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An evaluation of state mineral taxation in Missouri

Jerry Wayne Huffman

AN EVALUATION OF STATE

MINERAL TAXATION IN MISSOURI

BY

JERRY WAYNE HUFFMAN

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ABSTRACT

A study was made to evaluate the present taxes levied on the mineral industry in the State of Missouri. The corporate income tax, corporate franchise tax, and general property taxes were examined, in addition to the mine inspection fees and methods of local assessment of mineral properties.

It is suggested that the State of Missouri revise the method of application of the general property tax to mineral properties. Utilization of the principle of taxation of future profits and employment of qualified appraisers would provide a more equitable application of the general property tax.

It is recommended that the present mine inspection fee be increased moderately. The adoption of a severance tax to be levied against the extractive industry is not recommended. In recent years, bills in the legislature have proposed increases in the mine inspection fee and the corporate franchise tax.

There are many inequalities in the use of the present general property tax system, and misunderstanding of the difference between depleting-reserve enterprises and other enterprises. An equitable mineral taxation policy, with incentives for promoting development of Missouri mineral resources, would bring added benefits to the state and local economies.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The object of this study is to investigate the taxes levied on the mineral industry in Missouri. It is intended to make suggestions for improvement in some areas of the tax structure for the mutual benefit of all concerned. Basic taxation principles related to the mineral industry will be reviewed as well as present legislation on the subject in force in the State of Missouri. Similar legislation in other areas will be shown.

The Object of Taxation

The object of taxation is the raising of public revenue. The right to take for public purposes a part of the moneys obtained from the operation of private enterprises may be called the supreme attribute of a lawful government. In a free, democratic society this power must of necessity rest upon the consent of the governed. Obviously, it is the duty of a government, in framing a system of taxation, to provide one which, while effective in producing a revenue, is also just and impartial.

Guides for Selection of Tax Sources

In designing an ideal system of taxation, the following criteria[1] should be used in selecting a tax source.

Adequacy of Yield. A prime requisite of the tax

system is that it provide adequate revenue to support the authorized activities of the government. Without sufficient funds, the government will be forced to curtail its activities below the level of maximum social benefit. The general sales tax, motor fuel sales tax, and individual and corporation income taxes are the most effective sources of revenue on the state level, while at the local level, the property tax is the most effective.

Flexibility of Yield. Flexibility of yield refers to the ability of a tax to yield more in times of prosperity and times of unusual need. The degree of flexibility depends upon the costs of services in prosperity and depressions; the volume of services, including expanded welfare services during depressions; and the methods chosen to finance these services, whether by borrowing, using accumulated reserves, or taxation. There are two major forms of flexibility, the first is "cyclical sensitivity" of a tax, which means the power to increase yield on the upswing of business cycle without a change in rates. The second form is "elasticity" or the ability to change the amount of revenue appreciable with a change in rates, or tax bases. Net income taxes illustrate cyclical sensitivity by increasing tax revenue when income rises as a result of good business conditions. Net income taxes, sales taxes, and property taxes all have a large elasticity of yield with a change in rates.

Stability of Yield. Stability of yield is the opposite of flexibility of yield. In times of depression, stability

of yield to cover government expenses is considered desirable. However, with the concept of managed fiscal policy the stability idea has lost ground to that of flexibility. Stability of yield is still a prime requisite on the local level, and undoubtedly will remain so until local fiscal policy is more closely co-ordinated with higher government, or until state aid in times of depression offsets the need for stability. During the depression of the 1930's even the general property tax lacked stability of yield because of the large volume of delinquencies. Stability needs to be considered in a tax system, and can be achieved, when desired, by an elastic tax system which can be changed as conditions warrant.

Adaptability. Adaptability refers to the ability to adjust the tax system to changes in economic conditions, fiscal policy, politics, and social expediency. One of the greatest criticisms of taxation on state and local levels is the rigid bound of constitutional provisions which prevents alterations suitable to changed conditions. The uniformity and equality provisions in many state constitutions prevent progression of rates and greatly restrict classification of property for taxation purposes. Other state restrictions on local tax sources prevent the local units from complying with their current revenue needs.

Tax Neutrality. The National Tax Commission in 1946 defined a principle which proclaims that taxes should be as "neutral" in their effects as possible. This principle

asserts that a tax should not change a person's standard of living; that human satisfactions and economic incentives would be better served if people are permitted to retain the same relative economic and social position after taxation as they had before. It has been stated that neutral taxation makes the tax burden independent of choices made or actions taken by the taxpayer. It would seek to minimize the decisions made merely because of the "tax consequence" involved. The justification of the neutrality concept is the prevention of widespread tax avoidance and undesirable economic repercussions which would otherwise limit the degree of progression in the tax system. Every effort should be made to achieve as large a measure of tax neutrality as is possible.

Principles of Distribution of Tax Burden

Other canons which must be considered in selecting revenue sources have to do with apportioning the tax burdens among the citizens. This distribution is a basic problem in tax policy and is very controversial in political and social circles. The predominant principles used in democratic governments bear reviewing.

The Benefits Received Principle. This doctrine declares tax burdens should be apportioned according to the benefits persons, property, and economic institutions receive from the government. There is a prevalent assumption that one "gets what he pays for". Since public services are paid for by citizens as a group, it would seem logical and fair

that each person should pay for the benefits that he receives at the hands of the government. This should be especially true in relation to the services that can be distinguished from those which are for the common good, those in which the individual benefit is reasonably discernable and measurable. The difficulty in the application of this principle is that most of the services rendered by the government have no exact calculation of value to the individual. Who receives the greater benefit, the rich or the poor? Many who receive benefits from the government are not able to pay for them, nor able to survive without them. Most state benefits are compulsory, therefore citizens cannot refrain from "buying" them. Because of these limitations the "benefits received" principle is restricted to taxation by governmental units which perform services for the subject of the tax, or collect license fees for these services. Hunting, fishing, and marriage licenses are examples.

The Ability-To-Pay Principle. This theory asserts that each person should contribute to government according to his ability to do so. In some phases of our private lives we have the tendency to require persons to contribute according to their means. Can this principle be applied to apportioning governmental burdens? It has been justified by several theories, one being the "sacrifice" theory. It is believed the marginal dollar of a higher income has less utility than the marginal dollar of a

lower income, therefore taxing higher incomes involves less personal sacrifice than taxing lower incomes. Another theory, the "faculty" approach, states that ability, or faculty, is the key. The higher a person's income, the more power he has to earn still more, therefore his ability to support government is greater. This is merely stating "tax the money where it is". Naturally, this theory has questionable ethics. Most Americans accept the code that taxation should contribute to greater equality of opportunity and more equitable distribution of wealth.

The Social Expediency Theory. The most widely used principle in taxation today is the "social expediency" theory. It states "that tax is best which works best". It combines any or all of the other existing theories according to application and workability in recognition of the fact that no one theory is sufficient to cope with the problem of equitable distribution of the tax burden. The use of non-fiscal, or control taxation, has supplemented fiscal taxes in producing new revenues to state and local authorities. Ease of adminintration and/or collection can also have an effect on the type of tax levied.

Rising State Government Costs

Copeland[2] has shown that state and local expenditures exhibited a steady climb from 1890 to 1950, although held

somewhat in check during the 1930's. The per capita figure increased sixfold during this period, and later tabulations would show even larger increases due to the tremendous post-war expansion. State governments have come to rely upon tax measures which were of little or no consequence in 1890, and local governments are currently utilizing new forms of taxation to finance their increased expansion. Per capita expenditures in smaller communities increased more rapidly than those in the larger communities, resulting in more uniform expenditures by the local governments throughout the states. These expenditures have brought with them a change in the method of taxation as well as the amount of revenue collected. The ratio of state property tax to overall state taxes has dropped from 70% in 1890 to 3.6% in 1950, while the ratio of local property taxes to total local taxes has gained slightly from 92.5% to 93.5% during this period. The states initiated various new taxes, now familiar to most citizens, including gasoline, inheritance, income, franchise, beverage, sales, and unemployment compensation. This clearly shows the trend to the social expediency theory which is dominant today.

The Law of Diminishing Return

The law of diminishing return is that law generally applied in economics whereby two variables increase at some changing relation to each other, then beyond a certain point while one variable continues to increase, the other

variable diminishes. Applied to taxation, the point is usually made that as a tax rate continues to increase, we come to a point where less revenue is collected from higher taxes. This might be called the primary effect of the law. The secondary effect, production decline and reduction of employment, is also of great importance and is intensified in times of depression. The diminishing return effect can be brought on by an increase in the number and types of taxes as well as by merely a steep climb in the rate of a dominant tax.

The social expediency theory in common use today has brought danger of extinction to the mineral industry in some areas. The increasing number of taxes has combined with rising labor costs, rising expenditures, and lowering product prices to force closing of many mines.

CHAPTER II

PROBLEMS IN MINERAL TAXATION

Past History

Early mining history[13] has shown the controversy on the subject of mine and mineral taxation to be primarily one of decision as to the type of tax to impose on the industry. With the advent of widespread use of the social expediency theory and resultant increase in the number of taxes as well as the rates, recent discussions [3] [4] [7] are concerned with all ramifications and equality of the diverse practices in use. Taxation has long and widely been used as a means of expressing social approval or disapproval and taxation theories vary according to the society in which they were formulated. The increase in the number and severity of mine tax laws, especially in some states, is due to ignorance of the industry's problems, an increasing demand for "easy" tax revenue, and lack of consideration for the effect on the industry and upon the economic structure of the states themselves.

Basic Differences in Mineral Property

Some of the basic differences between mineral deposits and other forms of property would seem to lessen the significance of uniformity in the property tax base. Generally a new enterprise can be built into a producing unit within or between times of assessment of property or improvement

values. The tax increase resulting from the re-assessment is on property that is already helping produce an income. This is not the case with present-day mining ventures. The mine operator must first have vast holdings of mineral lands to insure that he has a reasonable mine life in which to operate. Labor rates and commodity prices have forced the operation to be a large, complex organization requiring several years to build the necessary plant and mill, and to extend the workings into the ore body. No income is gained during this time, except the pittance resulting from sale of development ore, if any. This long time differential in development of the enterprise could logically lend support to a theory that the ore value and improvements of a mine plant should be exempted from property taxation until the mine is "onstream".

By nature, a mineral deposit is essentially different from any other type of property, that is, it is destructible and non-reproducable in character. In contrast to other types of private enterprise, a mine's first day of production is the "beginning of the end". In recognition of this fact, deductions are frequently given, which, when applied against gross income, provide the mine operator with compensation for his depleting assets. Deductions of this type are not frequently understood and/or are misinterpreted by non-mineral producers and manufacturing businesses. This fact alone has produced much controversy between agricultural factions and the mineral industry.

Significance of Mineral Values

Leith[6] states that too little attention is paid to the fact that mineral value is largely inherent in the use to which it can be put. The environmental and economic factors that man has to contend with in utilizing minerals control their value significantly. Accessibility, processing, price, market conditions, and political and social conditions all have their effect. Through taxation, a considerable percentage of this value, no matter what its present level, is transferred to the state government, and through it, appropriated by the public. The addition of undue taxation of the mines could not only result in the loss of the comtemplated increase in revenue, but destroy a present source of tax revenue by closing existing mines.

Variation in Types of State Mineral Taxation

Through the years several different types[21] of taxes have been used, usually accompanied by periodic changes dictated by social and political pressures. A brief summary of these follows.

General Property Tax. The general property, or "ad valorem", tax is levied in the majority of states on mining property as well as all other property. It is based primarily on the "fair market value" or some fraction thereof, and is expressed in cents or mills per dollar of assessed valuation. Where assessments can be made on the basis of cash sales and visual inspection, the levy is usually just,

but the difficulty becomes acute in the appraisal of mineral property. It is beyond the ability of the average local assessor to scientifically evaluate the worth of a mineral property. This task should be done by qualified, trained personnel, and impartially carried out using uniform methods on all such properties in the state. It is admitted that the use of trained personnel would increase the cost of tax administration. Some other disadvantages of the property tax are the possibility of restrained development, "hi-grading" to shorten the time of taxation, and taxing of unprofitable mines or mines in the process of development.

Gross Output Tax. Using this method a tax is levied on the total output of the mine at a different rate from that applied to the general property tax. The tax is actually a form of severance tax where the taxing authority collects part of the gross income of the mine regardless of capital investment, expenses, net return, or mine life. The Minnesota "occupation" tax of 11% of the gross value of output is an example. The tax is easy to administer, but only rarely is the output or gross value a measure of the value of a mining property.

Net Earnings Tax. This tax is the basis of the present income tax. It essentially levies on the ability-to-pay principle and is widely used. An example is the New York state corporate levy of 5½% of net earnings. A chief difficulty in administration of this tax is the definition of

earnings. Most states list allowable deductions from the gross income in order to define earnings for verification of tax returns, but mine cost accounting principles vary in the handling of costs. Development of mines is somewhat aided, as unproductive mines are exempt.

Combination of Gross and Net Tax. By a combination of a percentage of the gross output and a percentage of the net income it is thought that greater justice is served. Compensation for some of the disadvantages of both types by the use of different rates is inferred. One of the few states that employ this system is Utah, where a 3% corporate net income tax is levied, plus a 1% gross tax on metalliferous ore.

Corporation or Franchise Tax. Seligman[16] concludes a franchise is "a right conferred by government of conducting an occupation either in a particular way or accompanied with particular privileges". Plehn[10] states that corporations may be subjected to special taxes on the right to come into existence, continue in business, engage in particular types of enterprise or receive special privileges. The franchise is considered to be legal property although of an intangible nature. The value is measured by property, capital stock, business transacted, income, or some other factor of the corporation. This type of tax is widely used in the United States. As an example, the state of Alabama levies a capital stock tax of $2 per thousand dollars valuation of outstanding capital stock.

Tonnage Tax. A levy based on tonnage is another form of severance tax in that it levies a specific charge against every unit of production. The tax has been used in the past and is presently being used in many states. Although claimed to be levied on the principle of ability-to-pay, this is definitely not the case, in view of the wide variance in costs of production at different mines. The greater percentage of earnings paid in taxes would fall to the least profitable mines. Determination of the rate of a tonnage tax requires more than ordinary consideration. The tax would have somewhat more appeal if it could be graduated according to operating costs, but this would prove a difficult task. Generally speaking, mine operators oppose this type of tax very strongly. The "taconite" tax used in Minnesota gives an example of the complexity of the rates used. This is described in Chapter V.

The majority of the states levy more than one of the taxes discussed above. Chapter V lists the taxes in selected states and Canadian provinces. Some states are seeking legislation to add one or more of the taxes in order to supplement income. It is the duty of the public to become informed on the intricacies of mineral taxation and prevent undue legislation that would inhibit or destroy the mineral industry.

CHAPTER III

MISSOURI MINERAL POLICY

Public Interest

Generally, mineral policy is based on the concept that mineral resources are controlled and marketed through private enterprise. One way the public participates in the mineral industry is through taxation for public revenue. Through a series of legislative acts dealing with different aspects of the industry, such as depletion, tariffs, quotas, etc., a mineral policy is developed. The policy today must consider two problems which are important to the state of Missouri as they are elsewhere, namely, the appraisal of existing mineral legislation and the long-range problem of supplying minerals to an ever-expanding economy. Modern civilization is dependent on mining and therefore has a need, as well as an interest, in efficiency and conservation of mineral resources. Public supervision should be extended to specific conditions which affect the mineral industries and in the long run, are detrimental to both the industries and the public.

Taxes and Incentive

In appraising the mineral legislation of Missouri, two factors must be kept in mind: the need for increasing amounts of revenue to aid the financing of government programs, and restraint from unduly impairing economic incentive in the mining industry. tax policy that will pro-

mote economic expansion and still maintain the necessary level of state income is imperative. The vitality of the economy depends in large measure on decisions with respect to expansion and innovation. Heavy taxes not only affect the volume of funds available for replacements and expansion, but also influence the attitudes of business communities and management toward expansion or creation of new businesses.

Conservation of Minerals

Conservation as applied to minerals is not the preservation of existing supplies of commodities, but rather the most efficient utilization of mined resources for the benefit of mankind. One of the foremost practices of conservation is the blending of low-value ores with those of high value to increase the tonnage produced. This utilization of low grade ores materially extends the mine life with resultant economic benefits to the state.

Heavy taxation of the mineral industry, that is, taxation above that which is levied on other forms of enterprise, is in direct opposition to conservation practice. High property taxes in particular provide an inducement for the producer to "hi-grade", or mine only the most profitable ore, in a short time to avoid paying taxes over a long period of time.

It is not meant to imply that the mining industry should pay lower taxes than other industries. A con-

scientious effort should be made to keep equity the foremost criteria in state taxation, and particularily, property taxation.

Mining and the Local Economy

A large percentage of the population around a productive mine depends on the mine for its livelihood. This is especially true when the deposits are located in remote areas or on lands which are not suitable for agriculture. The importance of the impact on the economy of an area was borne out by a survey[19] made in Utah in the mid-1940's. Less than 12% of the population was made up of the families directly engaged in the metal mining or smelting industry, yet almost one-half the population of the state was dependent on the industry for its livelihood. For every man engaged in mining and allied industries, over two jobs were created in service industries and a total of 12 persons were thereby supported. Another example is Sudbury, Ontario, Canada, where the city population of 80,000 is entirely dependent on the resources of the International Nickel Company mine which employs 20,000 workers.

Less than one tenth of one percent of Missouri's population is employed in the mining industry. Many of these people live in small mining communities in the southeastern lead belt. In most cases the community is entirely dependent on the mine for existence and the bulk

of the property tax burden has been shifted to the mining property in the past years. Residential districts have been flagrantly under-assessed.

The St. Joseph Lead Company has paid up to 80% of the local taxes collected in a county in which they operate a mine. Recently, when a company mine was forced to close due to market conditions and grade of ore available, the local tax authorities were unable to comply with a request for re-assessment on the idle property. The county had committed the tax revenue to future budgets and could not operate without the mine's present tax revenue. The situation was compromised by a future "stepped" reduction of property taxes which the local government could plan for. This illustrates a case of unwarranted taxation due to the dependency of the community on the operating mineral industry.

When the Meramec Mining Company reaches full-scale production at their new Pea Ridge project in Washington County, many new jobs and resulting service industries will be created. The company is expected to employ approximately one thousand people after full production is reached. Using an average wage of $25 per day, per employee, $25,000 per day would be added to the local economy. If each mining employee indirectly supports a total of twelve other persons through service and allied industries, 12,000 people will be located in Washington

county as a result of the development of the mineral property.

Fair taxes and incentives could accelerate the development of known mineral deposits and increase exploration activity significantly. It taxes the imagination to comprehend the effect on state and local economy if more deposits of the magnitude of the Pea Ridge orebody are brought into production. The employees of one mine would add over $100,000 to the state revenue through personal income taxes and the corporation income and franchise taxes would yield over $50,000 annually. The local government would benefit greatly from the corporate property tax of approximately $250,000 to $500,000 annually, in addition to a substantial boost in property taxes paid by employees. These changes would bring increased welfare and services to the entire county as well as the community.

Conversely, it is easy to visualize the rapid deterioration of a community's economy resulting from the closing of a mine already providing employment for the major portion of the populace. Since much of the land in southeastern Missouri has little agricultural value, people would be forced to move to other areas in order to maintain their standard of living.

It is obvious that the state government should keep in mind the importance of the mineral 'ndustry in the local economy when formulating new or revised taxation policies.

CHAPTER IV

TAXES APPLICABLE TO THE MISSOURI MINERAL INDUSTRY

Income Tax

The Missouri income tax laws apply to the individual mineral producer and corporate extractive industries in the same way they apply to all other state individuals and corporations. In the case of the individual, a standard deduction of $1200 is allowed ($2400 for a married couple) and the tax rate varies from 1% to 4%, less specified deductions.(see Appendix I). The corporate income tax rate is set at 2% of the net income, the computation of the net income being based on specified deductions from the gross.

Deductions allowed include all ordinary and necessary expenses incurred in producing the income, all taxes paid to state, county, school districts, and municipalities, not including those assessed against local benefits or income, United States excise and stamp taxes on business done or goods sold in the state, United States tax on income earned in the state of Missouri, a reasonable amount for depreciation, and specified depletion allowances.

Computation of depreciation must be consistent with recognized practice. Three basic methods, straight line, declining balance, and sum of the years digits, are specifically provided, although other methods may be used.

Different methods may be used for different classes of assets, but the method must be consistent in each class.

Depletion allowances are confined to gas, oil, and minerals, but the total amount of deduction over the years may not exceed the amount of capital originally invested. The allowance is 27% of the gross income for gas and oil, but varies considerably for all other minerals.(see Appendix I). Zinc and lead rates are 23%, iron, barite, refrac ory and fire clay 10%, and brick and tile clay 5%. Depletion allowances are deductible against each tract of land only. Leased tracts, trusts, or multiple ownership must have the depletion allowance apportioned between the lessor and lessee, trust and beneficiary, or partners. State income tax returns must be filed by April 15th of the year following the year in which the income was earned.

Franchise Tax

In 1943 the legislature approved an annual corporate franchise tax (see Appendix II) which is levied both on state and out-of-state corporations covered by Chapter 351, Revised Statutes of Missouri, 1959. The rate is equal to one-twentieth of one percent of the par value of the outstanding shares and surplus. Where the shares are without par value, they are listed at actual value with a minimum value of five dollars per share. When any corporation employs a part of its outstanding shares outside the state it shall be deemed to employ in

Missouri that proportion of its entire outstanding shares and surplus that its property and assets in this state bears to all its property and assets wherever located. All corporations are required to file a report with the state tax commission prior to March 1st showing the present status of the corporation. The tax commission will then notify the corporation of its tax obligation prior to November 1st.

General Property Tax

The general property tax is an important element in the state revenue system of Missouri. While the proportion of revenue received from property taxation to total state tax revenue has dropped substantially, this tax is still the major source of income for the local governments in the state. The total state levy is presently set at seven cents per one-hundred dollars valuation and is made up of three components. Three cents is levied for state revenue, three cents for aid to the blind, and one cent for payment of interest on state indebtedness to the public school fund and to the seminary fund. The remainder of the total general property tax is apportioned to the county and township organizations as prescribed by law.

As mentioned previously, the "ad valorem" tax has a very serious drawback when applied to mineral properties, namely, the extreme difficulty of appraisal and subsequent

valuation by untrained local assessors. Generally local assessors in Missouri use the cash sale price as a basis for valuation. This method serves where there are enough property sales to give an indication of present values, but in the case of mineral properties, sales are relatively infrequent. There is no standard for measuring fair market value of a mine because of the many elements that affect the "in place" value of the ore. The life of a mine is not always certain, exploration is usually being carried out simultaneously, and present market prices for concentrates are not guaranteed for the future. The cost of production varies from mine to mine and depends on internal factors of size and attitude of ore body, character of the rock, relationship of mineral to the surrounding country rock and associated gangue material, homogeniety of the ore, and problems involved in metallurgical treatment. External factors to be considered are labor rates, transportation costs, and marketing methods. These factors are accompanied by the difficulty of valuation of the surface plant and equipment. The utility of the equipment is limited to its contribution to the "winning" of the ore. Since the valuation should reflect the utility and life of the equipment, it is easy to understand that the assessor might act arbitrarily and/or discriminately.

A questionaire sent to the 114 counties in Missouri

brought replies (see Appendix V) which gave an indication of the wide variation in methods of application of the general property tax. The usual assessment was based on 30% to 33% of the purchase price of the property. Some counties assessed mineral rights in addition to the surface tax and this assessed value ranged from twenty-five cents to five dollars per acre. Stockpiles of minerals are assessed in some counties at five to forty-five cents per ton. The questionaire was not conclusive in pointing up any trend in assessment methods (due to misinterpretation of the questions, incomplete answers, and lack of returns) but definitely proved that mineral taxation in the state is not applied on a scientific or equal basis. Equitable distribution of the tax burden is a basic requirement of a good tax system and should be strived for, even if impossible to attain.

During a recent check* of county assessments in a major Missouri mineral producing area it was found that property had an average assessed valuation of 21% of actual value while the chief mineral producer of that county had been assessed at 30% of actual value for some time. This is grossly unfair though consistent with a present trend to shift taxes to industry.

A plan for major revision of the Missouri general

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*Rasch, W.O. and Bell, D. (1962) St. Joseph Lead Company, Personal Communication.

property tax system by taxing mines on their future profits is discussed in Chapter VI.

Missouri is now the scene of a very extensive mineral exploration program. It would benefit the state to encourage this program in every way. New discoveries of mineral wealth can only add to the welfare of the state. the general economy, and state revenue and services. One incentive which could encourage the mineral industry to develop Missouri resources is the exemption of the general property tax while the initial development program is being carried out. The tax collected on improvements and orebody of a mineral property during its necessarily long development stage is purely a "windfall" to the state, even then anticipating the new revenue to be gained when the property reaches the production stage. It is interesting to note that property and improvement taxes on the Pea Ridge development in Washington County amounted to over $265,000* in 1960-1961, and could approach $200,000 in 1962 alone. This nearly one-half million dollars paid in taxes before any return on the capital investment clearly represents a cost which could have profound influence on corporation decisions to develop mineral resources in Missouri

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*ibid.

Severance Tax*

The mine inspection fee system used in Missouri has remained virtually unchanged since its inauguration in 1917.** There are thirteen minerals presently being taxed under the statute.(17) The fees range from one mill per ton on silica and shale to three cents per ton on lead, zinc, copper, and manganese ores and concentrates. (see Appendix IV) Copper and manganese were added to the list of taxed minerals in 1959. House Bill No. 365(5) was introduced to the 71st General Assembly in 1961 and called for the addition of barite, marble, and limestone to the taxed minerals, but the bill failed to pass. Senate Bill No. 239(18) was introduced a week later and called for the addition of limestone, barite, marble, tripoli, and sand and gravel. This act revised the present statute to call the fee specifically a severance tax and increased the rates tenfold. Only 10% of the tax to be collected was to be credited to the mine inspection division, therefore the effect would have been to supplement the general revenue fund only. This bill failed to get out of the committee.

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*The present fee charged to mineral producers in Missouri is not listed as a severance tax although technically it is exactly that, the levy being based on tonnage produced. It is intended to aid financing the Bureau of Mine Inspection. A $35 fee is also charged commercial caves for annual inspection.

**Nelson, W.R. (1962) Director, Dept. of Legislative Research, State of Missouri, Personal Communication.

The recent legislative proposals support a general trend of thought to adopt a severance tax in Missouri in the near future to supplement present mineral taxation. It is felt by some that this measure would be disastrous to the mineral industry.

Many of the leading mineral producing states employ the severance tax as a source of revenue. The tax is easy to administer and applies to producing mines only. One of the chief arguments in favor of the severance tax is the one of "natural heritage"; that the minerals are an exhaustible natural heritage of the state and should be taxed in a manner to reimburse the state for its depleted wealth. This argument has questionable value.

In 1932 Professor R.G. Blakey and a staff of University of Minnesota research experts compiled a book entitled "Taxation in Minnesota". In the book the following statement was made:

> "----------the same argument would apply also to agricultural land and to manufacturing sites on navigable rivers, as well as to forests. It might even be logically extended to cover the earnings of human beings who posess unusual talents that are the result of inherited characteristics. A more practical view of the problem must, moreover, take account of the fact that the development of a mining center adds to the opportunities for labor, merchandising, transportation, and all other economic enterprises. It must be remembered too that mining is usually a speculative venture, more hazardous to capital than are most economic activities. Too often men are inclined to look only at the enormous profits made in successful ventures and to ignore the losses of the unsuccessful. Our contention is that the natural heritage argument is not a strong one and that it does not of itself justify heav'er taxation of mines."

In 1952 Professor H.K. Allen[11] of the University of Illinois, writing on the subject of ad valorem vs. severance taxes, stated:

> "Upon examination, the arguments for imposing heavier taxes upon mineral resources than upon other real estate are not convincing. The fact that mineral resources are a natural heritage is admitted, but it is also true that the original surface land and, at least to some extent, superior human skills are natural endowments. Economic surpluses arise from the utilization of all factors of production--land, labor, and capital--not just from mineral resources. In our modern economy, economic surpluses find expression in net income, or that part of the accounting concept of net income which the economist calls profit. Income advantages from natural heritages of whatever type are generously tapped by federal and state income taxes. It might also be added that the hazards and risks of discovering and recovering mineral resources are greater than those that attach to most other natural heritages."

The major disadvantage of a severance tax is the fact that cost of production, a basic factor to be considered in fair mine taxation, is not taken into account. The high-cost producer suffers a tax disadvantage and the equity of the tax disappears. In addition, the fixed tax rate may prohibit production if the commodity price drops an appreciable amount. A graduated rate would be one solution to the cost problem, but in the final analysis, the problem of graduating the rate would be similar to appraising the product as is done in some states employing the general property tax.

Regardless of the future outcome of severance tax legislation in Missouri, it seems that the present inspec-

tion fee should be increased moderately to finance the operation of the mine inspection division. Of the total cost of operation of that department in 1961, only 57%* was raised through fees. The remainder of the cost was paid out of the general revenue fund. The cost of inspecting mines and mineral properties could logically be placed wholly on the mineral industry.

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*Trigg, C.D. (1962) Comptroller and Director of Budget, State of Missouri, Personal Communication.

CHAPTER V

MINERAL TAXES IN OTHER AREAS

Alabama

Alabama has a corporate income tax of 3% of net income and also a corporate capital stock tax. Domestic corporations pay $2 per thousand on outstanding stock while out-of-state corporations pay the same amount on the capital employed in the state. The general property tax assessment is based on 60% of the fair market value of real and personal property; ore reserves are included in this assessment. There is no general formula used to evaluate the reserves. A severance tax is levied on coal, iron ore, oil and natural gas, and forest products. The rates are 1½ cents per ton on coal, 3 cents per ton of iron ore, 2% of gross casinghead value of gas and oil, and 8 to 20 cents per thousand board feet log scale of lumber.

California

California has a corporate income tax of 4%. Real and tangible personal property is assessed at 50% of full cash value. Unmined reserves are taxed on present worth of future profits using the Hoskold formula, but this levy is for local purposes only. The severance tax is confined to oil and gas production and the rate is set annually by the state as the revenue needs dictate. The proceeds are used to finance the Department of Natural Resources.

Michigan

Michigan levies a nominal corporation stock tax of 0.4%. Its general property tax assesses real and tangible personal property at full cash value. Appraisal of mining properties is done by the state appraiser of mines and assessment is based on present value of estimated future profits (see Chapter VI). Newly found orebodies, not a part of an existing mine, are exempt from the property tax for a period of ten years. The state severance tax is limited to natural gas and oil. The rate is 2% of the gross value plus 1/8 cent per barrel of oil.

Minnesota

Minnesota has a corporate income tax of 6.3% of net income. The general property tax is based on assessment at full value, but iron ore is assessed at 50% of full value, with graduated reductions for low grade ore. Blast furnace products are assessed at 15% of full value. A royalty tax levied on the royalties received from leasing mineral lands are evaluated by direction of the tax commission using the Hoskold formula. An "Occupation Tax" levied on mineral producers is equal to 11% of the market value of the minerals produced. An additional tax on taconite and iron sulphides levies 5¢ per merchantable ton of iron ore concentrate plus 1/10 cent per gross ton for each 1% that the iron content of the concentrate exceeds 55% when dried. All mineral producers are exempt from the

state income tax because of the special taxes applied to the industry.

New York

The New York corporate income tax is 5½% of net income. Real estate and personal property are taxes on a basis of full value. Mine assessments are made by local assessors and there is no uniformity. New York is presently considering the use of the Hoskold formula.

Utah

Utah levies a corporate net income tax of 3%. Metalliferous mines are valued at $5 per acre plus twice the value of the net proceeds for the preceding three years, in addition to the value of the real estate and machinery. A severance tax of 1% of gross proceeds is applied to metalliferous ores sold.

Wisconsin

Wisconsin has a graduated corporate income tax ranging from 2% on the first $1000 of net income to 6% on net income over $7000. Real and personal property is assessed at full value at private sale. The value of mineral properties is determined by the state geologist using the Hoskold formula.

Selected Provinces in Canada

Ontario. The province does not levy an ad valorem tax,

but local districts do. Mining companies pay an annual profits tax on profits above $10,000. The rate is 6% up to $1,000,000, 8% up to $5,000,000, and 9% over $5,000,000. Domestic mining companies are exempt from the corporate tax act which levies a tax on all corporations in the province.

Quebec. Like Ontario, Quebec does not levy a provincial property tax, although the local taxing districts use this tax. Quebec imposes an income tax, but mining companies are exempt from this as well as from the corporation tax. Mining companies pay duties on their net profits over $10,000. The rate is 4% up to $1,000,000, 5% up to $2,000,000, 6% up to $3,000,000, and 7% on profits above $3,000,000. The Quebec Mining Act exempts mining companies from municipal (county) taxation for the initial five years.

British Columbia. The taxation act provides for the assessment of an output tax of 2% of the assessed value of produced ore, less transportation and smelting, on production of over $5000 value. This tax is alternative with the provincial income tax, that is, which ever is greater is levied on values above $5000. In March, 1957, a mineral property tax act was passed which levied a tax of not more than 10% of the assessed value of specified mineral properties. The actual rate was later set at 8%. This law was ruled invalid by the courts because in conjunction with the 1957 Iron Bounty Act, it imposed an export tax which as a form of indirect taxation is beyond the jurisdiction of

the provincial legislature.

The taxes in other areas discussed[12] [20] support the social expediency theory in that no one system is predominant. Each state government passes laws as the political and economic situation permits. Close scrutiny should be given to the present laws to insure their application and equality before new tax legislation is contemplated. This would seem feasible in Missouri in view of the variance in application of the general property tax.

Note the different exemptions given the mineral producers in the Canadian Provinces, especially exemption of taxes for a period of time after start of production. The Dominion government also exempts mineral producers from income tax for a period of three years after initial production starts. These incentives play a major part in promoting initial exploration which in turn leads to important mineral discoveries. The "loss" of a relatively small portion of revenue to the state from these benefits is insignificant in proportion to the increased revenue derived from taxation of the new industries over their life.

CHAPTER VI

APPRAISAL OF A MINERAL PROPERTY

The Michigan System of Mine Appraisal.

In 1911[14][22] the legislature of the state of Michigan, confronted and questioned continually about the inequalities of assessment of mineral properties by local assessors, studied the problem and authorized the State Tax Commission to appraise all mines in the state. The Commission selected James R. Finlay to make the appraisal. Mr. Finlay enlisted Dr. C.K. Leith, Mr. William Hague, and Dr. H.M. Chance to aid him in completing the investigation. The first evaluation proved the inequalities of the former system, disclosed the technical nature of mine valuation, and pointed out the need for periodic appraisal to keep abreast of changing mine conditions.

The methods used in the appraisal system utilize the basic principles set forth by Finlay half a century ago and have withstood the tests of court litigation[15] successfully. The state of Wisconsin has successfully employed the Michigan system and Minnesota uses very similar methods in applying the general property tax.

The system is based on the fact that the value of a mine depends on the profit that can be returned over the life of the mine. In order to find the present value of the profit, basic factors must first be determined and the total profit

must be discounted to present value using a predetermined interest rate. The mathematical formula devised by Hoskold for this purpose is widely used. The application of this formula has been simplified by the use of tables specifically designed for appraisal work.

To determine the valuation of a mine, the ore reserves must be determined as close as possible. Next, the average profit per unit, usually the ton, must be ascertained. This can be found by using the unit cost of production and prediction of the future selling price of the ore. This is somewhat a matter of judgement, but careful study of past costs and the past price trends can minimize the error significantly. The past shipping records of the mine give an indication both of capacity of production and mine life. When these facts are obtained, the valuation of the mine is computed by multiplying the expected annual production by the profit per ton and the present-worth factor for the life of the mine. Any unusual conditions to be expected in the future can be compensated for by adjustment of the present-worth factor. Each mine represents a unique appraisal and the competent examiner can correct for and adjust differences by use of his training and knowledge. In this way equality is maintained.

The Michigan system has been endorsed by many mining engineers, economists, and taxation authorities; its long record of continuous use defends the soundness of its

principles. States utilizing the ad valorem tax should consider the system if not already employing it.

Taxing Future Profits of Mines in Missouri.

A suggested reform of the application of the general property tax to mines in Missouri is to discard the present system of assessing valuation on the sale price. The mine, reserves, and surface plant should be valued as a unit since they are inseparable as a producing facility. Utilization of a taxing system based on the net worth of future profits, similar to the Michigan system, would provide an equitable means of determining the mineral industry's fair share of the property tax burden.

The state would be obligated to employ a team of mining engineers or geologists to perform the appraisals of the mineral properties, but the added cost would not be appreciable in view of the value of an equitable and scientific tax system to the state government.

Since past records of all phases of the mine operation are important in determining the valuation, a period of time must be determined which reflects the average condition of the mine. Records for that period will then be used in subsequent appraisals. Michigan uses a five year period, but a close scrutiny of records and conditions in Missouri might indicate a more feasable number of years. The records, combined with available data and conditions can then be used to determine the following criteria in

arriving at the valuation.

Computing Ore Reserves. The ore reserves must be computed as accurately as possible using knowledge of the geology of the area, present records, and information obtained from exploration and drilling. No rule can be established for estimating probable ore, but all available evidence must be considered.

Average Profit Per Ton. The average profit per ton predicted for the coming year need not be purely speculative. By carefully examining the trend over recent years, production costs can be accurately forecast, as well as commodity prices. Using these facts the appraiser can calculate the unit profit with a high degree of accuracy.

Annual Production and Probable Life of Mine. The operating period of the mine can be found by dividing the ore reserve total by the annual production rate. The average rate for the immediately preceding years is a good indication of the mine productivity, but any future expansion of production facilities must be considered.

Present Value Discount Factor. The Hoskold Formula utilizes two interest rates, a speculative rate to reduce expected future returns to a present worth, and a discount rate to be applied to a sinking fund in order to replace the capital investment at the end of the life of the mine. The rates to be used in the formula have always been a subject of debate. If the sinking fund can be invested at a high

rate, the annual payment into the fund can be less and the mine value is increased. If future profits can be discounted at a high rate, the present value of the future income is lower. Consequently, the mine owner, from a tax standpoint, desires a high speculative rate and a low sinking fund return. Michigan has established both rates at 6%, but in the past 8% and 4% have been used extensively. The tax commission and the mine owners will have to agree on the rate to be used if litigation on the subject is to be avoided.

Parks[9] has incorporated a table which resolves the interest rates in the Hoskold formula into a single factor to be multiplied by the total annual profit. The appraiser can arrive at the present value of a mine very simply after completing the comprehensive study of the property.

The following problem illustrates a method of evaluating a hypothetical mineral property based on present value of future profits. The cost figures are arbitrary and merely serve as examples.

Given:

A zinc mine in Missouri with the following characteristics:

a. Reserves of 2,000,000 tons with average tenor of 5% zinc metal.

b. Annual production of 200,000 tons.

c. Development period of two years costing $1,800,000.

d. Plant and equipment cost of $1,000,000.

e. Safe rate of interest on re-invested capital of 4%.

f. Speculative interest on capital invested of 8%.

g. Price paid for 60% zinc concentrate is $68 per ton.

h. Ten percent loss during mining and concentration.

i. Unit production costs as shown below (per ton).

I.	Cost of Mining		
	A. Labor		
	1. Operating expense	$0.49	
	2. Repair and maintenance	0.38	
	3. Concentrating and crushing	0.23	
	4. General expense	0.08	
	5. Total labor cost	$1.18	
	B. Supplies		
	1. Operating expense	$0.46	
	2. Repair and maintenance	0.31	
	3. Concentrating and crushing	0.34	
	4. General mine expense	0.08	
	5. Total cost of supplies	$1.19	
	C. Total cost of mining	$2.37	$2.37
II.	Deferred Mining Costs		
	A. Development	$0.40	
	B. Shafts	0.22	
	C. Total deferred costs	$0.62	$0.62

III.	Taxes Deductible		
	A. State and local general property	$0.07	
	B. State corporation	0.01	
	C. Social security	0.03	
	D. Total taxes deductible	0.11	$0.11
IV.	General Overhead Expense		
	A. General office	$0.04	
	B. General Superintendence	0.05	
	C. Fire Insurance	0.02	
	D. Depreciation	0.58	
	E. Total Overhead Expense	$0.69	$0.69
V.	Transportation		
	A. Rail Freight	$0.06	
	B. Total Transportation Costs	$0.06	$0.06
VI.	Marketing		
	A. Selling	$0.08	
	B. Administrative	0.07	
	C. Total marketing costs	$0.15	$0.15
VII.	Total Allowable Costs Per Ton		$4.00
VIII.	Net Return Per Ton		
	200,000 tons x .05 = 10,000 tons		
	minus 10% loss = 9,000 tons		
	9,000 ÷ 0.06 = 15,000 tons x $68 = $1,020,000		
	$1,020,000 ÷ 200,000 = $5.10		
	Total net return per ton		$5.10
IX.	Total net Profit Per Ton		
	$5.10 - $4.00 =		$1.10

X. Total Annual Net Profit

200,000 x $1.10 = $220,000.00

XI. Present Value

Using the Hoskold Formula:

$$V_p = \frac{A}{\frac{r}{R^n-1} + r'}$$

where: V_p = present value of future earnings

A = annual earnings (net profit)

r = safe interest rate on re-invested earnings

r' = speculative interest rate on invested earnings

n = life of mine (10 years)

$R = 1 + r$

$$V_p = \frac{\$220,000}{\frac{.04}{1.04^{10}-1} + .08} = \$220,000 \times 6.124 = \$1,347,280.00$$

XII. Taxes Payable

Based on 30% assessed valuation and a $4 per $100 value tax rate.

$1,347,280 x 0.30 = $404,184

$4,041.84 x $4 = $16,167.36

The costs shown are common to all mining operations; others may be added if necessary. By appraising each year it can readily be seen that all factors can be accounted for, and an accurate valuation can be obtained. Note that depreciation is listed as a cost item under general overhead expense. This is ordinarily not an allowed cost but the state of Michigan has found that deferring the costs of

the buildings and equipment has not been sound due to wide variation over the mine life and from one mine to another. Depreciation costs have been found to approximate very closely the cost of construction and installation and have been used in lieu of them. This practice is a question to be determined from Missouri mine records. It can be seen that if the additional one million dollars value of the buildings and mining and milling equipment were capitalized, the value of 50¢ per ton is nearly identical with the depreciation charge of 55¢ per ton.

State and local general property taxes, state corporation and social security taxes are deductible as a direct cost of mining. Federal income tax is not deductible as it is deductible when computing state income tax.

If the development and plant costs were taxed as improvements under the present system, the taxes paid during the two year development would amount to $32,400, (based on 30% assessed value and a tax rate of $4 per $100 valuation.) Exemption of property taxes during development would result in a "loss" of less than 20% of the total taxes paid over the life of the mine and this "loss" would become more insignificant if the life were longer.

In lieu of exemption of property taxes during the development period, the state could allow these costs to be deferred along with the construction and development capitalization. The "loss" of tax revenue would then be spread

over a longer period of time to lessen the effect on state finances.

The mines should be appraised annually to keep pace with changing conditions and new development. Any recent price changes which would have a substantial effect on the valuation could then be compensated for in determining the new valuation.

The use of this method will apportion the general property tax in Missouri more equitably than the present system and still provide the stability of yield needed for protection of local governments.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The foremost problem in taxation lies in the equalization of the tax burden, not only among taxpayers of a given class, but also among taxpayers engaged in widely varying forms of enterprise. To encourage business in all fields and promote common interests we must not ask one group of individuals or corporations to contribute a greater proportion of taxes than another, either directly or indirectly.

A fair and sound mineral tax policy would have beneficial effects on both the local and state economy and welfare. The effect on the mines in the state would be to increase efficiency, lengthen the life, and provide for more accurate planning of future operations.

On the local level, more jobs available would mean increased personal income, spending, and a higher standard of living. This, in turn, would raise local tax revenue and provide greater services to the public in all forms.

The state would also benefit from increased tax revenue, as well as from conservation of mineral resources. Extraction of more of the lower value basic minerals would mean more employment and longer life for the mines.

Steadily rising state government cost has resulted in the adoption of the social expediency theory of distribution

of the tax burden. The increase in the number and type of taxes has lessened the problems of stability and flexibility of yield, and adaptability of taxes. Adequacy of yield of all taxes remains a problem with each fiscal year, but added taxation specifically on the mineral industry in Missouri will violate the neutrality concept and approach the principles of the law of diminishing return.

The basic differences of mineral properties and mining ventures compared to other types of private enterprise are sufficient to warrant special adaptation of taxation principles in order to tax the mineral industry equitably with other enterprise and property owners. The dissimilarities have prompted many different types of tax legislation in the various states. Some of the taxes cannot be applied to the mining industry equitably. State and local governments should avoid taxing costs and attempt to tax surplus.

In view of the strategic position of a large portion of Missouri's mineral industry in the economy of local communities, the state government and the public should endeavor to enact a mineral policy which is in the best interests of the welfare of the state. Mineral taxation should be administered in such a way as to provide incentive for greater development as well as sound conservation policies to insure long life of the mines and the most efficient recovery of natural wealth.

The Missouri corporation net income tax of 2% is very

reasonable in comparison to the other states. Generally the rates are higher and range to over 8%.

The franchise tax is used as a measure of the value of the franchise privileges. The Missouri rate is nominal.

The general property tax as presently applied to mines and mineral properties is not equitable. The state tax commission should study the problem thoroughly and utilize a new system of appraisal for taxation purposes, if possible. Incentives might be introduced to encourage further development of Missouri's mineral resources. A property tax deduction during development of new mineral properties should be considered.

Forms of severance taxes are generally unfair to the mining industry, and are discriminative. The natural heritage argument does not justify heavier taxation of the mineral industry through use of a severance tax or other forms of special taxation. The present fee system for mine inspection should be modified slightly. It is logical to expect the mining industry to support the Div'sion of Mine Inspection, therefore the fees could be increased moderately to eliminate general revenue fund expenditures on mine inspection.

The Michigan system of mine appraisal has a long history of operation, and still utilizes the basic principles set forth half a century ago. This gives some indication

of its value and applicability. A tax on present value of future profits is an equitable approach to the property tax problem, and annual appraisal considers all changing factors in the operation of the mine. The state should earnestly consider using a mine appraisal system of this type throughout the mines in Missouri.

REFERENCES

REFERENCES

1. BOWMAN, M.J. and BACH, G.L. (1949) Economic Analysis and Public Policy, Prentice-Hall, New York, pp. 709-715.

2. COPELAND, M.A. (1961) Trends in Government Financing, Princeton Univ. Press, Princeton, pp. 54-59.

3. CROCKETT, E.C. (1946) Taxation in Colorado, Report No. 2, Univ. of Colorado, Boulder, 44p.

4. GARNSEY, M.E. (1959) Fair Taxes for Mining, The Colorado Quarterly, Winter, 1959, 10p.

5. HOUSE BILL No. 365, (1961) 71st General Assembly, 4p.

6. LIETH, C.K. (1938) Mineral Valuations of the Future, A.I.M.E. Series, New York, pp. 5-11.

7. LENTZ, O.H. (1960) Mineral Economics and the Problem of Equitable Taxation, Quarterly of the Colorado School of Mines, Vol. 55, No. 2, 111p.

8. MISSOURI REVISED STATUTES, (1959) Vol. 1, Chaps. 137, 143, 147. Vol. 2, Chap. 209.

9. PARKS, R.D. (1957) Examination and Valuation of Mineral Property, 4th ed., Addison-Wesley, Reading, Massachusetts, pp. 391-403.

10. PLEHN, C.C. (1929) Introduction to Public Finance, 5th ed., Macmillan, New York, pp. 186-189.

11. REPORT OF LEGISLATIVE COMMISSION ON TAXATION OF IRON ORE, (1955) State of Minnesota, p. 194.

12. _____, op. cit., pp. 23-33, pp. 95-98.

13. ROBERTS, W.A. (1944) State Taxation of Metallic Deposits, Harvard Univ. Press, Cambridge, 400p.

14. _____, op. cit., p. 313.

15. _____, op. cit., pp. 312-317.

16. SELIGMAN, E.R.A. (1928) Essays in Taxation, 10th ed., Macmillan, New York, p. 222.

17. SENATE BILL No. 188 (1959) 70th General Assembly, 40p.

18. SENATE BILL No. 239 (1961) 71st General Assembly, 4p.

19. TYLER, P.M. (1948) From the Ground Up, McGraw-Hill, New York, pp. 12-15.

20. WILLCOX, F. (1949) Mine Accounting and Financial Administration, Pitman, New York, p. 409, pp. 421-428.

21. YOUNG, L.E. (1916) Mine Taxation in the United States, Univ. of Illinois, Urbana, pp. 122-133.

22. _____, op. cit., p. 185.

APPENDIXES

APPENDIX I

EXCERPTS FROM INCOME TAX STATUTES

Revised Statutes, Missouri 1959, Chapter 143 (Income Tax)

and Missouri Income Tax Regulations (MR).

143.010. Tax rate on individuals. --

1. Every single individual, a citizen or resident of this state having a gross income in excess of one thousand two hundred dollars, and every married couple, citizens or residents of this state having a gross income in excess of two thousand four hundred dollars, shall file an income tax return or returns, and pay a tax upon net income received, from all sources during the preceding year in excess of the exemptions herein provided.

2. The rate of tax on net incomes shall be as follows:

$0	to	$1,000.00	1 %	less	
1,000.00	to	2,000.00	1½%	less	$5.00
2,000.00	to	3,000.00	2 %	less	15.00
3,000.00	to	5,000.00	2½%	less	30.00
5,000.00	to	7,000.00	3 %	less	55.00
7,000.00	to	9,000.00	3½%	less	90.00
9,000.00	to	more	4 %	less	135.00

The entire taxable amount of each net income shall be computed at only the one rate wherein the income falls.

3. Every individual, not a citizen or resident of this state, shall file an income tax return and pay a tax at the rate prescribed in subsection 2 of this section on the net income received from all sources within this state during the preceding year in excess of the exemptions herein provided.

4. Exemptions shall be prorated and the percent of tax levied shall be allocated to portions of any year where the entire year is not covered or different rates may prevail.

143.030. Tax rate on corporations, generally. --

1. Each year, at the times and in the manner now or hereafter provided, a tax shall be levied upon, assessed against, collected from, and paid by every corporation, joint stock company and joint stock association not organized, authorized or existing under the laws of this state, not now or hereafter exempted and not subject to tax under sections 143.040 to 143.080, the rate of two per cent of net income, determined as now or hereafter provided, received from all

sources within this state, during the preceding year; per cent of tax levied shall be allocated to portions of any year where entire year is not covered or different rates may prevail.

2. The rate of two per cent of net income is hereby declared and provided as the rate or per cent of net income levied and assessed by, and as applicable to sections 143.040 to 143.080.

M. R. 140 (3.)

3. Depletion: An allowance for depletion may be deducted from gross income (R.S. Mo., 1959 Section 143.040, 143.050, 143.070, 143.080 and 143.160). This allowance is confined to minerals, oil and gas. Whenever any of them is removed from its natural position or native state, the original amount is reduced by just that much. This gradual reduction is known as "depletion", and to compensate for it the law permits a depletion deduction in computing income. The total amount of depletion allowed over the years may not exceed the amount of capital originally invested. R.S. Mo. 1959, Section 143.190.

In computing the depletion allowance "property" means each separate interest owned by a taxpayer in each separate tract or parcel of land. Tracts or parcels may be separated by conveyancing as well as geographically. The amount deductible is to be computed by percentage method.

Who may take the deduction:

Where an individual or a corporation is the sole owner and operator of the property, such taxpayer is the only one who is entitled to deduct depletion for that property. But a deduction may be allowed to more than one taxpayer where the owner has transferred a part of his economic interest (only capital originally invested) in mineral deposits to another or where the owner is a trust or a partnership. The deduction is apportioned between lessor and lessee and between trustee and beneficiary. In the case of an individual the deduction is subtracted from gross income to arrive at adjusted gross income.

Percentage Depletion:

(A) Oil and Gas Wells--The allowance for depletion is 27½% of the gross income from the property. Any part of gross income which is distributed to the lessor must be excluded from gross income of the lessee. Consequently, in computing gross income for purposes of percentage depletion, the lessee must exclude from actual gross income all rents and royalties paid the lessor. If the lessor receives bonuses, royalties and a share in the net profits of oil and gas operations, he is entitled to percentage depletion on

such payments. If royalties in the form of bonus payments have been paid in the tax year or any prior year, the lessee must exclude from gross income that part of such payments which is allocable to the products sold during the tax year.

As to grouping interest for depletion purposes, (B) Coal, metal mines, etc.-- The allowance is based on the gross income from the property (mines or deposits), as follows:

(1) Sulfur and uranium; and if from deposits in the United States, anorthosite (to the extent that lumina and aluminum compounds are extrated therefrom), asbestos, bauxite, beryl, clectite, chromite, corundum, fluorspar, graphite, ilmenite, kyanite, mica, olivine, quartz crystals (radio grade), rutile, block steatite, talc and zircon, and ores of the following metals; antimony, bismuth, cadmiun, cobalt, columbium, lead, lithium, manganese, mercury, nickel, platinum and platinum group metals, tantalum, thorium, tin, titanium, tungsten, vanadium and zinc----------23%

(2) Ball clay, bentonite, china clay, sagger clay, metal mines (if not allowed in the 23% group above), rock asphalt, and vermiculite----------15%

(3) Asbestos (if from deposits outside U.S.), brucite, coal, lignite, perlite, sodium chloride and woloastonite----------10%

(4) Brick and tile clay, gravel, mollusk, shells (including clam shells and oyster shells), peat, pumice, sand, scoria, shale, and stone, except stone described in the 15% group below; and if from brine wells--bromine, calcium chloride, and magnesium chloride----------5%

(5) All other minerals (including, but not limited to, aplite, barite, borax, calcium carbonates, refractory and fire clay, diatonaceous earth, dolomite, feldspar, fullers earth, garnet, gilsonite, granite, limestone magnesite, magnesium carbonates, marble, phosphate rock, potash, quartzite, slate, soapstone, stone(used or sold for use by the mine operator as dimension stone or ornamental stone), thenardite, tripoli, trona and (if not allowed in the 23% group above) bauxite, beryl, flake graphite, fluorspar, lepidolite, mica, spodumene and talc including pyrophyllite) except as specified in (a) and (b) below----------15%

(a) When minerals in class (5) are used or sold for use, by the mine operator or owner as riprap, ballast, road material, rubble, concrete aggregates, or for similar purposes the percentage is 5% (unless sold on bid in direct competition with a bona fide bid to sell a mineral listed in (2) above.)

(b) Classification (5) does not include soil, sod, dirt, turf, water or mosses; or minerals from sea water, the air or similar inexhaustible sources.

APPENDIX II

EXCERPTS FROM FRANCHISE TAX STATUTES

Revised Statutes, Missouri 1959, Chapter 147 (Franchise Tax).

147.010. Annual franchise tax--exceptions. --

1. For the taxable year of 1943 and thereafter every corporation of this state organized under or subject to chapter 351, RSMo, or under any other laws of this state shall, in addition to all other fees and taxes now required or paid, pay an annual franchise tax to the state of Missouri equal to one-twentieth of one per cent of the par value of its outstanding shares and surplus, or if the outstanding shares of such corporation or any part thereof consist of shares without par value, then, in that event for the purpose herein contained such shares shall be considered as having a value of five dollars per share unless the actual value of such chares should exceed five dollars per share, in which case the tax shall be levied and collected on the actual value and the surplus. If such corporation employs a part of its outstanding shares in business in another state or country, then such corporation shall pay an annual franchise tax equal to one-twentieth of one per cent of its outstanding shares and surplus employed in this state, and for the purpose of this chapter such corporation shall be deemed to have employed in this state that proportion of its entire outstanding shares and surplus that its property and assets in this state bears to all its property and assets wherever located.

2. Every foreign corporation engaged in business in this state whether under a certificate of authority issued under chapter 351, RSMo, or not, shall pay an annual franchise tax to the state of Missouri equal to one-twentieth of one per cent of the par value of its outstanding shares and surplus employed in business in this state, or if the outstanding shares of such corporation or any part thereof consist of shares without par value, then, in that event, for the purposes herein contained, such shares shall be considered as having a value of five dollars per share, unless the actual value of such shares should exceed five dooars per share, in which case the tax shall be levied and collected on the actual value and the surplus, and for the purposes in this chapter such corporation shall be deemed to have employed in this state that portion of its entire outstanding shares and surplus that its property and assets in this state bear to all its property and assets wherever located.

3. Provided, that this law shall not apply to corporations not organized for profit, nor to express companies, which now pay an annual tax on their gross receipts in this state, and insurance companies, which pay an annual tax on their premium receipts in this state; provided, bank deposits shall be considered as funds of the individual depositor left for safekeeping and shall not be considered in computing the amount of tax collectible under the provisions of this chapter.

APPENDIX III

EXCERPTS FROM PROPERTY TAX STATUTES

Revised Statutes, Missouri 1959, Chapter 137 (Assessment and Levy of Property Taxes) and Chapter 209 (Aid to the Blind).

Levy of Taxes

137.020. Annual levy for state revenue. --

There shall be annually levied, assessed and collected on the assessed value of all real estate and tangible personal property, subject by law to taxation in this state, three cents on each one hundred dollars valuation for state revenue.

137.025. Annual levy to pay interest on certificates of indebtedness. --

There shall be levied, assessed and collected annually on the assessed valuation of all real estate and tangible personal property, subject by law to taxation in this state, one cent on each one hundred dollar valuation to pay the interest on the certificates of indebtedness of the state to the public school fund and to the seminary fund.

209.130 Rate of tax to be levied. --

There is hereby levied an annual tax of three cents on each one hundred dollars valuation of taxable property in the state of Missouri to provide a fund out of which shall be paid the pensions for the deserving blind as herein provided. The tax shall be collected at the same time and in the same manner and by the same means as other state taxes are now collected. The tax, when so collected, shall be paid into the state treasury to the credit of the blind pensions fund, out of which fund shall be paid the pension as provided by law. Any balance remaining in the fund after the payment of the pensions may be appropriated for the adequate support of the commission for the blind, and any balance remaining at the end of the biennium shall be transferred to the distributive public school fund.

Assessment

137.075. What property liable for taxes. --

Every person owning or holding real property or tangible personal property on the first day of January including all such property purchased on that day, shall be liable for taxes thereon during the same calendar year.

137.080. Annual assessment date. --
Real estate and tangible personal property shall be assessed annually at the assessment which commences on the first day of January.

137.095 Corporate property, where taxed. --
The real and tangible personal property of all corporations operating in any county in the state of Missouri and in the city of St. Louis, and subject to assessment by county or township assessors, shall be assessed and taxed in the county in which the property is situated on the first day of January of the year for which the taxes are assessed, and every general or business corporation having or owning tangible personal property on the first day of January in each year, which is situated in any other county than the one in which the corporation is located, shall make return to the assessor of the county or township where the property is situated, in the same manner as other tangible personal property is required by law to be returned.

APPENDIX IV

EXCERPTS FROM MINE INSPECTION LAWS

Senate Bill No. 188, 70th General Assembly, 1959.

Section 5. --

1. Every operator engaged in this state in the mining or production of minerals for commercial purposes shall, within thirty days after the end of each quarter-annual period, file with the director and with the division of collection of the department of revenue a statement, under oath, on forms to be prescribed and furnished in triplicate by the director, showing the total amount of minerals sold, shipped or otherwise disposed of during the last preceding quarter-annual period; and shall, at the same time pay on the primary products of his operations sold, shipped or otherwise disposed of for profit to the division of collection of the department of revenue mine inspection fees as follows:

(1) on lead concentrates or galena, three cents per ton;
(2) on zinc ore or concentrates thereof, three cents per ton;
(3) on lead carbonate or concentrates thereof, one and one-half cents per ton;
(4) on zinc carbonate or concentrates thereof, one and one-half cents per ton;
(5) on zinc silicate or calamine or concentrates thereof, one and one-half cents per ton;
(6) on all coal, two mills per ton;
(7) on all clays, two mills per ton;
(8) on shale, one mill per ton;
(9) on copper concentrates, three cents per ton;
(10) on iron ore or concentrates thereof, two mills per ton;
(11) on silica, one mill per ton;
(12) on granite, two mills per cubic foot;
(13) on manganese, three cents per ton.

2. These fees shall be deposited in the state treasury and credited to the State Mine Inspection Fund which is hereby created.

3. The director and the division of collection of the department of revenue shall, for the purpose of verifying the statement required in this section, have access to the tonnage and footage records of production, shipments and sales

records of all persons, firms and corporations subject to the provisions of this act, and of their respective vendees and agents of such vendees, and of carriers of the products herein enumerated.

APPENDIX V

ANSWERS TO QUESTIONAIRE SENT TO COUNTY ASSESSORS

A questionaire sent to the 114 counties in Missouri asked three questions:

Does your county have any property or other assessments on:

a. Known but undeveloped mineral property?
b. Properties developed previously, but now inactive?
c. Properties presently producing minerals?

Sixty-three replies were received, of which 45 answered all questions "no", or did not answer the questions specifically. The remaining 18 replies answered one or more of the questions which are shown below.

Does your county have any property or other assessments on known but undeveloped mineral property?

Answers:

Bollinger County--40 acres, valuation of $10, mineral rights only.
Callaway County---Land is assessed per acre. Assessed value is 30% of purchase price.
Chariton County---Acre valuation @ $3 per acre.
Gasconade County--Taxed on assessed valuation of 30% of purchase price.
Holt County-------One rock quarry assessed @ $50 per acre.
Iron County-------Assessed $13.50 per acre, based on 33% of purchase price. Some of the acreage includes only underground rights.
Macon County------Assessed @ $1 per acre for underground rights in addition to surface taxes. County rate is $5 per $100 assessed valuation.
Madison County----Taxed as normal real estate. When land is sold, but mineral rights are retained, the rights are assessed $1 per acre.
Morgan County-----Assessed at $4 to $5 per acre.
Pike County-------$12 per acre assessment.
Platte County-----192.32 acres assessed at $350.
Reynolds County---Assessed at 30% of purchase price. Reserves are assessed at $1 per acre.
Ripley County-----742 acres assessed at $185.
Warren County-----Surface assessment based on 30% of purchase price.
St. Clair County--$150 per acre the year mined. County rate is $3 per $100 valuation.

Does your county have any property or other assessments on properties developed previously, but now inactive?

Answers:

Atchison County---Three oil well properties, very low production, taxed only on real estate and personal property at the well sites.
Callaway County---Taxed on depreciated value of the land, no less than $1 per acre, with the average about $5 per acre.
Gasconade County--When the property is mined out it is removed from the tax rolls.
Iron County-------Underground rights taxed at $1 per acre.
Madison County----Presently giving National Lead Co. and St. Joseph Lead Co. a reduction of taxes on inactive lands based on agreement.
Oregon County-----40 acres assessed at $127.50 per acre.

Does your county have any property or other assessments on properties presently producing minerals?

Answers:

Atchison County---Assessed dollars per acre.
Callaway County---Some of the value is deducted because of the depreciated value. Stockpiles are assessed at 5¢ per ton.
Gasconade County--Stock piles are assessed at a higher value per ton than when in the ground because of the mining expense.
Iron County-------Average assessment is $43.30 per acre, some acreage is underground rights only.
Oregon County-----40 acres valued at $50 per acre.
Osage County------Stock piles assessed per ton.
Warren County-----Stock piles assessed at 45¢ per ton.

Note the differences in assessment. Some of the answers are incomplete and/or ambiguous. The questionaire method of obtaining the local tax information is of small value. The correct method, though costly and time consuming, would be to visit each assessor at his office. It can be assumed that some assessors would not be willing to divulge the necessary information.

VITA

Jerry W. Huffman was born on February 16, 1934 in Gillingham, Wisconsin. He received his elementary education in Lancaster, Angelo, and Richland Center, Wisconsin, and Rockford, Illinois. Following secondary education at Lancaster, he enrolled at Wisconsin State College, Platteville, in 1951.

After completing one semester he enlisted in the United States Navy where he graduated from two Naval electronics schools prior to serving as a Communications Technician at Guantanamo Bay, Cuba.

Upon release from service in 1955, he enrolled at Wisconsin Institute of Technology, Platteville, and received the Bachelor of Science degree in Mining Engineering in June, 1960 from the now merged Wisconsin State College and Institute of Technology.

In September, 1960 he enrolled at the University of Missouri School of Mines and Metallurgy where he was appointed as a Graduate Assistant for the following two years.

His employment record includes positions at Farley & Loetscher Company, AC Sparkplug Division of General Motors, Climax Molybdenum Co., Square D Co, Grant County Wisconsin Highway Dept., and American Potash & Chemical Corp.

He is a member of Phi Eta Sigma, Sigma Gamma Epsilon, and a student member of A.I.M.E.