# CBO TESTIMONY

Statement of
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Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to discuss changes to the mining law of 1872--specifically the proposals that would impose royalties on the extraction of minerals from public lands and impose fees on the holders of claims. My testimony today will focus on three issues:

- The direct effects on federal receipts and the assumptions used to estimate those effects for three proposals to charge royalties and holding fees.

- Estimates of the transitional effects of royalties and holding fees on jobs, concentrating on the effects in the mining industry and in mining regions.

- Some of the advantages and disadvantages of applying royalties to different bases, ranging from gross sales of refined minerals to net proceeds from selected mining activities. The base for the royalty is one of several important differences between the proposals being considered.

The official estimates of costs of legislation prepared by the Congressional Budget Office (CBO) are limited to the direct effects on the federal budget of costs and receipts resulting from the legislation. Imposing a tax or fee on an activity--such as the royalties on mining considered here--would tend to discourage that activity. CBO's official cost estimates therefore take into account the extent to which imposing royalties would lead to a reduction in the production of minerals. The official cost estimates do not include, however, the budgetary implications of any secondary effects on economic activity that might be caused by the legislation.

The proposals to charge royalties and fees must be viewed as part of a larger effort by the Congress to reduce the budget deficit. In the short run, any spending reduction or tax increase that the Congress adopts will impose costs on the economy. But any one legislative package that meets the deficit targets specified in the Congressional budget resolution will have much the same macroeconomic effects as any other such package. Therefore, CBO analyzes the economic effects of deficit reduction plans on an overall basis and not bill by bill. Moreover, secondary economic effects and their implications for federal spending and revenues are difficult to measure, and factoring them into estimates for individual bills would not increase the reliability of the estimates, despite the apparent additional precision.

Accordingly, we have not estimated the budgetary impacts of the secondary economic effects of mining royalties or holding fees. Other analysts have tried to estimate these secondary effects and have concluded that the overall effect of increasing royalties and fees would be to raise the federal budget deficit. Judging from the evidence we have seen to date, however, the overall effect of imposing royalties or holding fees on hardrock mining would be to reduce the federal budget deficit.

Although measures that reduce the deficit would have short-run economic costs, deficit reduction will provide real economic benefits in the longer run. By stimulating private investment and reducing debt to other countries, reducing the deficit could boost the productivity of workers, raise their real wages, and contribute to higher standards of living for all Americans in the future.

Members of this Subcommittee have expressed concern about the federal budget deficit, but also about the effects of royalties and fees on the mining industry and, in particular, on jobs in mining regions. We conclude from our analysis that the effects of these proposals would be relatively small, though certainly some miners would lose their jobs and some communities would be affected.

In the proposals now being considered, a large part of royalties and fees collected can be returned to the states. In S. 257, the Mineral Development and Exploration Act of 1993, for example, 25 percent of the royalties go directly to the states, and an additional 50 percent of the royalties and all of the holding fees could be spent on reclamation activities in the states. S. 775, the Hardrock Mining Reform Act of 1993, directs or authorizes all of the receipts it generates to be returned to the states. The greater the proportion of gross receipts that are paid to the states or spent on reclamation activities, the less are the deficit-reducing effects of mining law changes, and the smaller the future benefits stemming from deficit reduction. Additionally, the greater the amount of money paid to the states or spent on reclamation, the smaller would be the adverse effects of collecting royalties and fees on employment or incomes in the mining regions.

The proposals being considered today are the following:

- *S. 257, the Mineral Development and Exploration Act of 1993.* This bill would impose a royalty of 8 percent on the gross income from mineral production from public lands beginning in fiscal year 1997. The bill also would establish an escalating annual rental payment for all hardrock mining claims. The rental payment (or holding fee) would total $5 per acre for each of the first five years following the location of a claim and would escalate in $5 increments every five years thereafter until it reached $25 per acre in the twenty-first year following location. Holders of new claims located after the bill's effective date (October 1, 1994) would begin paying the fee in fiscal year 1995. Existing claims would have three years to convert to the new system and would thus be subject to the royalty and rental fee provisions beginning in 1997. Twenty-five percent of royalties would be paid to the states. The bill authorizes 50 percent of gross royalties collected and all of the rental payments to be used to reclaim abandoned mines.

- *The President's Proposal, Contained in His 1994 Budget.* The President proposes a 12.5 percent royalty on the value of production to be phased in gradually over the three-year period beginning in 1995. Twenty-five percent of royalties would be paid to the states. His proposal would also make permanent the temporary $100 per claim holding fee that was imposed on all existing hardrock mining claims in the 1993 Interior appropriation bill (Public Law 102-381). The President would commit some of these funds--about $17 million annually--to cover the administrative costs of the mining program.

- *S. 775, the Hardrock Mining Reform Act of 1993.* This bill would impose a royalty on production from claims located after the bill's enactment; the royalty would be 2 percent of the net proceeds from hardrock mining. The bill would also establish a $25 location fee for all new claims staked after the bill is enacted, and would require all large-sized claim-holders (defined as those claimants holding more than 50 claims) to pay $100 annually per claim to maintain their claims. Medium-sized claimholders--those holding between 11 and 50 claims--would have to pay $25 annually per claim, and small-sized claimholders--those holding 10 or fewer claims--would be exempt from the annual maintenance fee. The bill would also require certain fees to be paid when land is patented. One-third of all receipts (location fees, maintenance fees, royalties, and patent fees) generated as a result of the bill's enactment would be distributed to the states. The bill authorizes appropriations of up to the remaining two-thirds of gross receipts to be used for grants to states for reclaiming abandoned mines.

## DIRECT BUDGETARY EFFECTS OF MINING LAW REFORM

Over the 1994-1998 period, CBO estimates that the royalties imposed by S. 257 would generate gross offsetting receipts to the Treasury of $164 million, of which $41 million would be paid to states (see Table 1). The royalties in the President's proposal would generate gross receipts of $380 million over the same period, with $87 million being paid to states. The royalty provisions of S. 775 would generate no receipts. Receipts from the President's proposal exceed those under S. 257 both because the royalty rate is higher--12.5 percent under the President's proposal, compared with 8 percent in S. 257--and because the royalties under the President's proposal would become effective earlier than in S. 257.

**TABLE 1. ESTIMATED BUDGETARY EFFECTS OF ROYALTIES AND HOLDING FEES (In millions of dollars, by fiscal year)**

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1994-1998 |
|---|---|---|---|---|---|---|
| | | **S. 257** | | | | |
| **Receipts** | | | | | | |
| Royalties | 0 | 0 | 0 | -82 | -82 | -164 |
| Holding fees | 0 | -10 | -10 | -85 | -85 | -190 |
| **Direct Spending from Receipts** | | | | | | |
| Payments to states | 0 | 0 | 0 | 21 | 21 | 41 |
| **Authorized Spending from Receipts** | | | | | | |
| Reclamation spending | 0 | 10 | 10 | 126 | 126 | 272 |
| | | **President's Proposal** | | | | |
| **Receipts** | | | | | | |
| Royalties | 0 | -35 | -69 | -138 | -138 | -380 |
| Holding fees[a] | -57 | -57 | -57 | -57 | -57 | -285 |
| **Direct Spending from Receipts** | | | | | | |
| Payments to states | 0 | 8 | 16 | 32 | 32 | 87 |
| | | **S. 775** | | | | |
| **Receipts** | | | | | | |
| Royalties | 0 | 0 | 0 | 0 | 0 | 0 |
| Holding fees | -30 | -30 | -30 | -30 | -30 | -150 |
| **Direct Spending from Receipts** | | | | | | |
| Payments to states | 10 | 10 | 10 | 10 | 10 | 50 |
| **Authorized Spending from Receipts** | | | | | | |
| Reclamation spending | 20 | 20 | 20 | 20 | 20 | 100 |

SOURCE: Congressional Budget Office.

NOTE: Estimates do not include additional collection and administrative costs that would result from these royalties and fees. Additional receipts and direct spending in each proposal would be directly attributable to the authorizing legislation. Reclamation spending would be subject to future appropriations action.

a. The President proposes to commit about $17 million annually of these holding fees to cover certain collection and administrative costs.

S. 775 generates no receipts from royalties during this period because the bill's royalty provisions only apply to newly located claims, and CBO expects that new claims would yield virtually no production before the end of fiscal year 1998. Even if applied to existing mines, royalties from S. 775 would be substantially smaller than from the other proposals--generating receipts of less than $5 million annually--because the royalty rate is lower and the base to which the royalty is applied is significantly smaller than in the other proposals. Furthermore, states would receive a larger share of the total receipts from royalties than in the other proposals (one-third under S. 775, compared with one-quarter in the other proposals).

Over the 1994-1998 period, receipts from holding fees under S. 257 would total an estimated $190 million. Holding fees in the President's proposal would generate receipts estimated to be $285 million. Assuming the bill is effective by fiscal year 1994, federal receipts from holding fees in S. 775 would total an estimated $150 million over the same period, and from this amount states would receive $50 million. Estimates of the receipts from holding fees resulting from S. 775 are particularly uncertain because of poor information about how many claims are currently held by small claimants who would be exempt from the fees.

## Assumptions and Methods
## Underlying Estimates of Royalties and Holding Fees

Estimating the effect of mining law reform is difficult principally because no comprehensive data exist on hardrock mining on public lands. The Department of the Interior (DOI) is now working on, but has yet to provide CBO with, an estimate of the value of hardrock minerals produced on public lands. Furthermore, the lack of data makes it hard to predict how many claimholders would choose to maintain their claims when faced with paying an annual rental or holding fee. Better information from the agencies responsible for overseeing activities on public lands would provide a more reliable basis for estimating budgetary effects and making policy judgments in this area.

Three key assumptions underlie our estimates of receipts from royalties. They are the value of minerals extracted from public lands, the effect of royalties on production and prices, and the base to which the royalty rate is applied.

The critical assumption in estimating receipts from rental rates or holding fees is how claimholders would respond to such fees. The estimates of royalties and holding fees follow fairly directly from the assumptions made about the factors that affect them.

The Value of Minerals Extracted from Public Lands. CBO assumes that the value of annual production from public lands subject to royalties under S. 257 and the President's proposal would total about $1.2 billion. This estimate is based on a General Accounting Office (GAO) study that surveyed Western mining operations involving the production of eight minerals.[1] The study did not cover all mining operations or all minerals--which suggests the GAO figure may be conservative--but it did include copper and gold production, which accounts for a large percentage of the value of hardrock minerals produced on public lands.

Furthermore, the large number of patent applications recently filed and pending approval at the DOI (450 applications covering about 150,000 acres) suggests that a significant amount of federal land now producing hardrock minerals may move into private hands before any of the proposals could become law. If so, the value of production ultimately

1. General Accounting Office, *Value of Hardrock Minerals Extracted from and Remaining on Federal Lands*, RCED-92-192 (August 1992).

subject to a royalty could be significantly lower than many expect, at least over the next five years.

How Royalties Would Affect Minerals Production and Prices. CBO assumes that an 8 percent royalty on gross income would result in a 5 percent drop in production in the short run from federal lands. This response is based in part on data reported in a University of Nevada study on average operating costs for gold mines and in part on an analysis of production and price data for other important hardrock minerals.[2] We further assume that mineral prices will remain generally stable between 1994 and 1998.

A 12.5 percent royalty on gross sales, as proposed in the President's budget, would result in a drop in production of less than 8 percent. For a 2 percent royalty on net value at the minemouth, as proposed under S. 775, CBO assumes there would be no effect on current mining output.

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2. John Dobra and Paul Thomas, "The U.S. Gold Mining Industry 1992" (University of Nevada, Reno, Makay School of Mines, Nevada Bureau of Mines and Geology, Special Publication 14, 1992).

The Base Used to Calculate Royalties. The proposals we reviewed differ significantly in the bases to which the royalties would be applied. To prepare our estimates, we proceeded as follows:

- For the President's proposal, the base for estimating royalties is the gross sales of minerals produced on federal lands, assumed to be $1.2 billion annually;

- For S. 257, the base for calculating royalties--referred to as "gross income" in the bill--is assumed by CBO to be gross sales less costs of smelting, refining, and transportation. For these estimates, we assumed that gross income is 90 percent of the gross sales from federal lands.

- For S. 775, the base for royalties is net proceeds from mining activities prior to smelting and refining--referred to as "minemouth value" in the bill. This base approximates gross income, as estimated for S. 257, less the costs of mining activities. Using data from the Bureau of Mines, we assumed this royalty base would be about 20 percent of gross sales from federal lands.

How Current Claimholders Would React to New Holding or Rental Fees. CBO assumes that in the short run about 60 percent of the existing claims of record at the end of fiscal year 1992 would be relinquished when claimants are faced with paying the annual holding fees proposed in S. 257 and the President's budget. We believe that a significant number of claims are being held for speculative purposes and that many current claimholders are likely to drop marginal claims rather than pay to hold them. Some of these claims are likely to be located and staked again in later years. We assume that fewer claims would be relinquished under S. 775 because small claimholders are exempt from fees and medium-sized claimholders would pay a considerably smaller fee than in S. 257.

## EFFECTS ON JOBS IN MINING REGIONS

Paying royalties would reduce returns to mining operations. Depending on the royalty rate and the base to which it is applied, this reduction could discourage the development of new mines and could reduce the rate of production in existing mines and hasten their abandonment. Less mining would lower employment in areas in the West where such mining takes place. Effects would be direct--from less mining activity--and indirect--from lower demand in the mining regions for the goods and services provided to mining firms and their employees.

Holding fees would have little or no direct effect on production or employment in mining. However, both holding fees and royalties would reduce the profits of mining firms and, consequently, the incomes of their shareholders. Also, holding fees would reduce the net incomes of individual claimholders. Reduced spending by the shareholders and individual claimholders could cause an additional secondary reduction in employment. Much of this reduction would probably occur outside of the mining regions, however, because many of the shareholders of mining firms do not live in mining areas.

These negative effects of mining reform on employment in the mining regions are only part of the story. In the proposals being considered, some of the gross receipts the federal government receives are returned directly to the states. S. 257 and S. 775 also authorize additional spending for reclamation of abandoned mines from the remainder of gross receipts. Both of these transfers to the states could increase employment, offsetting part or all of the decline in employment attributable to the royalties or fees. But even if the net effect of these proposals were to cause no change in employment in the mining regions, individual miners and communities could be adversely affected.

CBO has not estimated the nationwide effect on employment of these proposals to reform the mining law. As mentioned earlier, the effect on the entire economy would probably not differ greatly from the effect of any other deficit reduction measure, and CBO's practice is to analyze the economic effects of a deficit reduction plan, such as reflected in the Congressional budget resolution, only on an aggregate basis.

CBO has estimated the direct and indirect effect of a reduction in mining activity caused by the reform proposals on employment in the mining regions. We have also prepared estimates of increases in employment in the mining regions that could result if states spent their share of new receipts and if the amounts in the proposals authorized for reclamation activities were to be appropriated. We do not have enough information to estimate the employment losses in the mining regions caused by the drop in incomes of shareholders of mining firms and of individual claimholders. Lacking this information means we have no firm conclusion about the effect of these proposals on regional employment.

## Estimated Effects on Regional Employment of Reduced Mining Activity

CBO estimates that the losses in regional employment related to reduced mining activity under S. 257 would be between 800 and 2,000 jobs. (These estimates include information we recently received from the Bureau of Economic Analysis and indicate a greater range of uncertainty than we presented in testimony last month before this Subcommittee.) The direct losses of employment in mining would be between 400 and 800 people. In addition, indirect effects on regional employment would come in the industries that provide goods or services to the mining firms and to the employees of those firms.

The job losses associated with the President's proposal would be larger--between 1,300 and 3,200 jobs--because the larger royalty rate would cause a greater reduction in mining activity. S. 775 would have little or no noticeable effect on employment in mining because, as a royalty on profits, it would have little effect on production from mines. Although these effects on regional employment are small from the perspective of the entire economy, the affected communities may consider them large.

To obtain those estimates, we assumed that the direct and indirect job losses in Western states from reduced activity in hardrock mining would be between 14 and 33 workers for each $1 million drop in mining output.

The range of losses in employment associated with lower mining output reflects the general range for total employment multipliers estimated for 12 Western states by the Bureau of Economic Analysis. These estimates represent updates from the values assumed in our March 16 testimony before this Subcommittee. Those earlier values, ranging between 15 and 25 workers, had been reported by the Bureau of Economic Analysis in May 1986.

## Estimated Effects on Regional Employment of Increased Spending by States and Spending on Reclamation Activities

Significantly, some or all of the adverse effects of royalties on jobs could be offset by jobs created by the uses to which states put their share of royalties and the use of funds authorized for reclaiming abandoned mines. Each of the three proposals for mining reform contains some provision for such disbursements.

Under S. 257, between $20 million and $150 million per year could be spent in mining states, depending on how much of the amounts authorized for reclamation activities is appropriated. These outlays could add between 300 and 4,900 jobs in the mining states. The upper range for spending reflects an update to the estimate we provided to this Subcommittee in earlier testimony. That earlier estimate omitted the $85 million in revenues from holding fees, all of which would go to the abandoned mines fund. The upper range for job gains is larger because of the higher spending figure and the use of a revised and higher employment multiplier.

Thus, under S. 257, the potential gains in regional employment from increased spending may be larger than potential losses from lower mining output. This result is an outcome of our basic assumption that hardrock mineral production would not change very much with an 8 percent royalty on gross income and not at all from holding fees, even though the royalty and holding fee would generate a significant amount of money.

The President's proposal contains no provisions for spending for reclaiming mines. Hence, the direct stimulus it provides to mining states would come only from the 25 percent of royalties shared with the states, which, according to our estimates, could be between 450 and 1,100 jobs.

Under S. 775, an estimated $30 million per year could be spent in the states--if the maximum amount authorized is made available. This spending could create between 400 and 1,000 jobs.

To make these estimates, CBO assumed that the same multipliers used for assessing the adverse impacts on regional employment of lower mining activity from royalty reform are useful for assessing the positive impacts of higher reclamation and other state spending. The estimates also assume that the states spend these funds.

As stated previously, this is not the complete story about effects of these mining reform proposals on jobs in mining regions. We have not estimated the effect within the mining areas of reduced incomes of shareholders of mining firms and individual claimholders.

## CHOOSING THE BASE FOR ROYALTIES

Royalty proposals differ both in the percentage rates and in the bases to which they are applied. The choice of the base is important both for reasons of efficiency and for the cost of administering and assuring compliance with the royalty. One method of computing royalties would be more efficient than another if it would cause fewer changes in production levels and fewer changes in mining practices or the organization of mining firms than otherwise. Administrative costs can differ greatly--generally the simpler the base, the easier and cheaper it would be to administer.

Among the bases that could be used for assessing royalties on hardrock mining are first, gross sales by the mining firm; second, gross income of the firm attributable to specific mining operations of the firm; and third, net proceeds from mining operations of the firm.

Gross Sales of Refined Minerals

In this case, the royalty would be applied to the gross sales of the firm--measured as the market value of a refined product. These sales receipts include returns to mining and nonmining activities of the firm.

A division of functions of mining firms between these activities is specified in Department of Treasury regulations implementing the tax code. Mining activities include in-mine operations, crushing, grinding, and beneficiation processes such as cyanide leaching. Smelting and refining operations and transportation to market are defined as nonmining operations.

A royalty based on gross sales would be the easiest to administer of the three approaches considered here because market prices and sales volumes are easily validated. Such a royalty would not affect the production practices of mine operators, but would affect the profitability of mines. Some mines with high combined costs for mining and nonmining activities might become unprofitable if this type of royalty were imposed, depending on the royalty rate. Such mines might shut down earlier than they would otherwise, or might not be developed in the first place. CBO assumed that the royalty in the President's proposal would be applied to gross sales.

## Gross Income Attributable to Specific Mining Operations of the Mining Firm

S. 257 identifies gross income as the basis for royalties. Using the definition of gross income in the tax code, gross income from mining would be smaller than gross sales. For purposes of determining the percentage depletion credit, mine owners calculate gross income as the product of gross sales and the ratio of mining costs to total mining and nonmining costs. We assume that mining and nonmining costs are only those associated with the specific activities described above. This calculation allocates total returns, including profits, between the two categories of activities.

Royalties based on gross income may be easy to administer if the royalty base adheres to the definitions in the tax code--the Internal Revenue Service already validates these numbers in confirming claims for the depletion allowance.

A royalty based on gross income would affect firms differently than a royalty based on gross sales. Among firms mining the same mineral, this royalty would create a greater burden for those with a greater proportion of total costs stemming from mining activities. Among minerals, those with relatively high mining costs, such as gold, would pay a greater share of the total royalty than would firms with high nonmining costs, compared with a royalty on gross sales. There is no apparent economic rationale for such differences.

Moreover, a likely result of a gross income royalty would be to raise incentives, to the extent it is technically feasible, for mine operators to perform less crushing and mineral concentration work--the income from which would be subject to royalties--and perform more smelting and refining work. This type of change in production operations would raise costs unnecessarily.

## Net Proceeds from Mining Operations

The term net proceeds is defined in many ways. In S. 775, the royalty would be applied to the difference between gross income and mining costs (presumably as defined in the tax code). That calculation of net proceeds yields a value that comes closer to approximating the profits from mining activities than either the gross sales or the gross income basis. In theory, such a royalty base would not make any existing mines unprofitable. Taxing only the profits from mining would allow all existing mines to continue to cover their operating costs, so none would lower its output or close prematurely.

In practice, however, the definition of net proceeds in S. 775 is sufficiently ambiguous that actual gross income and calculations of mining costs by mine owners will be unlikely to yield a value that even closely approximates their actual profits from mining. One reason is the gross income value that is part of the S. 775 formula for net proceeds may improperly allocate some fixed and variable costs to mining activities along with profits. Also, the arbitrary distinction between mining and nonmining activities presents mine operators with an incentive to alter their choices of processing technologies in an inefficient manner. (Generally accepted accounting principles do not rigorously define mining and nonmining technologies.)