



Assessing the Impact of Missouri's Tax Credits¹

Brian Dabson, Thomas G. Johnson, Andrew Wesemann,
Maria Figueroa-Armijos, and Judith I. Stallmann

Brian Dabson is Research Professor and Director, Institute of Public Policy at the Truman School of Public Affairs, University of Missouri

Thomas G. Johnson is Frank Miller Professor of Agricultural & Applied Economics and Professor of Public Affairs, University of Missouri

Andrew Wesemann is a Doctoral Candidate, Truman School of Public Affairs, University of Missouri

Maria Figueroa-Armijos is a Doctoral Candidate, Truman School of Public Affairs, University of Missouri

Judith I. Stallmann is Professor of Agricultural & Applied Economics, Rural Sociology, and Public Affairs, and Community Development Extension Specialist, University of Missouri

Talking Points

- Missouri's tax credits have been authorized over several decades with widely different goals, controls, and success
- Tax credits negatively affect the state's general revenue budget in unpredictable ways, may not yield the expected benefits, and may not be the most useful tool to advance supporters' underlying goals
- Economic development tax credits can and should be assessed on their costs and benefits in strictly economic terms. However, tax credits designed for other purposes, such as housing or historic buildings, should be assessed against broader criteria and their cost effectiveness

Introduction

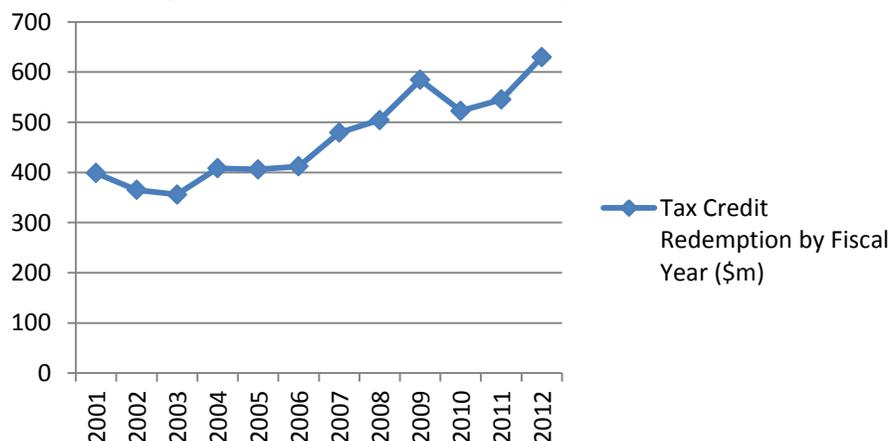
In November 2010, the Missouri Tax Credit Review Commission submitted its report to Governor Nixon. The Commission had been charged with the task of determining "which tax programs were generating a good return on investment for the taxpayers of Missouri and which were not, and to provide fact-based recommendations for improvement to ensure that the State's tax credit programs are actually creating jobs, spurring economic development and building communities" (MTCRC, 2010, p. 5).

¹ Submitted to the Missouri Tax Credit Review Commission, November 16, 2012.

The Commission made a number of general and specific recommendations, the most significant being:

- To eliminate or not reauthorize 28 tax credit programs that have outlived their usefulness or do not create a justifiable benefit in relation to their cost to taxpayers.
- To improve the efficiency of 30 tax credit programs so as to provide a greater return on investment for taxpayers.
- To subject tax credit programs to review by the General Assembly according to an orderly sunset schedule, rather than to an annual appropriation process.
- To impose, where appropriate and feasible, an annual cap on all programs that currently lack a statutory cap to limit the total amount of tax credits that may be authorized annually so as to gain additional budget certainty for the state.
- To make changes to state and federal law in order to improve the efficiency and overall value of Missouri's tax credit programs to both the State and the users of the programs.
- To develop a voluntary buy-back or exchange of outstanding tax credits for less than their face value in order to reduce the State's overall tax credit liability.

Figure 1: Tax Credit Redemption by Fiscal Year (\$m)



Source: Missouri Division of Budget and Planning, September 2012

The estimated impact of these recommendations if adopted was a total savings of \$220 million in tax credit authorizations, the elimination of the exponential growth of authorizations, and the improvement of budget forecasting.

For a variety of reasons, these recommendations failed to attract the support of legislators and were not adopted. In the meantime, as shown in Figure 1, the value of tax credit redemptions continued to increase so that in Fiscal Year 2012 they amounted to \$629.5 million.

In August, 2012, Governor Nixon reconvened the Tax Credit Review Commission and directed it to report back by December 15, 2012 having revisited and updated its recommendations. In addition, there was a call for further testimony on the uses and impacts of tax credits. This report represents the response from the Institute of Public Policy in the Harry S Truman School of Public Affairs, University of Missouri.

The Use of Tax Credits in Missouri

Missouri's first tax credit, the Senior Citizen Property Tax Credit, was authorized in 1973. In the ensuing period, the General Assembly has authorized over 60 tax credit programs. According to the Missouri Division of Budget and Planning, 12 of these programs accounted for 89 percent of redemptions in FY 2012, and three accounted for 66 percent. The three largest are the Low Income Housing Tax Credit (\$164.2 million), the Historic Preservation Tax Credit (\$133.9 million), and the Senior Property Tax Credit (\$117.6 million).

If tax credits are added into the General Revenue Operating Budget, they represent 7.3 percent of its total (FY 2013). Interestingly, FY 2012 tax credit redemptions of \$629.5 million exceed the appropriations for Corrections (\$602.5 million) and Mental Health (\$602 million).

A number of reasons have been suggested for the popularity of Missouri's tax credits as a way of stimulating development and shifting investment behaviors:

- The 1980 amendment to the Missouri Constitution – known as the Hancock Amendment – was intended to limit increases in state taxes and expenditures based on a ratio of total state revenues to the personal income of Missourians. A number of ways have been employed by the legislature to reduce the impact of the amendment, including the use of tax credits which were treated as being outside the scope of the amendment. Since FY 2001, tax collections have consistently been below the Hancock limits, the gap rising to \$3.2 billion in FY 2011.
- The U.S. Supreme Court recently held that a tax credit is not a direct expenditure of funds generated through taxation. This was echoed in a 2011 Missouri Supreme Court ruling (*Manzara vs. State of Missouri, SC 91025*) which stated that a tax credit merely reduces the pool of taxable income from which the state can collect taxes – it is not therefore an expenditure. Moreover, the court ruled that taxpayers do not have standing to challenge the constitutionality of tax credits. This has the effect of encouraging the legislature to use tax credits as an alternative to direct expenditures and associated budgetary scrutiny and control.
- An attraction of tax credits is that once they are established they are relatively inexpensive to operate through the tax system and do not require the more costly oversight and accountability usually associated with grants and loans.

In broad terms, Missouri's tax credit programs can be grouped into eight categories, each with its own purposes. As Table 1 shows, both the categories and purposes are quite diverse, demonstrating both the flexibility of the tax credit mechanism and the challenge of creating a universal means of assessing their impact.

Table 1: Missouri Tax Credits: Categories and Purposes

Category	Purpose
Agriculture and Environment	Stimulate lending from conventional lenders to help specific farm sectors; provide assistance to specific industries; encourage private contributions to support value-added agriculture
Banking and Insurance	Equalize tax treatment of financial institutions; incent health insurance pooling; help self-employed pay for health insurance; guarantee payment of claims by life and health insurance companies
Distressed Communities	Encourage job creation on contaminated sites; support specific redevelopment projects; encourage homebuilding in designated neighborhoods; supplement Federal New Markets Tax Credits
Economic Development	Specific incentives for infrastructure, headquarters facilities, community-based organizations, and enhanced enterprise zones; assistance for specific sectors; bond guarantees for infrastructure; incent quality jobs; encourage incubators; assist in purchase of rolling stock
Historic Preservation	Encourage preservation of historic buildings
Low Income Housing	Incent construction and rehabilitation of rental property
Senior Citizens Property	Reduce impact of property taxes on senior citizens
Social and Contributions	Encourage private donations for specific projects that serve vulnerable populations

Source: Missouri Department of Economic Development

The Department of Economic Development has responsibility for monitoring the implementation of the tax credit programs. Data on each tax credit beneficiary is collected on Tax Credit Analysis forms (Form 14s) and, where appropriate, return on investment is calculated using the REMI model. REMI is an econometric model which provides estimates of additional employment, personal income, value-added, and economic output resulting from a given investment. Some programs have specific measures of impact that relate to their purpose, but the primary focus of the Commission was on the amount of money returned to the General Revenue Fund as a result of tax dollars spent (or rather foregone) on the tax credits.

A recent report from the Pew Center on the States (Pew, 2012) on the evaluation of state tax incentives for economic development rated Missouri as one of 13 states described as “leading the way.” This concluded that the scope and quality of Missouri’s approach was of a comparatively high standard, based primarily on the work of the Tax Credit Review Commission. A brief review of the evaluation approaches of these leading 13 states² indicates that a range of approaches are being used. Missouri is one of three states that use the REMI model to estimate likely impacts – the others being Arkansas and Connecticut. Some conduct detailed project-by-project evaluations, others broad inter-state comparisons. Some are undertaken within state departments, some employ consultants or universities. All states are interested in calculating cost-effectiveness of their incentives, but few have developed metrics for assessing the impact of tax credits beyond returns to state revenue accounts or economic impacts.

² Arizona, Arkansas, Connecticut, Iowa, Kansas, Louisiana, Minnesota, Missouri, New Jersey, North Carolina, Oregon, Washington, and Wisconsin.

Issues and Limitations of Tax Credits

There are many arguments both in favor of and against the use of tax credits. On the plus side:

- As a subsidy, there is ample evidence that they do encourage increased investment (Assibey-Yeboah & Mohsin, 2011; Busom, 2000; Czarnitzki, Hanel, & Rosa, 2004; González, Jaumandreu, & Pazó, 2005; Lach, 2002; Hussinger, 2003).
- They are often easier to administer than other approaches because they can be incorporated into the existing tax filing process.
- For individuals and firms, tax credits may be more attractive than other types of subsidies because they impose less of an administrative burden.
- Tax credits often benefit a larger portion of the population. Other types of subsidies may require selection of beneficiaries before the funds are allocated. In the case of tax credits, public agencies can select projects in advance that promise the highest social returns (Lentile & Mairesse, 2009) without identifying the participants.
- Other advantages might include the possibility that they avoid or ease state revenue or expenditure limitations (as mentioned earlier), and that they may be politically more acceptable than direct subsidies (Buss, 2001).

On the other hand, tax credits do present some problems:

- In many cases, it is difficult to reject applications for tax credits. They effectively become entitlements in which those seeking tax credits qualify without having to demonstrate the relative merits of their project or that they would not have undertaken the project without the tax credit.
- Tax credits increase uncertainty in state budgeting. It is often difficult to predict when the tax credits will be redeemed, leading to net revenue streams that are less predictable.
- Tax credits are of value only to those who have tax liabilities. To make a program available to those without tax liabilities the tax credits are often made transferable. This characteristic of tax credits adds to administrative costs and often reduces the effective subsidy received by the applicant.
- Tax credits complicate the tax filing process for all tax filers regardless of whether they qualify for tax credits or not.
- Unlike other types of programs, tax credits may reduce the federal income tax deductions of state tax payers. In these cases, a significant portion of the tax credits awarded under the plan is lost to the state economy when federal tax liabilities increase.
- Tax credit programs introduce inequality among firms (Hicks & LaFaive, 2011) and municipalities. More prosperous cities are more likely to adopt tax credit programs (Buss, 2001; Reese, 2006) thus increasing the disparity across geography. Larger companies are more likely to receive tax credits thus increasing the disparity among firms (Hanel, 2003), and subsidies may benefit inefficient firms over efficient firms (Catozzella & Vivarelli, 2011).

Given all the evidence from research and practice, it is possible to identify five important factors that must be taken into account when designing and evaluating tax credit programs.

1. Tax credits have opportunity costs

Tax credits are often mistakenly regarded as being cost free because they are treated as being outside the normal budget process. However, when policymakers opt for a particular policy such as a tax credit, they, in most cases, preclude the possibility of pursuing other options for achieving the same purpose or of using resources committed for tax credits for other purposes. These costs of closing down options, both hidden and explicit, are known as opportunity costs.

Thus, the opportunity costs of tax credits awarded to individuals or firms are the benefits that society might have enjoyed if the value of the credits had been allocated to some other purpose. It is possible that the highest and best use of these public funds may be some other public purpose such as education, infrastructure, a social program, or another economic development program. It is also the case that tax credits may reduce overall investment and output (Pereira, 1994) because taxpayers, as the ultimate bearers of the cost of tax credits, reduce aggregate private consumption and investment, (Assibey-Yeboah & Mohsin, 2011), thus leading to reduced growth.

Determining foregone benefits may often be hard to do, but at a minimum the cost of the tax credits could have been returned to taxpayers in the form of a rebate or a reduced tax rate. In any event, the cost of a tax credit program is at least equal to its money value.

2. Tax credits do not always yield net benefits

Additionality refers to the net effects of a program or project. Policies are typically designed to induce businesses or individuals to take actions that they would not have otherwise taken, or to act more aggressively than they would have otherwise acted. However, in many cases, businesses or individuals that qualify for a program would have acted even in the absence of the incentive. For example, a firm may invest in an expansion that leads to increased employment thus qualifying for a tax credit. However, if the firm had intended to make the expansion with or without the tax credit, then the additionality of the tax credit program is zero. If the firm creates more jobs than it would have in the absence of the program, then the additionality of the program is partial. In general, the additionality of policies falls somewhere between zero and 100 percent of the observed behavior.

For example, it has been found that firms receiving grants for research and development (R&D) reduce their private R&D expenditures, dollar for dollar – a case of zero additionality (Wallsten, 2000). An analysis of studies of public subsidies to businesses found that about one third concluded that public funding displaced at least a portion of private investment (David, Hall, & Toole, 2000). Unfortunately, to date, no one has developed a comprehensive assessment instrument for calculating the additionality of tax credit policies and programs. This is largely due to the complexity of the required method (González & Pazó, 2008) and data limitations (Falk, 2007).

3. Both taxes and tax credits have distortion effects

The purpose of most tax credit programs is to encourage individuals, businesses, and organizations to undertake or expand certain activities in accordance with some defined public policy objective. In this sense, tax credits are subsidies (Johnson, 2007; Schwartz & Clements, 1999).

It is widely understood that taxes influence behavior by either encouraging or discouraging certain activities, such as consumption, production, or investment. If the activity to be taxed is deemed to have too many negative consequences, then the purpose of taxation might be to achieve a better allocation of resources, referred to as Pareto efficiency (Just, Hueth, & Schmitz, 2004). This in turn will, it is hoped, yield a more acceptable balance of outcomes. Other taxes, however, are seen to have the opposite effect leading to undesirable distortions in the allocation of resources. In this case, tax credits are sometimes introduced in the belief that they will overcome such inefficiencies.

There are several problems with this view:

- Tax credits are themselves distorting, often in unintended ways (Auerbach & Summers, 1979).
- Tax credits will only offset the distorting effect of taxes if they are applied precisely to reverse the taxes and the incentives created by the taxes. In general this is not how tax credits work. Tax credits that are transferable have little or no effect on any particular taxed behavior. The result is that the distortions caused by the tax credits are added to the distortions caused by the taxes.
- Many taxes are levied as a way of increasing Pareto efficiency by discouraging undesirable consumption and production. Offsetting these taxes with tax credits will actually increase Pareto inefficiency.

4. Not all tax credits can be measured in the same way

There is a large number of tax credit programs, each with different goals and different qualification criteria. Meaningful evaluation of these programs has to start with a clear statement of goals and appropriate indicators of program success. When feasible, these indicators should be presented in value terms. In the case of economic development programs, an *increase in state gross domestic product* is imperfect but the best available indicator. Here, benefits should be compared to costs (including opportunity costs) and a benefit-cost ratio calculated.

For programs that offer tax credits for other purposes such as low income housing or historic preservation, it is unlikely that unambiguous monetary values can be linked to indicators of success. For these, cost-effectiveness analysis is more appropriate than benefit-cost analysis. In cost-effectiveness analysis, relevant and measurable indicators (such as *number of housing units made available at monthly rental rates below some threshold level*) should be identified. Then each program and project eligible for the tax credit can be evaluated by comparing the program's cost per unit of success expected. Cost-effectiveness analysis, however, does not allow for comparisons across programs with different goals.

In all cases, it is inappropriate to use *state revenues generated* as an indicator of benefits. The goals of tax credit programs are not to increase state revenues, but rather to increase the rate of economic development, or to provide services or infrastructure not adequately provided by the markets.

5. Tax credits are useful tools but not always the best available

Other policy tools might be more suitable, transparent, and cost effective for taxpayers. Direct grants and subsidies, for example, are more transparent in their allocation process and can involve screening, reporting and claw-back provisions that hold beneficiaries more accountable for the public money they receive (Stallmann & Johnson, 2011)

Tax credit programs that are used to achieve social policy goals, such as those that support families and individuals below poverty level, are viewed as an ineffective strategy that could be more effectively replaced by direct expenditures (Buss & Yancer, 1999; Feldstein & Vallant, 1994; Wasylenko, 1997). In other cases, individuals and firms experience an increase in their federal income tax as a result of receiving a state tax incentive, which reduces the total net amount of incentive.

Recommendations

In the light of the above analysis, the Institute of Public Policy recommends that the Commission consider the following:

- Tax credit programs are intended to achieve certain purposes, primarily stimulating investment and encouraging different types of development, across a wide range of sectors and activities. Their individual impact and effectiveness should be measured according to the extent to which they achieve their specific purpose.
- The purpose of tax credit programs is not to increase state revenues, and their impact should not be measured in those terms.
- Tax credits are best suited to economic development programs where both the costs and the benefits can be clearly expressed in monetary terms. Here, the application of an evaluation model is appropriate if it is used to calculate net improvements in the state's economy – i.e. growth in Gross State Product – and includes the opportunity costs of tax credit funds in the analysis.
- For other programs, where the benefits are less amenable to measurement in monetary terms, the emphasis should be on estimating their cost-effectiveness. This means being clear at the outset about a program's desired outcomes, appropriate measurements for determining success, and the design of monitoring protocols. The REMI model is not appropriate as an indicator of program success, although it may be used to determine whether programs or projects have positive economic impacts.

- It is arguable that the more complex the outcome measures, the less appropriate a tax credit program is as a tool for achieving those outcomes. Direct grants, loans, or loan guarantees may be better tools for ensuring both cost-effectiveness and accountability. In addition, tax credits are not well-suited for programs designed to incentivize not-for-profit entities or lower income families. In these cases, secondary markets for the tax credits are usually needed in order to make the programs work. Secondary markets may, however, reduce the efficiency of the programs, raising the costs to taxpayers and reducing the value of the program to recipients.
- Notwithstanding court rulings that tax credits are not direct expenditures of funds generated through taxation, the use of tax credits represents significant opportunity costs for the state. Decisions about their use should not be taken independently of the budget process. Ideally, one dollar of tax credit should be treated as if it is accompanied by one dollar of tax increase or one dollar of on-budget expenditures in order to make choices explicit.
- As a rule, tax credits should not be used as subsidies for a specific development or a specific company. If the state wishes to provide such subsidies, it should do so through means that allow for greater levels of accountability, transparency, and scrutiny.

References

- Auerbach, A.J. & Summers, L.H. (1979). The investment tax credit: An evaluation. NBER Working paper series No.404, NBER, Cambridge, MA, 1-47
- Assibey-Yeboah, M. & Mohsin, M. (2011). Investment tax credit in an open economy with external debt and imperfect capital mobility. The Economic Society of Australia, *The economic record*
- Busom I. (2000): An Empirical Evaluation of the Effects of R&D Subsidies. *Economics of Innovation and New Technology*, 9, 111-148
- Buss, T.F. (2001). The effect of state tax incentives on economic growth and firm location decisions: An overview of the literature. *Economic Development Quarterly*, 15(1), 90-105
- Buss, T.F. (1994). Corby, England leads economic development in Europe. *Economic Development Review*, Summer, 83-87
- Buss, T.F. & Yancer, L.C. (1999). Cost-benefit analysis: A normative perspective. *Economic Development Quarterly*, 13, 29-37
- Catozzella, A. & Vivarelli, M. (2011). Beyond additionality: Are innovation subsidies counterproductive? Institute for the Study of Labor (IZA) Discussion paper series No. 5746
- Czarnitzki, D., Hanel, P., & Rosa, J.M. (2004). Evaluating the impact of R&D tax credits on innovation: A micro-econometric study on Canadian firms. ZEW Discussion paper No. 04-77. Available online at: <ftp://ftp.zew.de/pub/zew-docs/dp/dp0477.pdf>
- David, P., Hall, B.H., Toole, A.A. (2000). Is public R&D a complement or substitute for private R&D? A review of the econometric evidence. *Research Policy*, 29, 497-529
- Falk, R. (2007). Measuring the effects of public support schemes on firms' innovation activities: Survey evidence from Austria. *Research Policy*, 36(5), 665-679
- Feldstein, M. & Vallant, M. (1994). Can state taxes redistribute income? Cambridge, MA: National Bureau of Economic Research
- González X. & Pazó C. (2008). Do public subsidies stimulate private R&D spending? *Research Policy* 37, 371-389
- González X., Jaumandreu J., & Pazó C. (2005). Barriers to Innovation and Subsidy Effectiveness. *RAND Journal of Economics*, 36, 930-949

- Hanel, P. (2003). Impact of government support programs on innovation by Canadian manufacturing firms. University Center for research on science and technology (CIRST), Research paper 2003-09, Montreal
- Hicks, M.J., & LaFaive, M. (2011). The influence of targeted economic development tax incentives on county economic growth: Evidence from Michigan's MEGA credits. *Economic Development Quarterly*, 25(2), 193-205
- Hussinger, K. (2003). R&D and subsidies at the firm level: an application of parametric and semi-parametric two-step selection models. ZEW Discussion Paper No. 03-63
- Johnson, T.G. (2007). Measuring the benefits of entrepreneurship development policy. *Journal of Entrepreneurship Development*, IV(2), 35-44
- Just, R.E., Hueth, D.L., & Schmitz, A. (2004). *The Welfare Economics of Public Policy: A Practical Approach to Project and Policy Evaluation*. Edward Elgar Publishing.
- Lach, S. (2002). Do R&D subsidies stimulate or displace private R&D? Evidence from Israel. *Journal of Industrial Economics*, 50, 369-390
- Lentile, D. & Mairesse, J. (2009). A policy to boost R&D: Does the R&D tax credit work? EIB Papers, 14(1), 144-169, ISSN 0257-7755
- Missouri Division of Budget & Planning (2012, September). *Missouri Budget Review and Tax Credits*
- Missouri Tax Credit Review Commission (MTCRC) (2010). *Report of the Missouri Tax Credit Review Commission*.
- Pereira, A.M. (1994). On the effects of investment tax credits on economic efficiency and growth. *Journal of Public Economics*, 53, 437-461
- Pew Center on the States (2012). *Evidence Counts: Evaluating State Tax Incentives for Jobs and Growth*. Philadelphia, PA: Pew Charitable Trusts
- Reese, L.A. (2006). Not just another determinants piece: Path dependency and local tax abatements. *Review of Policy Research*, 23, 491-504
- Schwartz, G. & Clements, B. (1999). Government subsidies. *Journal of Economic Surveys*, 13(2), 119-147
- Stallmann, J.I. & Johnson, T.G. (2011). Economic Development Incentive Programs: Some Best Practices. *Institute of Public Policy Research Brief 13-2011, October*. University of Missouri
- Wallsten, S., 2000. The effect of government-industry R&D programs on private R&D: the case of the small business innovation research program. *Rand Journal of Economics*, 31, 82-100
- Wasylenko, M. (1997, March/April). Taxation and economic development. *New England Economic Review*, 37-52
- Watson, D.J. (1995). *The new civil war*. New York: Praeger