An Economic Overview of Nevada's Minerals Industry, 2010 - 11

John L. Dobra, Ph.D.

Natural Resource Industry Institute

University of Nevada, Reno

Cover Photo courtesy of Newmont Mining Corporation. Reclaimed waste rock facility at Mule Canyon, Lander County, Nevada.

An Economic Overview of Nevada's Minerals Industry, 2010 - 11

By

John L. Dobra, Ph.D.
Director, Natural Resource Industry Institute,
And Associate Professor of Economics,
University of Nevada, Reno

Contents

Executive Summary	1
Highlights of Nevada Mineral Production	3
2010 Industry Developments	11
Gold Prices	11
Operations	14
Exploration Activities in 2010	17
State and Local Taxes Paid in 2010	20
Precious Metals Industry Profitability	26
Outlook for Nevada's Minerals Industry	30

Executive Summary

In 2010 and the first half of 2011 Nevada's minerals industry continued to experience outstanding results in most areas In the precious metals sector, which accounts for almost 87 percent of the value of output in the industry, output declined slightly but the value of output increased substantially because of price increases. Other metals production, principally copper and molybdenite also had strong years. Industrial minerals, which are primarily tied to the construction industry, were really the only soft spot.

The driving force behind the strong performance of the precious metals sector in 2010 and the first half of 2011 was strong price performance. Gold averaged $1,225 per ounce in 2010 compared to $972 in 2009, a 26 percent year over year increase. In the first half of 2011 gold averaged $1,425 and, at the time of this writing, stands near $1,800 per ounce but has shown considerable volatility. These prices are clearly attracting investment and exploration efforts.

Similarly, silver, has had a price breakout, and now stands in the $40 per ounce range, more than quintupling its price of several years ago. Copper prices have staged a major come back to the $4 per pound range after taking a major dive when the recession hit. So, looking at the metals Nevada produces and which account for 97 percent of the value of all minerals produced in the state according to the Nevada Division of Minerals (NDOM), these price trends have been very good for the industry.

One implication of strong metals prices has been significant increases in taxes paid by the industry in 2010. Net Proceeds of Minerals taxes, a property tax on the value of minerals extracted and sold, have basically tripled over the past several years, commensurate with the increase in prices. And, this does not include prepayments of Net Proceeds taxes that resulted from the Nevada Legislature's 2009 special session. The other major tax, sales and use taxes have also increased substantially as a result of increased exploration and investment in mine development.

On the production side, according to the NDOM, gold production decreased slightly in 2010 to 5.34 million ounces from 5.64 million in 2009. The value of output, however, increased from $5.64 billion in 2009 to $6.54 billion in 2010 because of higher prices. Silver output increased slightly from 7.2 million ounces in 2009 to 7.4 million ounces in 2010, and the value of output increased to $149 million from $105 million in 2009. Copper production also increased from 145.7 million pounds in 2009 to 181.5 million pounds in 2010 with an estimated value of $621 million.

Exploration spending to discover new orebodies and expand existing orebodies as reported in the NDOM's annual survey was down almost 30 percent in 2009 compared to the previous year, and was at its lowest level since 2004. Exploration expenditures for 2010 rebounded over 90 percent to record levels.

Proven and probable reserves of gold, which represents gold in orebodies that can be profitably mined at current prices, increased to just over 80 million ounces of gold at year end 2010. This compares to over 75 million ounces in 2009 and slightly over 70 million ounces at year end 2008. This means that exploration efforts expanded reserves to replace

the 5.34 million ounces that were mined in 2010 and found an additional five million ounces. This level of reserves implies that current levels of production could be maintained for almost 15 years at current prices even if no new orebodies were discovered. There are enough promising development projects across the state, however, to suggest that it is highly likely that new reserves will be added in the future.

Other positive news from 2010 is that corporate reports from gold producers operating in the state showed that for the second straight year, total cash costs of production fell. Weighted average total cash costs, which do not include non-cash items such as depreciation, fell in 2010 to $503 per ounce from $508 in 2009. The primary reasons for the decrease are because of lower cost of operations at at some of the larger mines such as Barrick's Cortez Hills mine in Lander County, and improved efficiencies at Barrick's Goldstrike mine on the Carlin Trend and Newmont's Carlin Trend operations and the Phoenix mine in Lander County.

The outlook for the industry in the balance of 2011 and going forward have to be viewed favorably in light of gold prices, lower costs and promising developments across the state. These developing projects are in various stages from exploration to permitting to development to expansions, and stretch from near the Utah to the California borders. Some of the more well publicized projects include:

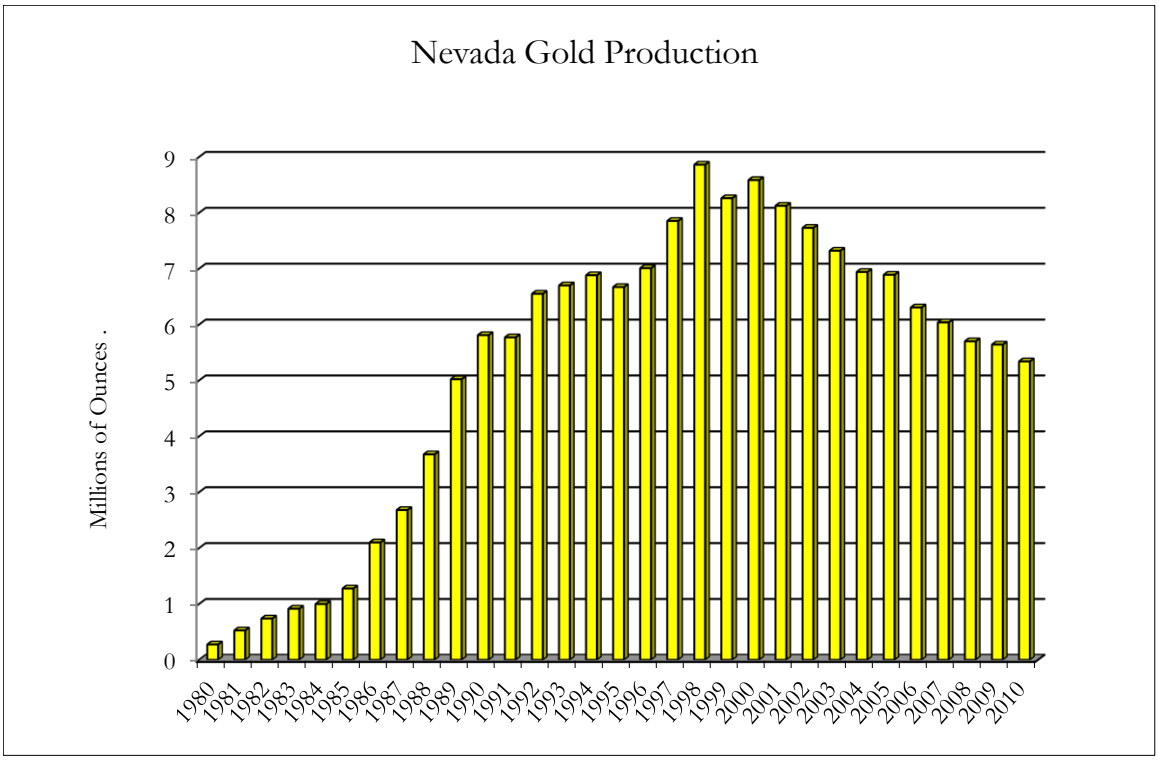
- The Long Valley project southeast of Wells which was acquired by Newmont in 2011,
- The Newmont's Genesis project on the Carlin Trend, the Cortez Hills project mentioned above,
- The Marigold Mine expansion west of Battle Mountain,
- The reopening of the Coeur-Rochester mine in Pershing County,
- The reopening of the Hycroft mine west of Winnemucca,
- The permitting process of the Nevada Copper Pumpkin Hollow project near Yerington.
- Also worthy of note is the exploration success of Great Basin Gold's Hollister mine near Tuscarora in Elko County which has discovered Bonanza grade ore.

The success of these and other projects would suggest a bright outlook for the industry and this portion of Nevada's economy. On the other hand, economic recovery will be needed to revive other sectors of the minerals industry.

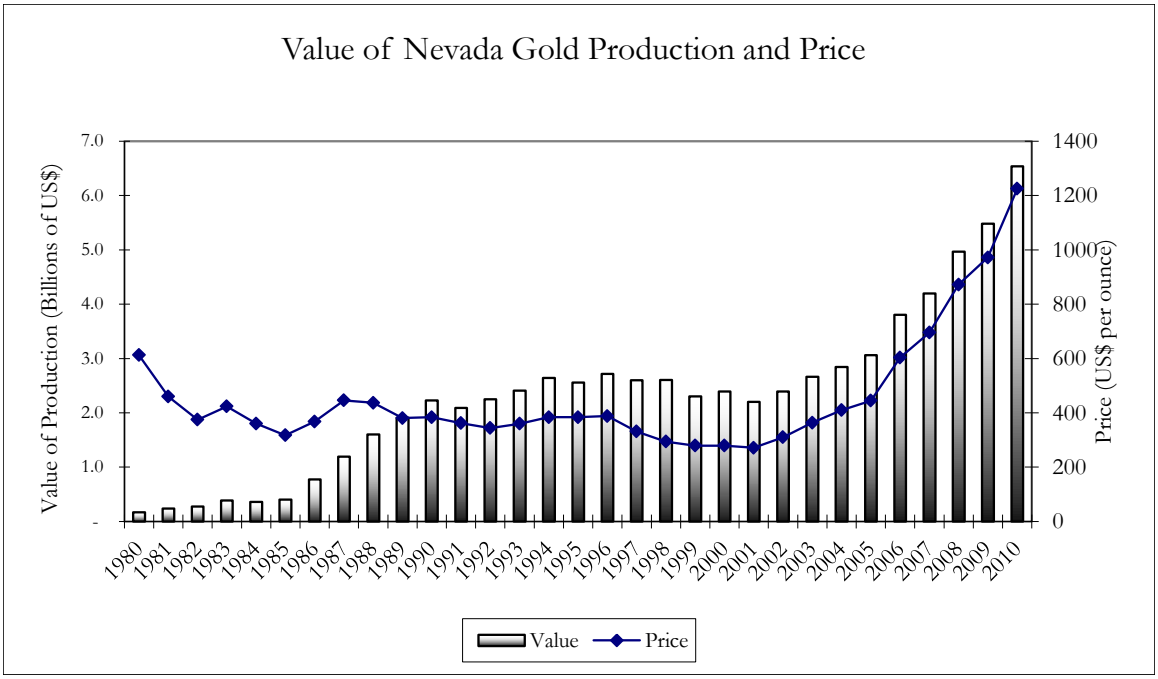
Beyond the metals and industrial minerals sector, geothermal energy production provides an example of a sector of the minerals industry with significant growth potential. Northern Nevada contains one of the largest geothermal fields in North America. The result of exploration and investment has been the development of energy production, equipment manufacturing and geotechnical services.

HIGHLIGHTS OF NEVADA MINERAL PRODUCTION

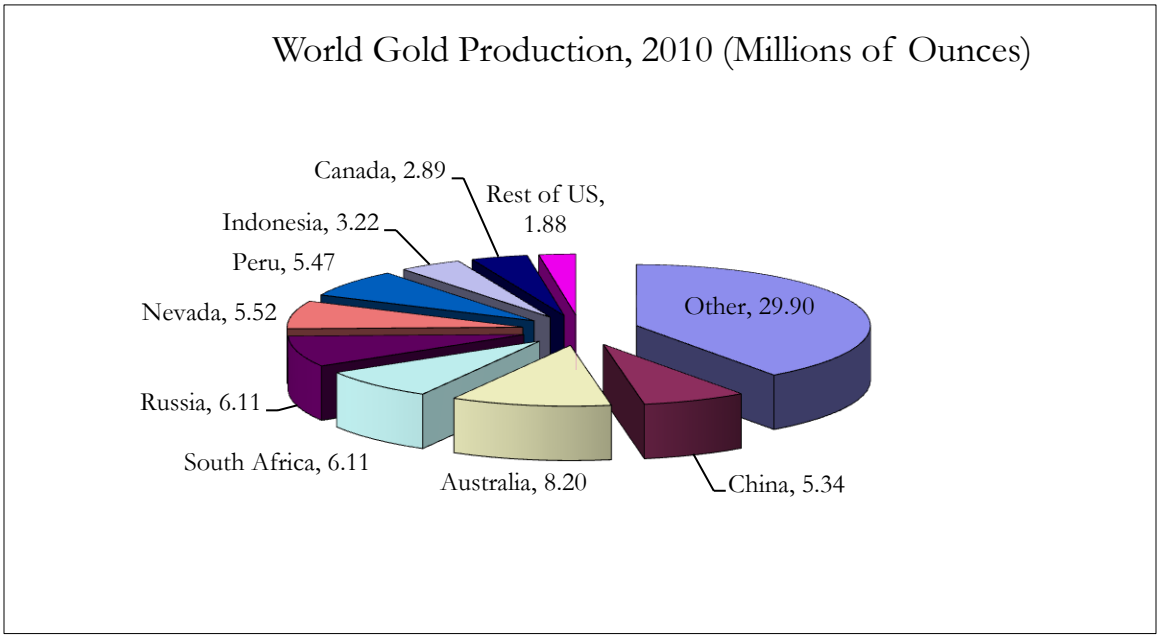
GOLD



- Nevada operators produced 5.34 million ounces of gold in 2010, down slightly from 5.64 million in 2009. In spite of the decrease in output for the ninth consecutive year, as the graph above indicates, the value of output increased because of higher prices. The average price in 2010 was $1,225 per ounce compared to $972 in 2009. Through the first half of 2011 the price even broke the $1,800 level based primarily the sovereign debt crisis in Europe and the U.S.
- Nevada's production declined for the ninth straight year because higher prices allow operators to process lower grades of ore with more or less fixed production facilities. While lower production levels may seem like bad news in the short term, in the long run it extends the life of ore bodies and enhances the sustainability of the industry.
- Nevada gold production accounted for over 79 percent of total US production and approximately 6.8 percent of world production.



- As a result of this decline in production and increases in production in other countries, Nevada's rank in world production is the fifth behind China, South Africa, Australia, Russia, and Peru.[1]

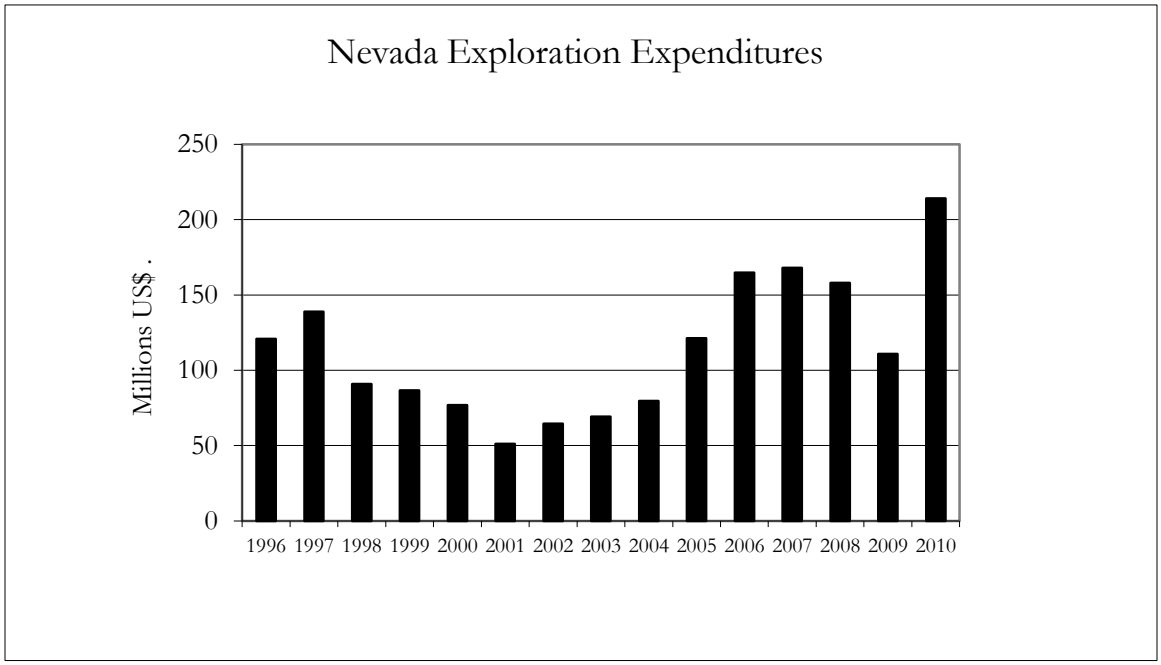


Source: U.S. Geological Survey (USGS)

[1] Note that there is a small discrepancy between USGS estimates used in the graph and the Nevada Division of Minerals estimates cited above.

- The NDOM reports over 20 major gold/silver mines in Nevada although several of these (e.g. McCoy/Cove, and Denton-Rawhide) are closed or operating at reduced levels (e.g. the Rain Mine, Trenton Canyon Mine). In addition, a number of these "operations" have multiple points of extraction, that is, actually consist of several "mines". Consequently, citing the actual number of mines is somewhat misleading. In any event, because of development activities, the number of mines is fluid.

- The NDOM annual exploration survey showed that exploration expenditures by operators reporting increased significantly in 2010 to $214.1 million compared to $110 million in 2009, a 93 percent increase. This is the highest level of exploration spending reported by NDOM since it began its surveys in the mid 1990's.



Source: Nevada Division of Minerals

- In large part because of higher prices, which allows materials previously considered waste to be reclassified as ore, reported proven and probable gold reserves, which is ore that can be produced profitably with a high degree of likelihood, increased to 75 million ounces in 2009 and another 5 million ounces in 2010 to over 80 million ounces. This compares to 70 million ounces in 2008. This means that producers replaced the 5.6 million ounces mined in 2010 and found an additional 5 million ounces. 80 million ounces is sufficient to maintain production at current levels for an additional 15 years.

OTHER 2010 MINERAL PRODUCTION

COPPER

- Because of renewed production at Quadra Mining's Robinson mine near Ely and Newmont Mining's Phoenix Mine near Battle Mountain, copper production is once again a significant contributor to minerals industry output. Copper is the second most important mineral produced in terms of the value of output, although only a little more than one tenth the value of gold production.
- 2010 copper production was 181.5 million pounds, up from 146 million pounds in 2009. The gross proceeds from copper production reported by the NDOM was $620.7 million.

SILVER

- Nevada silver production in 2010 was approximately the same as in 2009 at 7.2 million ounces. These levels, however, are down significantly from the levels seen in the late 1990's due to the closure of several large silver producing mines. The planned restart of the Coeur-Rochester mine near Lovelock in 2012 is likely to reverse this trend.
- Silver prices have risen significantly in the past several years and averaged $20.19 per ounce in 2010, and have risen to over $40 per ounce in 2011.
- Because of significantly higher prices in 2010, the calculated value of 2010 silver production rose from $105.6 million in 2009 to $145.3 million in 2010.

GEOTHERMAL ENERGY

- Geothermal energy also provided domestic, public and commercial heating in several parts of the state. Geothermal electric production came from 15 plants at 12 different sites, and is sufficient to provide electrical energy for approximately 75,000 typical homes.
- The Nevada Department of Taxation reports that geothermal producers generated over $145.3 million in gross proceeds in 2010 compared to $110.8 million in 2009, and $95 million in 2008, making it the fourth largest mineral category in the state.

- Because geothermal energy is a renewable and non-carbon dioxide producing energy source it is receiving favorable treatment and encouragement from federal and state regulators, this portion of the industry appears to have significant growth potential.

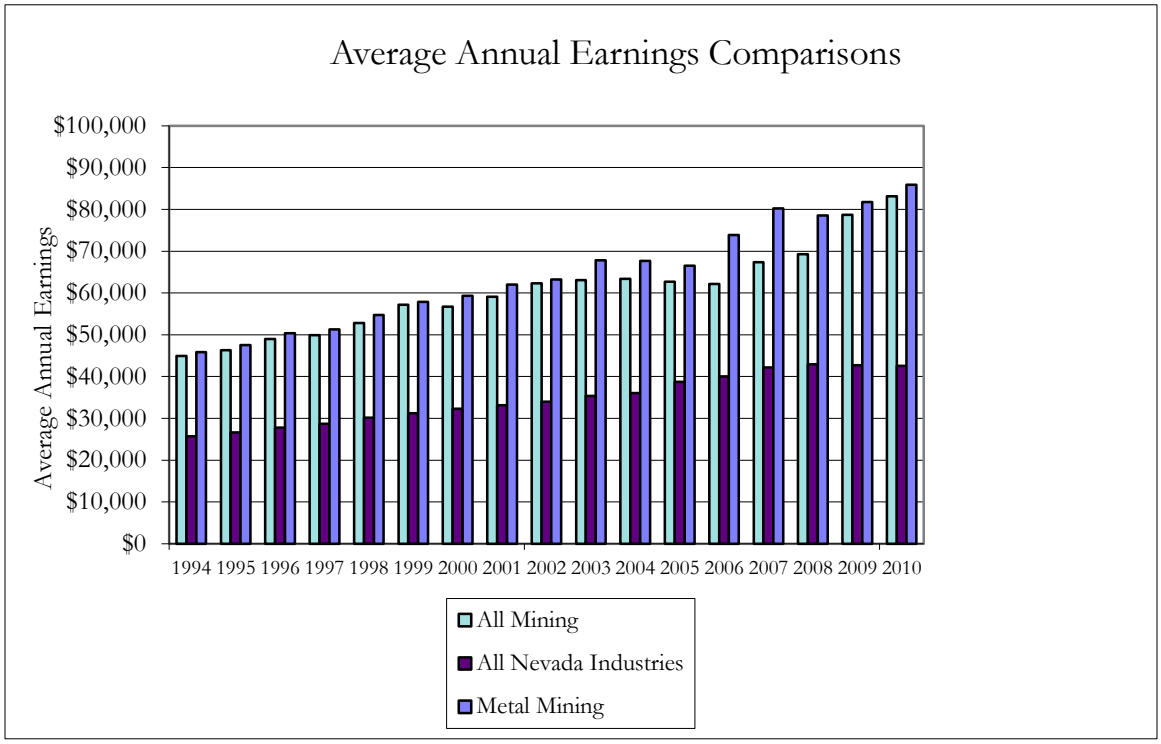
OTHER MINERALS

- Nevada mines also produced numerous other minerals including aggregates, barite, diatomite, dolomite, gypsum, limestone, lithium carbonate, molybdenum, magnesium oxide, perlite, precious opals, salt, silica sand, and specialty clays.

- The gross proceeds from the production of these other minerals is an estimated $223 million, which is up significantly from the previous year, although lower than years before the economic recession.

MINING EMPLOYMENT AND PAYROLLS[2]

2010 Average Direct Employment	*12,210 jobs*
2009	*11,609*
2008	*14,600*
2010 Payrolls	*$1.02 Billion*
2009	*$913 Million*
2008	*$1.01 Billion*
2010 Average earnings for Metal Mining	*85,907/year*
2009	*$81,755*
2008	*$78,567*
2010 Average earnings for All Mining	*$83,176/year*
2009	*$78,727*
2008	*$69,313*
2010 Average earnings in All Industries Statewide	*$42,536/year*
2009	*$42,746*



[2] Nevada Department of Employment, Training and Rehabilitation.

ECONOMIC IMPACTS OF MINING

For the purpose of estimating Gross State Product (GSP) and impact multipliers, i.e., the total number of jobs, total state output, and state household income, the U.S. Department of Commerce breaks down the industry into two components: value added from mining, and the value of mining services. The summaries of employment, output and household income impacts below combine these two categories, while the table below separates the two sectors.

- Between mining and mining services, mining increased state output by approximately $12.3 billion in 2010 compared to $10billion in 2009 including both direct and indirect impacts.

- Generated more than 63,900 total jobs in Nevada in mining and industries supplying goods and services to the industry.

- Contributed almost $3 billion to Nevadans' personal incomes in 2010.

- Economic impacts derive both from mining and, to an almost equal extent, support services of contractors and suppliers. Below is a breakdown of impacts from these sources from the U.S. Department of Commerce:

VALUE ADDED TO GROSS STATE PRODUCT		EMPLOYMENT	OUTPUT (Millions)	HOUSEHOLD INCOME (Millions)
MINING	3,807	21,204	5,649.3	1,185.5
MINING SERVICES	3,732	42,701	6,692.0	1,768.1
	7,539	63,905	12,341.3	2,953.6
Implied Jobs Multiplier*		5.23		

* The ratio of total jobs created to direct mining jobs.

TAXES PAID BY NEVADA MINING

Estimated Direct Taxes Paid by the Mining Industry 2007- 2010 ($1,000)[4]

	2008	2009	2010
Net Proceeds of Mines Tax			
County Portion	$ 42,335	$ 46,415	$ 81,964
State General Fund	$ 49,491	$ 51,162	$ 81,030
Total NPOM Tax	$ 91,856	$ 97,578	$ 163,994
Sales & Use Tax	$ 95,783	$ 69,389	$ 108,629
Property Tax	$ 32,000	$ 33,000	$ 35,000
Modified Business Tax	$ 4,000	$ 3,700	$ 7,387
Total	$ 223,609	$ 203,967	$ 314,010

(Source: Nevada Department of Taxation and industry surveys)

[4] Nevada Department of Taxation and industry surveys.

NEVADA MINING: A REVIEW AND OUTLOOK

2010 INDUSTRY DEVELOPMENTS

GOLD PRICES

Since gold production accounts for almost 88 percent of the value of state mineral production, the most salient issue for the industry is the price of gold. Gold is sold in a global, highly efficient market that is open and accessible to investors and traders almost 24 hours a day. As the graph below illustrates, gold has had quite a ride over the past few years. After languishing in the $250 to $400 per ounce range throughout the 1990's, prices broke out of that range in 2002.

Conventional wisdom holds that gold prices increase because of catastrophes, political uncertainties and wars. While these kinds of events do have some short term impact, a look at the graph above and more extensive analysis does not bear this out. For example, the terror attacks of September 11, 2001 barely caused a bump in the gold price and the price quickly came back down. This left market observers asking "If this can't push gold over $300, what can?" The price of gold rose prior to the invasion of Kuwait in 1991 and Iraq in 2003, but quickly retreated.

A far more powerful explanation of gold price trends can be found in fundamental market factors. For example, gold prices clearly move inversely to the value of the U.S. dollar because gold is priced worldwide in dollars. Hence, as long as other things are equal, a rise in the purchasing power of the dollar relative to other currencies will cause a proportional fall in the price of gold. There is no real mystery to this relationship but, of course other things never really remain equal.

The major change in 2010 and the first half of 2011 compared to the previous five years came in mid 2008 when the dramatic climb in the price of oil collapsed because the worldwide financial crisis and the onset of the deepest recession since the early 1980's. The other factor was a slight strengthening of the U.S. dollar, reversing the trend of most of the post 2000 period. From 2002 until mid 2008 the price of gold was closely linked to oil and the dollar. Gold prices rose with higher oil prices and fell with higher dollar values. Then, in mid 2008, oil prices fell from $140 per barrel to the mid $40 range and the dollar strengthened. Past trends would have suggested these events would weaken gold prices, but the price held in the mid $900 per ounce range. Gold had come to be viewed as a "safe haven".

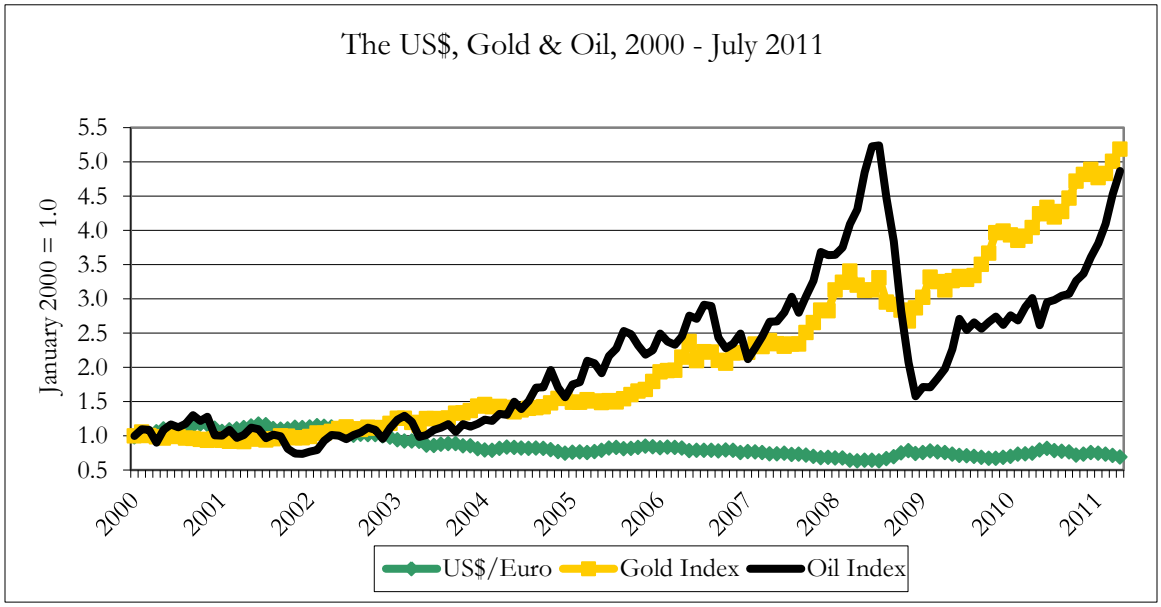
In late 2008 and early 2009 increasing U.S. dollar weakness has led to a number of countries to call for a new currency that could be used in international trade. Currently, the vast majority of international transactions – even those not involving U.S. companies or banks – are denominated in U.S. dollars and dollar weakness has caused unease among the world's largest trading countries. The main proponents of an alternative currency have been China, Russia, and several Middle Eastern countries. The outlines of such a system have not been worked out but the rumors in financial circles generally involve some kind of gold backed financial instrument. Whatever may or may not happen, this dissatisfaction with the dollar has further spurred speculative and investment demand for gold. And, in 2010 and the first half of 2011, this trend has strengthened. Both the Chinese and Russian central banks increased their exposure to gold, helping increase the price.

A more recent, and perhaps, stronger factor at work in the demand for gold has been the recent financial crisis created by European sovereign debt. Many refer to the "PIGS" (Portugal, Italy, Greece and Spain), but the problem is more widespread. This situation has led banks' increased interested in holding gold as a reserve asset versus government bonds.

In recent editions of this annual report we have highlighted the relationship between oil prices and gold. Middle Eastern countries that produce oil are also major consumers of gold for investment and other purposes. The reasons for this are cultural, historical and financial. The past two years have seen a break in the oil – gold relationship.

The world's other major consumer of gold, India, views gold in a very similar way as citizens of Middle Eastern countries, and rising prosperity on the subcontinent also increases the demand for physical gold. The same is true of China, which has liberalized rules allowing private citizens to purchase and hold gold. All of this points to increasing demand for physical gold from the two most populous nations on earth.

Another significant factor in gold demand recently has been increased investment demand in the west. This investment has been facilitated by the innovation of Exchange Traded Funds, or ETFs. These funds buy physical gold, hold it, and sell shares in the fund to individual and institutional investors. These ETFs make it much easier for investors to participate in gold markets.



Finally, during the late 1990's when world stock markets were booming, it is no coincidence that gold prices were weak. European central banks were selling off their gold reserves and lending gold at near zero interest rates. Many investors were engaged in the "gold carry trade": borrowing gold to sell and buying stocks and bonds aided by the liquidity provided to the world's gold markets by European central banks. This put additional downward pressure on gold prices. Clearly, during this period, gold was not a good investment.

Since the fall of 2008, the situation has reversed and gold has become a much more attractive investment vehicle. World stock markets have lost significant percentages of their value. Recent U.S. and other government stimulus packages and Federal Reserve increases in the money supply have raised market fears of inflation which has also increased investment demand for gold. In addition, the Federal Reserve, the European Central Bank, and other central banks have held interest rates at historically low levels. Combined with the liquidity provided by central banks, low interest rates reduce the opportunity costs of holding gold, i.e., interest lost on alternative financial assets. Hence, the current financial environment is very favorable for gold.

OPERATIONS

Mining operations consist of five distinct activities: exploration, permitting, development, extraction or mining, and reclamation. In a simplistic view, these activities occur in the order listed above, however, in reality they generally occur simultaneously.

Permits from state and federal regulatory agencies are required for each stage of the process although initially, permits are generally only sought for exploration. Part of this permitting process involves providing financial assurance that land disturbances caused by operations will be reclaimed.

While the permitting process is essential for protecting public lands and the environment in general, and the industry is generally in compliance with all regulations, the process has become increasingly lengthy over time. During the 1980's it was possible, although not common, to get operating permits in under two years. Recent experience has been much different. Two recent relatively large development projects, Newmont's Phoenix project in Lander County and Barrick's Cortez Hills project took eight to ten years. The problem is exacerbated by the fact that even after permits are obtained, operators frequently face lawsuits over various aspects of the permitting process that can cause further delays. These lengthy permitting and legal processes are the primary reasons that employment in the industry has increased so little during a period of rising prices when it should be increasing robustly.

The definition of a "mine" is a bit fluid. Currently, there are approximately 25 active gold and silver operations listed by the NDOM. However, since some of these operations involve multiple points of extraction, or "mines", where multiple mines feed common processing facilities, it is more accurate to talk about operations than mines. The NDOT lists 24 gold/silver operations. There are a number of mines that are currently closed but where prospective operators are in some stage of feasibility study or permitting to reopen them and there are also a number of mines in the

development phase. Other operations may be processing previously mined materials while no mining, or extraction, is occurring.

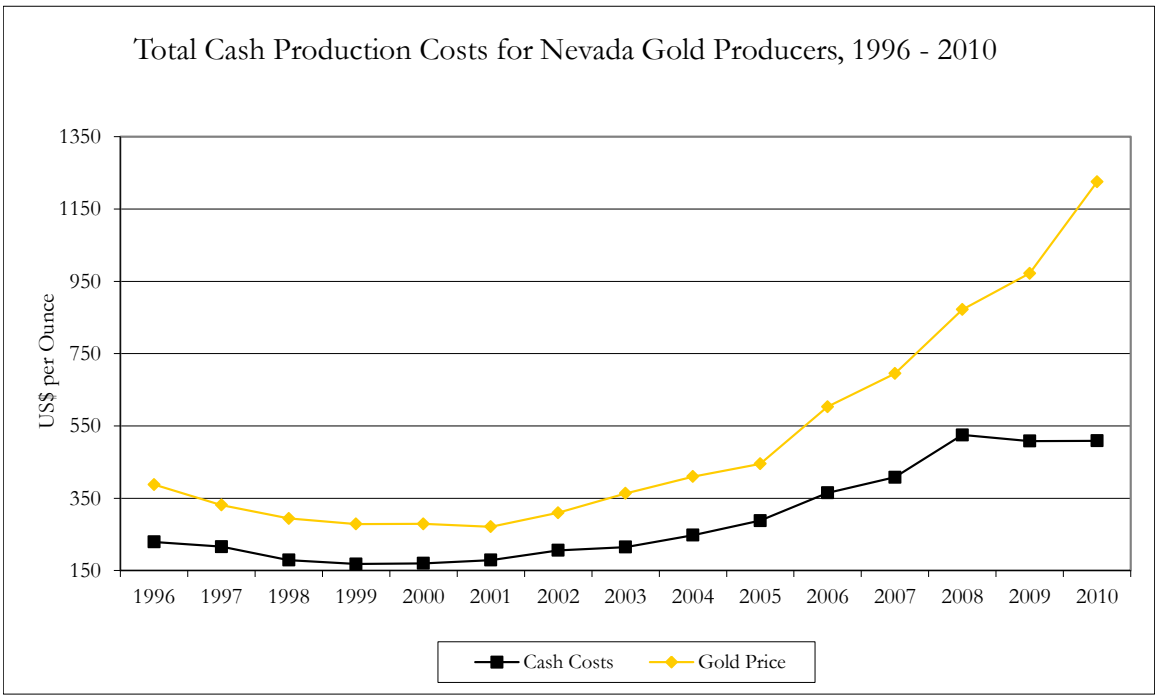
And, although metal mines are the primary focus here because of their economic impacts, there are also about two dozen non-metal mines, primarily industrial minerals. Add a half dozen oil fields, and a dozen geothermal plants, which are also extracting minerals, and there are many other mineral extraction operations in the state.

As noted above, gold production fell because higher prices allowed operators to process lower grade ores. The cost of production for operations is determined by factors such as the grade of the ore processed, the amount of waste rock that has to be moved to get at the ore commonly referred to as the "stripping ratio", the processing methods used, whether the mines are surface or underground, etc. All of these factors will generally be unique to each operation and, consequently, different operations will have different costs of production.

A consequence of low gold and silver prices during the late 1990's and early 2000's was that operators made concerted efforts to reduce their production costs. As prices have risen in the past 9 years, operators have been able to expand their reserves and process lower grade materials. In many cases this has involved processing materials, i.e., ore that was previously considered "waste" rock, i.e., materials that are uneconomic to mine and process. Mining and processing these lower grade materials, however, have caused costs to rise. Other factors contributing to rising production costs at Nevada mines during the first half of 2008 in particular, has been significant increases in fuel and energy costs, as well as the cost of steel, labor, and equipment. In 2009 energy and other costs declined for the first time in the past decade, reducing total cash costs. In the case of electricity costs, Barrick and Newmont have mitigated rising costs by building their own power plants. And, it should be noted, the worldwide slowdown in the world economy, and particularly the base metal mining industry, shortages of equipment and supplies that plagued the industry in recent years have eased.

Mining costs are generally referred to as *"total cash costs"* and *"total costs." Total cash costs* refer to costs that vary with production and include payrolls, electric power, fuel, chemicals, production taxes, etc. They are costs that producers must pay to stay in operation. They are referred to as "total" cash costs because they include taxes and royalties which are not really costs of production but nonetheless have to be paid to operate legally. Prices above a producer's total cash costs, but below total production costs, merely allow the producer to maintain a positive cash flow, however, a price equal to a producer's cash cost does not allow it to recover any of its investment or earn a profit. *Total costs* include total cash costs but also include non-cash costs such as depreciation of capital plant, equipment, and debt service. Some producers do not report total costs so they are not included in this report because of the lack of data.

It should also be noted that the profitability of operations illustrated on the graph below does not necessarily bear any relationship to the profitability of the corporations that own these operations that can be found in annual financial reports. The costs on the graph below only represent the cost of producing gold at these operations and generally do not include funds spent in exploration to find new reserves or, for example as noted above, the cost to Newmont and Barrick to construct power plants which will lower their costs in the future. Also not included in the costs above are the costs for in house experts, research and development, consultants and lawyers that are needed for the permitting process.



Overall, the weighted average total cash cost of operations at Nevada gold mines fell from $525 in 2008 to $508 per ounce in 2009 and to $503 in 2010. As an indication of longer term changes in operating costs in the industry, since 2001 the weighted average total cash costs increased 188 percent from $182 to $525 per ounce. However, over the same period the average price increased by 322 percent, so on average at least, the industry is in far better shape from an operations standpoint than in 2001.

In previous years the *Economic Overview* highlighted some of details of the cost increases hitting the industry. The increases in fuel and energy have been noted but are only a small part of the picture. Costs for steel, equipment, tires, chemicals, transportation, etc. all were up 30 to 60 percent. The economic downturn in late 2008 and 2009 has reversed this trend creating cost savings.

Mining is notorious for being a cyclical business. During the years of declining prices from 1996 to 2001 operators made many efforts to cut their costs to stay in business. From 1996 to 1999 weighted average total cash production costs went from $229 to $168 per ounce, a decrease of 27 percent. These cost reductions were achieved by various means such as delaying or reducing development, exploration projects, and when possible, purchases of new equipment. In addition, when possible, operators stockpiled lower grade materials rather than processing them. Operators tried to preserve their workforces by getting rid of contractors and letting their own employees do what the contractors were doing which also cut costs. Even with these kinds of efforts mining employment still fell by thousands of workers. What we have experienced since 2002 has been a reversal of this process.

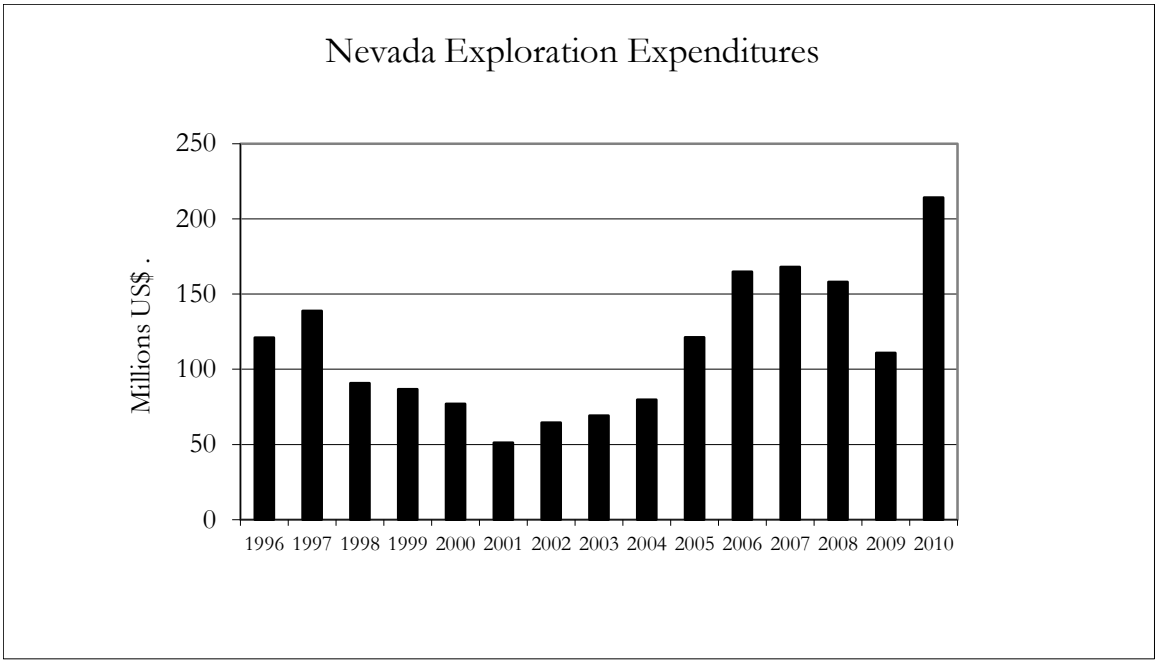
As apparent from the graph above, the rapid increase in gold prices in the past several years has broken the trend of the last decade where costs tracked fairly close to prices. As prices have increased rapidly because of world financial issues discussed above, operators have not been able to expand operations, i.e., hire workers, buy equipment, and acquire operating permits, that would presumably increase their costs. If prices stay at their current levels, however, I would expect costs to rise up to the price curve consistent with the long run trend.

EXPLORATION ACTIVITIES IN 2010

In 2010 exploration activity in Nevada reversed a 2-year downward trend and increased from $111 million spent on exploration in 2009 to $214 million, a 93 percent increase. This was the highest level of exploration expenditures recorded since the survey was started in the mid 1990's.

This increase is clearly due to the large increase in gold prices seen in the last two years. And, it should be noted that the figure probably underestimates exploration expenditures because the Division must rely on voluntary reporting and tends to get most of its responses from larger companies and mineral exploration tends to attract a relatively large number of smaller companies.

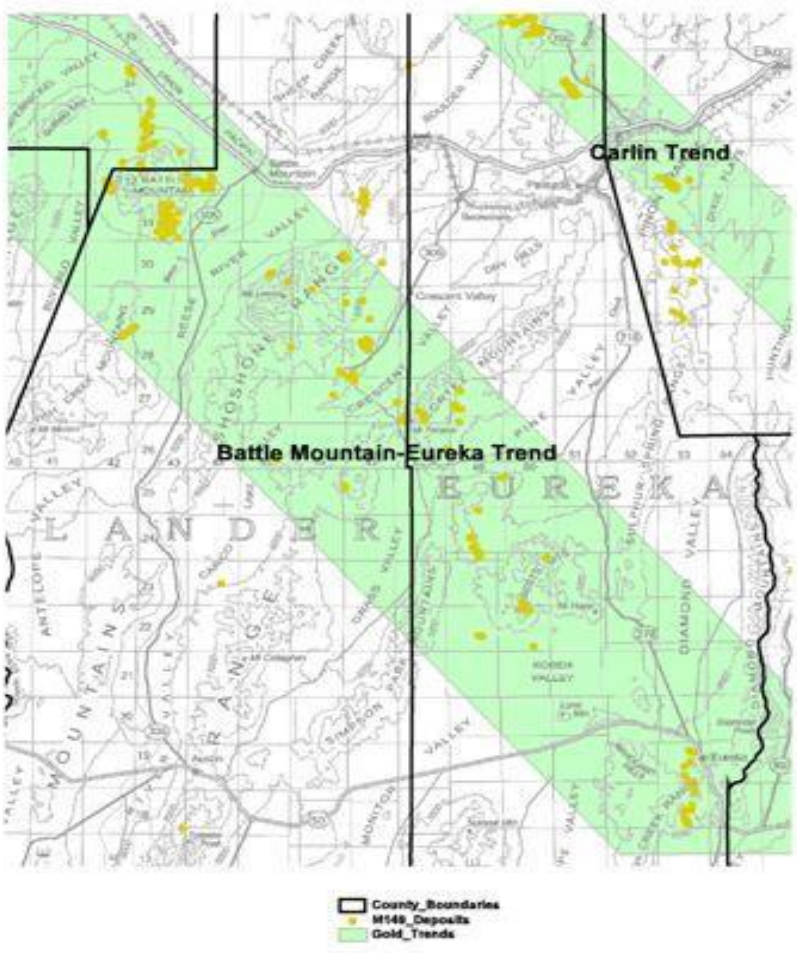
Press releases from industry sources clearly indicate that "junior" exploration companies are very active in Nevada, so the survey clearly misses a lot of exploration activity. On the other hand, the larger companies that respond probably spend the bulk of the money on exploration.



During the period of low prices at the end of the 1990's mining claims held in Nevada recorded with the Bureau of Land Management had fallen to under 100,000 from levels over two hundred thousand in the previous decade. Part of this decline was no doubt the result of a claim holding fee instituted in 1993 that resulted in many unpatented claims being dropped. More recently, however, the number of unpatented claims has rebounded strongly.

In 2009 the Nevada Legislature instituted a significant one-time fee on mining claims. This is probably a major factor in the 14 percent decline in mining claims held compared to 2008. In 2011 the Nevada Supreme Court ruled the fee unconstitutional and ordered refunds. Nonetheless, claimholders were required to file for refunds, and re – stake claims, causing a disruption in this segment of the industry.

Most exploration activity is occurring in the general areas of the Carlin and Battle Mountain Trends since these are proven areas of gold mineralization. The Carlin Trend basically extends from Carlin on Interstate 80 northwest to Midas and south into White Pine County, although most mining activity is at the southern end of that extension. The Battle Mountain Trend, also sometimes called the Cortez Trend, extends from north of Valmy on Interstate 80 southeast to Eureka. These trends are shown on the map below.



However, in 2009 and 2010 there has been considerable exploration activity outside of these trends. Well funded exploration programs are underway from near the Utah border to the California border. The Pequop mountain area between Wells and Wendover is getting serious attention from several companies. Exploration is underway at the Hycroft mine west of Winnemucca in an effort to restart the mine. And there is serious exploration activity near Yerington in the western part of the state in an effort to start a new copper mine.

The record shows that this exploration has paid off for companies pursuing gold in Nevada. At year end 2009 statewide proven and probable reserves were 75 million ounces – enough reserves to maintain current levels of production for over 13 years. At year end 2010 gold reserves had increased to just of 80 million ounces – enough to sustain current production levels for 15 years. Part of this increase was no doubt the result of reclassifying known "resources" because of higher prices, that is, material that was known to exist but could not be profitably mined at lower prices, as "reserves" because they can be mined at today's higher prices.

Some question these reserve estimates because it seems that they never change. There are actually a number of reasonable explanations for this phenomenon. Undoubtedly, geologists would probably like to find all the gold in Nevada, and equally undoubtedly mining engineers would like to build a mine to get it all. But in reality, it does not work that way.

Before they authorize the geologists to look for more gold and the engineers to build new mines, the people who run the financial side of the business step in. They understand that the present value of capital, and risks associated with commodity prices, taxes, and regulations make finding an ounce of gold that you cannot mine for ten to fifteen years not worth the cost of finding it.

Another important consideration is financial regulation. In order to claim that a company has a "reserve" it needs to conduct extensive studies and to go through a permitting process that includes exploration, development, mining, and reclamation. Most informed persons will acknowledge that there is far more than 80 million ounces of gold in Nevada to be mined, but financial and regulatory realities stand in the way of formally announcing it.

STATE AND LOCAL TAXES PAID IN 2010

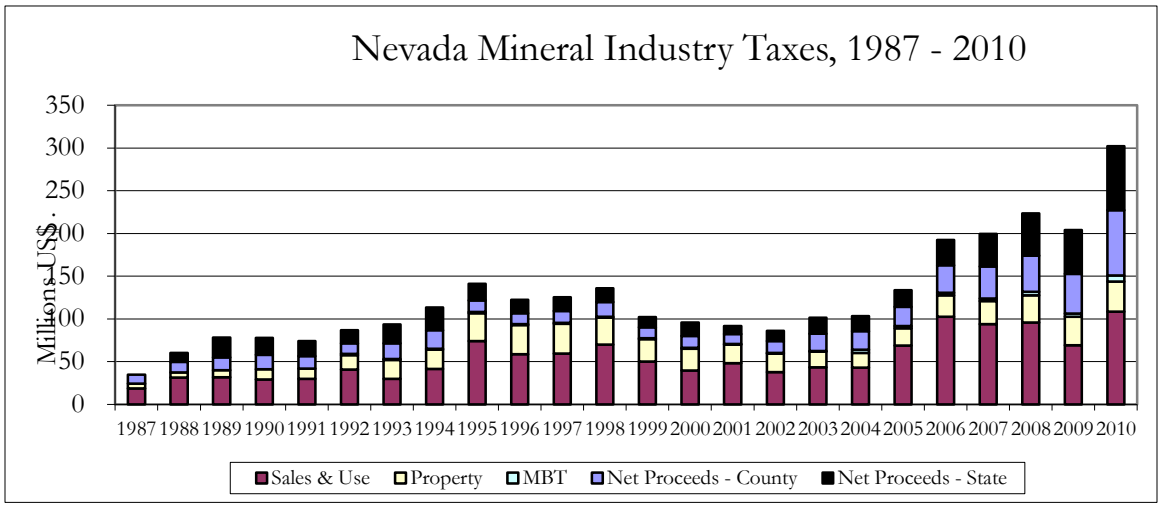
Estimated total state and local taxes paid by the mining industry in 2010 increased significantly compared to previous years. Based on information from the Nevada Department of Taxation and industry surveys, the industry paid over $314 million in taxes, far exceeding the record of $223 million set in 2008. It should also be noted that these figures do not include pre-payments of 2011 Net Proceeds taxes made in 2010. If these pre-payments were included, taxes paid in 2010 were almost $500 million. The $314 million figure only includes taxes owed for 2010.

It is important to stress that most of the figures presented below are "estimates." The State Department of Taxation provides an accurate accounting of Net Proceeds of Minerals taxes in the state but estimates for Sales and Use taxes and property taxes are based on surveys of companies that are willing to disclose the information, so the estimate is clearly an underestimate. The major drawback of this method is that it does not pick up sales and use taxes paid by other producers such as most industrial minerals, some geothermal operators and small exploration companies who also pay these taxes. However, these segments of the industry are smaller than the gold industry and do not purchase the quantity of equipment and supplies on which the taxes are paid. In the case of property taxes we use an estimate based on both surveys and a base figure established several years ago by the NDOT.

The increase in revenues in 2010 (excluding 2011 prepayments) amount to a 48.1 percent increase in overall estimated taxes in 2010 and follows a slight decrease in 2009 compared to 2008. Total estimated taxes in 2009 were almost $204 million. Note that these figures only include taxes paid by operators and does not include

taxes paid by industry employees or suppliers. The figure below shows taxes paid by the industry in Nevada since 1987.

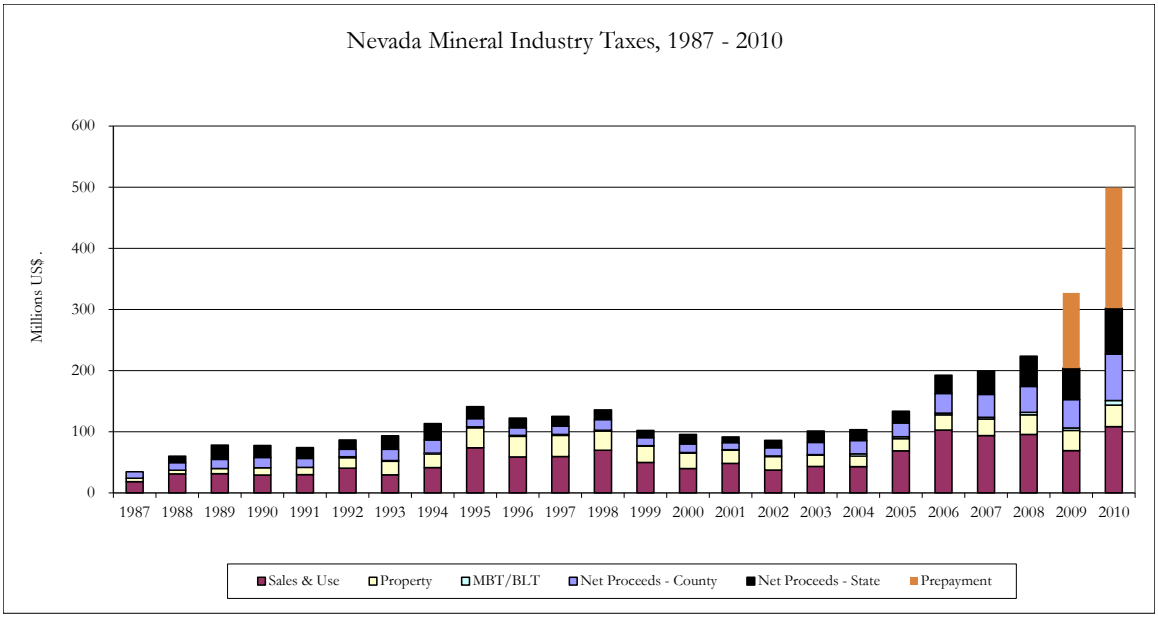
The primary causes of the increase in revenues in 2010 were a rebound in Sales and Use taxes, the lower part of the stacked bar chart below, and a significant increase in Net Proceeds of Minerals (NPOM) taxes. Higher Sales and Use taxes were the result of several major mine development projects, that result in capital expenditures that are subject to these taxes. Higher NPOM taxes were the result of higher gold prices.



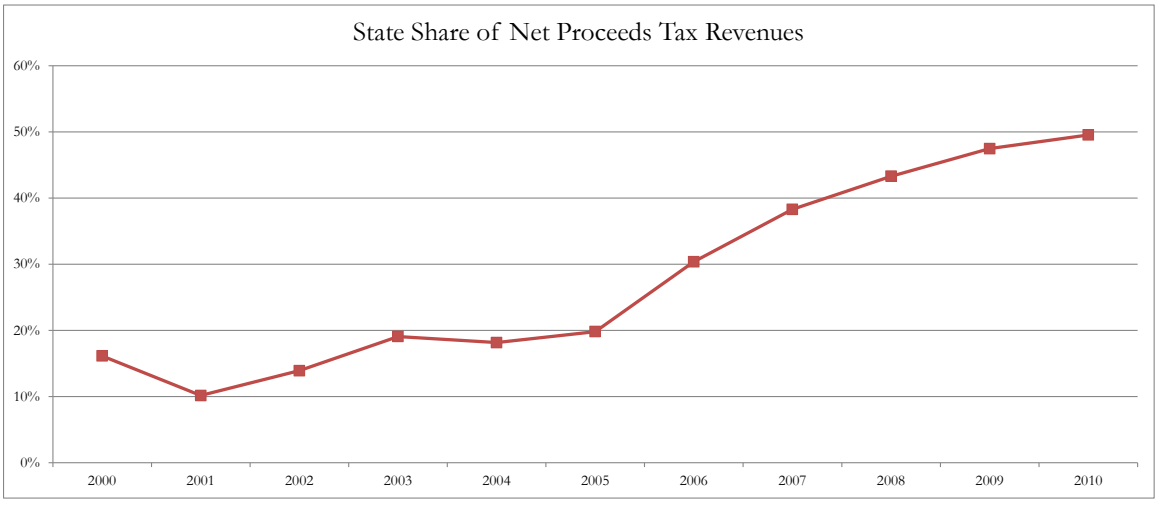
As the graph above illustrates, total taxes paid by the Nevada mining industry in recent years had been in a downward trend from 1999 to 2002. This trend was primarily due to low gold prices affecting NPOM tax receipts and lower levels of investment in equipment and development which drive Sales and Use tax payments. Low gold prices also led several mines to close or curtail operations during this period and others to seek lower assessments for property tax purposes.

In 2009 a special session of the Nevada Legislature required the industry to prepay it NPOM taxes as opposed to paying in arrears like all other property tax payers. This has posed a difficult problem for operators because the volatility of gold prices in the past few years has made it difficult to estimate next year's tax liability. It also imposes difficult choices on governments because they receive revenues that they may have to reimburse. Also problematic is how to unwind the prepayment scheme because, if and when that happens, governments will have to go without revenues for a year.

If the prepayment is added to the graph above, it shows the spike in revenues in the graph below:

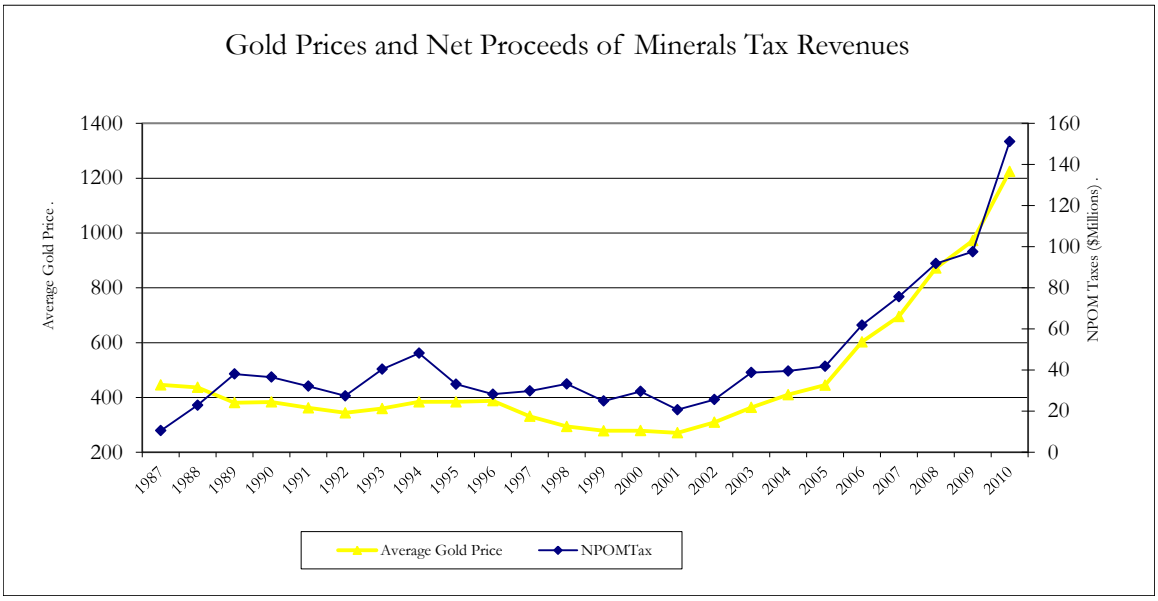


A key point about taxes paid by the mining industry that is often overlooked is the issue of where these revenues go. The general assumption is that they support the communities where the mining occurs. This is, in fact, the way the NPOM tax was originally designed but when the state constitution was amended in 1989 to raise the rate to 5 percent and give a portion of the revenue to the state general fund, that changed. Slightly over half of Net Proceeds tax payments go to the state General Fund and are distributed essentially on a per capita basis throughout the state.



Property taxes paid on property, plant and equipment do stay almost exclusively in the counties and special tax districts where the mines are located. Although a small portion of property taxes is dedicated toward state debt repayment.

In the case of sales and use taxes, the various components of the tax are distributed differently. A portion (two percent) goes to the general fund, another portion goes to school districts statewide on a per pupil basis, but the bulk of it is distributed more or less on a per capita basis. This, of course, means that the vast majority of these funds go to Clark County with about 70 percent of the state's population and Washoe County with about 20 percent.

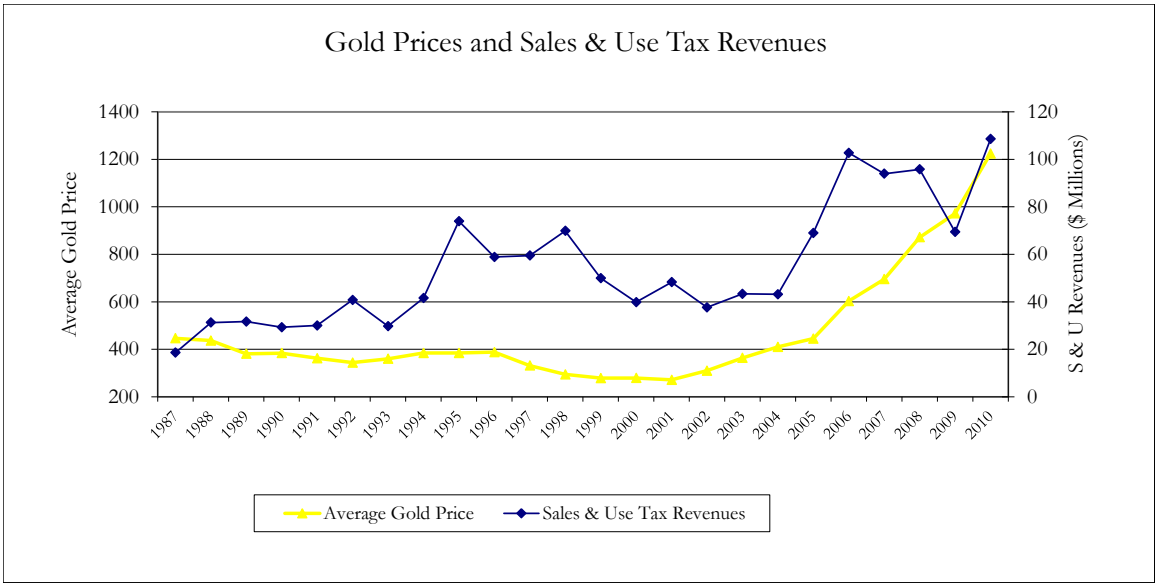


As the graph above illustrates, the increase in NPOM taxes starting in 2003 primarily reflected the increase in gold prices. With the relatively stable margin between production costs and prices as noted above, short term commodity price increases directly increase Net Proceeds, which are Gross Proceeds less deductible production costs (not all production costs described above are deductible). Operators with over $4 million in Net Proceeds pay five percent tax on their Net Proceeds. In 2004 and 2005, although gold prices increased over 2003 levels, Net Proceeds taxes increased very little because of the significant increases in production costs.

In the past four years Net Proceeds taxes increased substantially because prices have increased fairly rapidly, faster than operators could adjust their operating plans. At the same time, over the last year at least, deductible costs have stabilized. In the future, as newly discovered near mine reserves are developed and brought into production, these development costs will be deductible if the mines have Gross

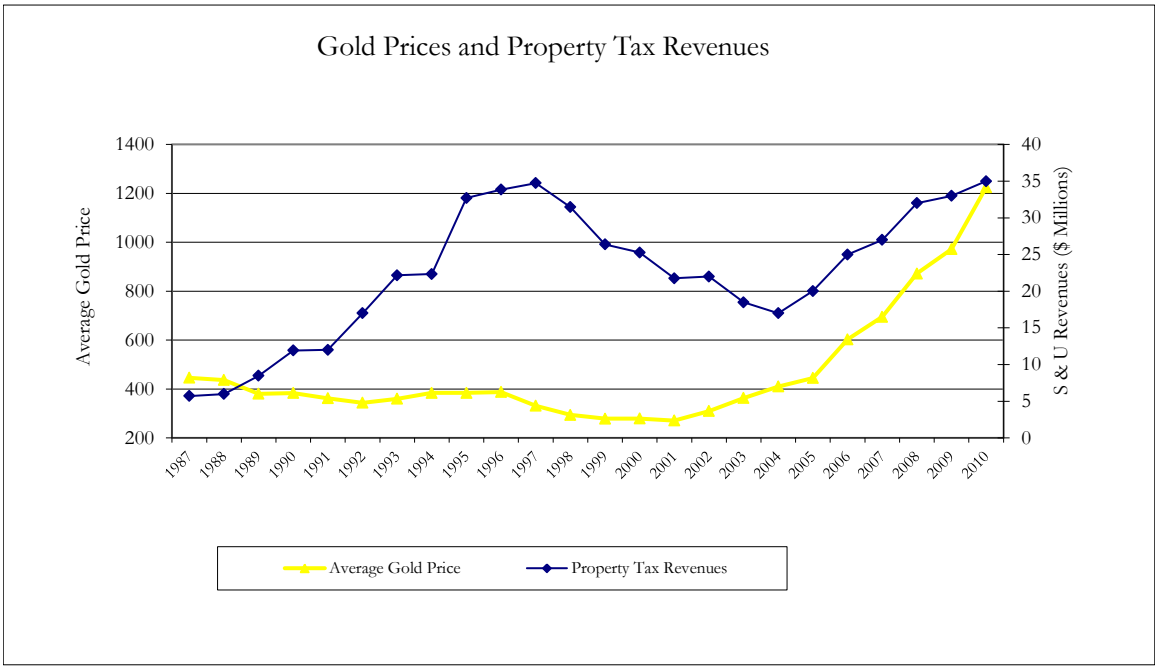
Proceeds, or sales of minerals. Hence, when commodity prices rise significantly, as they have over the past few years, the initial effect on taxes is felt in higher Net Proceeds revenues. However, as operators adjust to higher prices by processing lower grade ores and investing in exploration and new development, these tend to reduce increases in Net Proceeds tax revenues.

Sales and Use taxes, which are primarily paid on purchases of capital items and equipment, have historically been the largest taxes paid by the industry although not in the most recent years. These taxes primarily depend on the rate of investment in the industry which typically lags behind price changes. That is, when prices increase as they did in the mid 1990's and in the past several years, it takes time to get construction plans and permits in order to proceed. On the other side of the price cycle, if prices fall after construction is underway, projects tend to be pursued anyway, so there is a lag before tax receipts fall. As indicated by the graph below, relatively high rates of investment in new plant and equipment in the mid – 1990's led to relatively high sales and use tax payments. These payments declined in the late 1990's as the industry reduced its rate of investment and limited equipment purchases to replacing existing capital.



The levels of sales and use taxes reported in past industry surveys suggest that after a bit of lag after prices began increasing in 2002, industry purchases have increased tremendously in the last two years. We would expect these levels to continue and possibly increase further if gold and other commodity prices hold their current levels and they were relatively flat comparing 2007 and 2008 after several years of strong increases. After a decline in 2009, sales and use taxes reported in our survey rebounded sharply in 2010.

Ad valorem property taxes are also generated by industry investment, but tend to lag even farther behind the commodity price cycle than sales and use taxes as illustrated by the graph above. After a large construction boom in the mid-1990's property taxes paid reached their highest levels at over $35 million. As prices faded in the late 1990's property taxes declined as a result of mine closures. These closures led to reassessment of both real and personal property reflecting the reduced value of the site after mining stops and reclamation begins, and the liquidation of capital equipment. Even in some cases where operations continued the value of mining assets were sometimes reduced to reflect their lower value because of lower prices. The small increases beginning in 2004 are a result of the resumption of capital investment because of higher prices.



Because of the way the three major taxes paid by mining are allocated, historically less than 40 percent of the total tax payments stay with local government as opposed to the state general fund and other dedicated state funds that are spent on a statewide basis. While ad valorem property taxes largely remain in the counties where the minerals are mined (a small portion of the ad valorem tax and the net proceeds tax are allocated to state debt reduction) These tax dollars are available for city and county operations, and local education expenditures.

PRECIOUS METALS INDUSTRY PROFITABILITY

2010 and the first half of 2011 were clearly profitable for the precious metals industry in Nevada and around the world because of the relatively rapid rise in gold prices. Other metals sectors such as base metals and industrial minerals have had less successful operations because of the international economic slowdown. Since Nevada's mineral industry is dominated by precious metals, this section will primarily focus on precious metals.

It should be noted, however, that while Nevada ***operations*** were profitable, that does not translate into profitability of the corporations that own the operations. It should be noted that 2010 and the first half of 2011 were *relatively profitable* for the precious industry in Nevada and worldwide. That profitability is relative to both the past performance of the industry and relative to other industries that have been hit hard by the national and international recession.

A common misconception about the mining industry, and precious metals mining in particular, is that it is an enormously profitable venture. If this were true, according to conventional wisdom and common sense, we would all become gold miners. Nonetheless, the misconception is difficult to dispel. Indeed, the term "gold mine" is commonly applied to anything highly profitable. Precious metals mining can be very profitable and producers invest in production capacity in hopes of earning profits, but industry profits are highly leveraged by metals prices and operating costs.

The distinction made above between mining operating companies and their parent corporate owners is crucial to understanding precious metals industry profitability. Precious metals companies and all mining companies, for that matter, sell commodities that are subject to competition from other companies and buyers. The precious metals industry is a world market where sellers have no pricing power. Industrial mineral producers tend to operate in smaller markets because of the costs of transportation so they may have more pricing power, i.e., the ability to raise prices.

The precious metals mining company may own numerous mines all over the world and use the operating profits from more profitable operations to sustain less profitable operations. In addition, the corporate parent finances exploration, development, and permitting that are not part of ongoing expenses at an existing operation. The corporation provides legal services, tax services for federal and international taxes, and business development services, which usually involve merger and acquisition negotiations. All of these activities are necessary to sustain a mining company beyond the life of a single operation.

When one looks at industry average profitability over the long run rather than focus on an individual mine or mining company in a short period of time, what they will find is that the precious metals mining industry is, in fact, ***not*** extraordinarily profitable. Over the long run, when price cycles are taken into consideration, the

industry earns, on average, what economists call a "normal" profit. Which is exactly what we would expect from industry producing commodities.

While this observation sometimes seems counter intuitive, there are some very valid reasons why it is true and they primarily relate to the way operators act over the price cycle. In most other industries, for example, when the price of their product goes up, they try to produce more to increase their profits. In the precious metals mining industry, in contrast, when prices rise one of the first things that happens is that operators lower their cut-off grades which reduces the quality, in terms of ounces per ton, of ore that they put through their processing facilities.

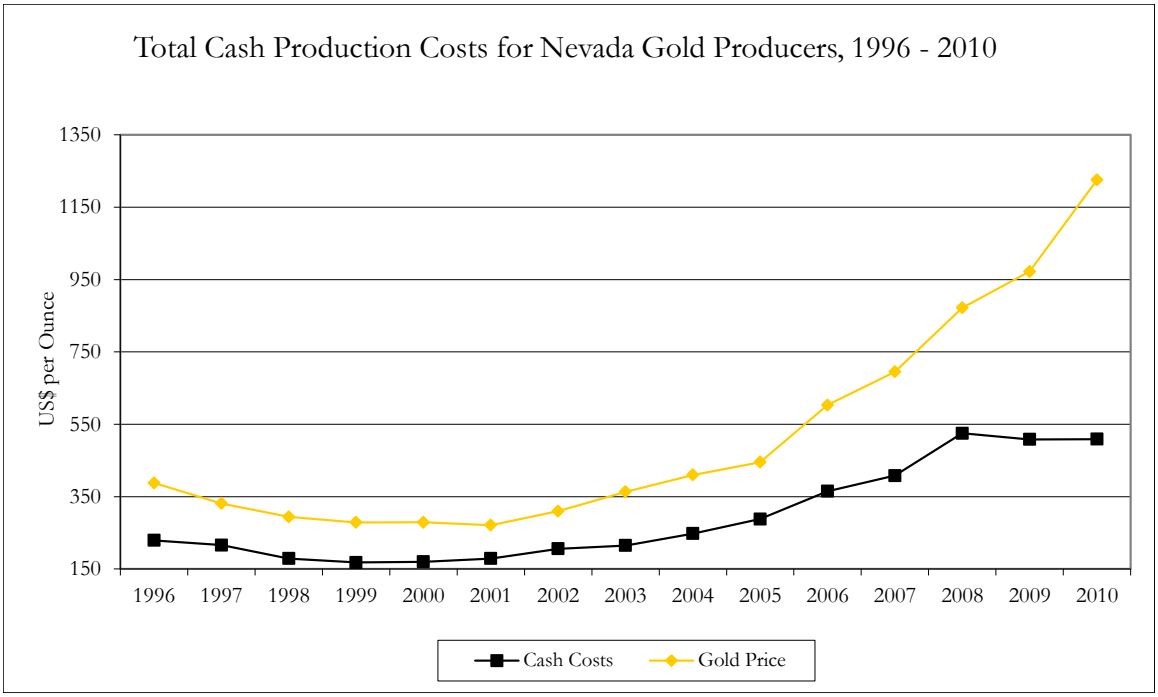
Unless they can quickly expand the scale of their processing facilities, which they generally cannot, this reduces output and raises costs, cutting profitability. In the current regulatory environment, expanding the scale of operations is generally not an option because it would require a change in an operation's operating permit, and that can take a considerable amount of time.

While lowering cut-off grades raises costs, it frequently has the benefit of extending the mine life of their operations and makes more efficient use of the natural resource. It is also generally beneficial for the communities supported by mining operations, but its impacts on operating profits are clear.

Another thing that happens when prices rise is that operators invest more in a variety of activities such as more exploration spending, more capital construction, replace aging equipment, conduct deferred maintenance, etc. We have observed all of these actions in Nevada in the past few years and it occurs in every other gold mining district in the world. And, while these activities have benefits for the communities and operators like extending mine life, these activities clearly cut into profitability.

When prices fall, the reverse occurs. In most other industries, if prices fall they would cut output in an attempt to lower their costs. In the precious metals mining industry, operators will raise their cut-off grades to lower their costs with the result that their output typically goes up, at least initially. They will also attempt to lower costs by reducing exploration, deferring purchases of new equipment, new construction, and other actions. The result is that over the price cycle the relationship between price and costs is relatively constant as suggested by the graph below shown above on page 16 and reproduced below.

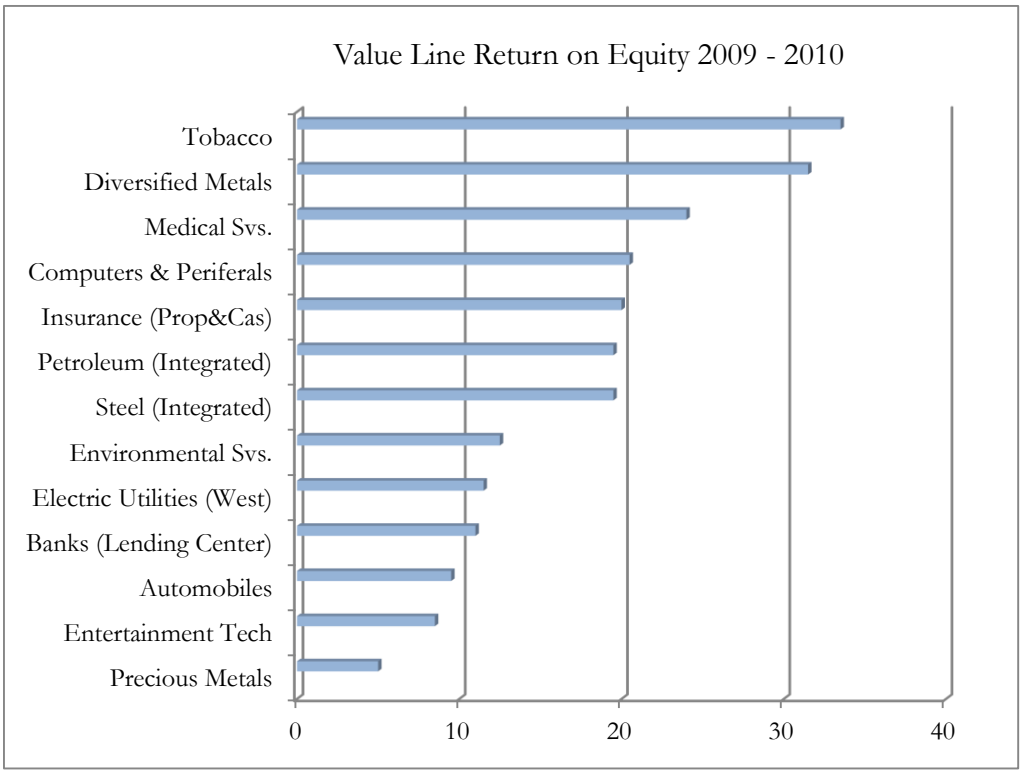
As that graph indicates, the past two years have been an anomaly, with prices rising much faster than costs. In 2010 and 2011, prices have risen so fast and so much for reasons discussed above, that operators have not been able to adjust operating plans, purchase equipment, etc., fast enough to keep up. Over the next few years we expect the situation to return to the more "normal" pattern depicted on the graph in previous years.



The latter point illustrates why streamlining the permitting process is so critical to the long-term viability of the gold mining industry in Nevada. Long lead times to get approvals for expansions and new projects reduce operators' ability to respond to price increases by increasing capacity. Knowing this, if a company has an opportunity to develop a property offshore where it can get permits and have the mine constructed in 18 months or it can develop an identical property in Nevada where the permitting process and construction will take over five years, the offshore mine is a much more profitable investment. Political risk operating offshore is clearly a factor in these decisions, but so is the time value of the money that has to be invested.

Another basis for comparing precious metals industry profitability to other industries comes from Value Line's Investment Survey, which reports on the profitability of over 90 industry groups using companies selected by Value Line. Value Line's precious metals group in the current report includes nine companies including the three largest companies with operations in Nevada – Newmont, Barrick, and Goldcorp. It also includes two mid-sized Canadian producers (one of which has some interests in Nevada), South African producer AngloGold Ashanti, and a U.S. platinum group metals mining company, Stillwater Mining, which has operations in Montana. Value Line's group of precious metals producers had a weighted average rate of return on equity (ROE) before write-downs in 2010 of 5.0 percent, down from 7.5 percent in 2009. This reinforces the point about the counterintuitive nature of the profitability of the precious metals industry.

The graph below provides a comparison of ROE in selected industries from the Value Line Survey for 2010.



Return on equity is arguably the best method of comparing different industries as opposed to profit margin or return on assets because it measures earnings as a percent of the assets the company actually owns. This approach has the advantage of accounting for company debt which can vary widely between different industries.

The profitability of the precious metals industry seems counterintuitive to many because it can remain low in years when prices have increased significantly. But the operational factors mentioned above play a significant role in the industry cost structure. Another important factor is corporate activities such as mergers and acquisitions. These kinds of activities tend to involve prospects and development properties and add little to current earnings. At the same time they tend not to add much to shareholder equity in the short term and may add to long term debt.

The past few years have been unusual years for the precious metals industry and the entire world economy for a number of reasons. First, the worldwide recession reduced demand for consumer products across almost all sectors. However, one consequence of the meltdown in the financial sector has been a renewed interest in gold as an investment. The exception would be Tobacco/cigarette producers which are likely to earn high returns in any market

based on experience. But other industries, like diversified metals which include iron, copper, molybdenum, and aluminum have also done well because of the worldwide need for materials.

OUTLOOK FOR NEVADA'S MINERALS INDUSTRY

Continued growth in lesser developed markets like China and India is likely to keep demand for basic materials strong and benefit Nevada's minerals industry. In addition, financial uncertainty in Europe and, to some extent, the U.S., has kept precious metals markets strong, although volatile. Nevada is also a major producer of lithium, used in high performance batteries that have many applications including hybrid automobiles.

Nevada also has numerous projects in the pipeline from the Utah to the California borders that include precious metals, base metals like copper and molybdenum, other metals and geothermal resources. So, the outlook for Nevada's minerals industry is bright, making it a valuable source of jobs, tax revenues and economic opportunity for the State.