefits.



Rejecting a Particular Mine Is Not Evidence of Being Anti-Mining

- Mining companies regularly reject proposed mineral developments because costs exceed revenue expectations.
 - We will not have to go without copper if a particularly costly mine is rejected.
 - We will turn to a less costly alternative. Hundreds of copper deposits are proposed for development around the world including across North America.
- 

The Public Policy Challenge of the Proposed New Copper Mining

- How to support the ongoing revitalization of mining areas that was well underway when the current national economic meltdown struck?
- How to avoid stepping back onto the economic “roller coaster” that mining tends to create?
- How to avoid further damaging the natural environment of the Western Lake Superior Area and extending that damage to surrounding rivers, lakes, and wetlands?
- How to protect the water resources that are an important part of the current and future economic base of the Lake Superior region?



Thank You!

tom.power@mso.umt.edu

tom@powereconconsulting.com

