The Missouri Quality Jobs Program: Rearranging the Deck Chairs (and Throwing Some Overboard)

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Introduction

This article examines the effectiveness of the Missouri Quality Jobs Program (MQJP), the declared purpose of which is to "(f)acilitate the creation of quality jobs by targeted business projects" by awarding tax credits in support of qualifying projects.[1] Tax credit programs such as the MQJP are quite common around the country and are touted by state economic development agencies as important components of their development efforts. Nonetheless, there is little evidence that targeted tax credits and similar policies are effective in spurring economic development and employment.[2] In fact, one recent study of employment tax credits in Michigan found that the state's MEGA tax credits were sometimes responsible for *losses* in overall employment.[3]

For development tax credits to work there must be some market failures, such as imperfect capital markets or agglomeration economies, that create a gap between the actual and efficient levels of local employment. If there are such market failures, the argument goes, then there might be room for a properly structured program that would use state money to direct resources to close the employment gaps. Broadly speaking, therefore, if a tax credit program fails to deliver on promised jobs, it was either because market failures were not significant drags on employment or because the program was not structured properly. On the heels of the aforementioned history of failure of these programs, significant improvements have been made in how they are administered.[4] Most notably, recent incarnations of state tax credit programs are designed with much greater accountability to ensure a closer link between promised and realized new jobs at firms receiving the tax credits.

In many respects, the MQJP has been ahead of the curve in terms of accountability in that it includes provisions for cancelling tax credits in the event that job-creation thresholds are not met, which it did for 33 projects in 2012.[5] In addition, despite the extremely weak national economy following the launch of the MQJP, Missouri has so far maintained program accountability, thereby bucking the tendency for governments to erode accountability

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[1] This paper is an abridged version of a working paper: Howard J. Wall, "Robbing Peter to Pay Paul: The Employment Effects of the Missouri Quality Jobs Program," (2013), Munich Personal RePEc Archive, paper no. 50605, http://mpra.ub.uni-muenchen.de/50605/1/MPRA_paper_50605.pdf. The working paper contains the technical details of the econometric estimation summarized here.

[2] Howard J. Wall, "Tax Credits as a Tool of State Economic Development Policy," Show-Me Institute, public policy study no. 30, published online November 1, 2011, http://www.showmeinstitute.org/publications/policy-study/corporate-welfare/640-tax-credits-as-a-tool.html.

[3] Michael D. LaFaive and Michael Hicks, "The Influence of Targeted Economic Development Tax Incentives on County Economic Growth: Evidence from Michigan's MEGA Credits," *Economic Development Quarterly*, 25, no. 2, (2011): 193-205.

[4] For a discussion of the types of policies employed and the reasons they have persisted despite the lack of evidence of their effectiveness, see Lingwen Zheng and Mildred Warner, "Business Incentive Use Among U.S. Local Governments: A Story of Accountability and Policy Learning," *Economic Development Quarterly*, 24, no. 4 (November 2010): 325-36.

[5] By 2009, only 23.1 percent of programs included such clawbacks, as noted in: Mildred Warner and Lingwen Zheng, "Business Incentive Adoption in the Recession," *Economic Development Quarterly*, (2013), 27, no. 2, (November 18, 2013): 90-101.

during difficult economic times.[6] Given its relatively sound structure, therefore, the success or failure of the MQJP in delivering on employment creation is likely attributable to the extent to which it is based on solid economic efficiency grounds rather than on the soundness of its administration.[7]

The Program and its Promises

Tax credits have been awarded under the MQJP since 2006 and are distributed under three business sub-categories—small/expanding, technology, and high-impact—each with its own set of eligibility criteria and program benefits. By 2012, the number and total value of tax-credit authorizations were both more than double their 2006 levels, although this trend was interrupted a great deal by the national recession of 2008-09 (Figure 1).[8]

Figure 1. Tax Credit Authorizations Under the Missouri Quality Jobs Program
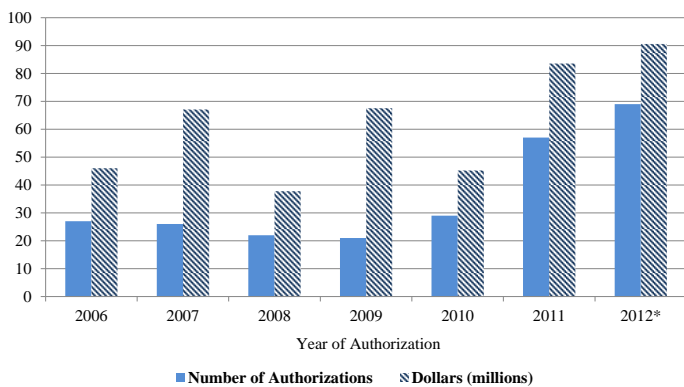
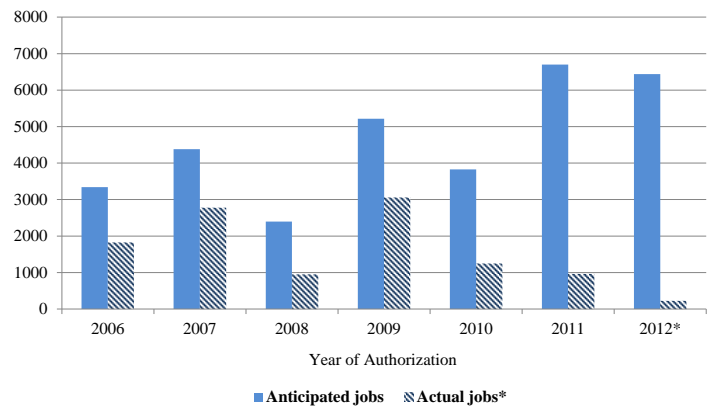* Through October 2012. Source: Missouri Department of Economic Development.

The increase in the anticipated number of new jobs at recipient firms roughly doubled between 2006 and 2012, although, as shown in Figure 2, the number of actual new jobs is, so far, well short of what had been anticipated when the credits were authorized.

Figure 2. New Jobs at Recipient Firms Under the Missouri Quality Jobs Program

* Through October 2012. Source: Missouri Department of Economic Development.

Obviously, the lag between the date of authorization and the actualization of new jobs accounts for most of the shortfall for 2010-12, but even credits authorized in 2006-08 have fallen well short of their promise. Perhaps the credits from those years would look more successful if it weren't for the recession of 2008-09.

The most recent claims made by the Missouri Department of Economic Development (DED) about the direct effects (new jobs at firms that were awarded tax credits) and indirect effects (spinoff and multiplier effects) of the MQJP are contained in the program's 2012 annual report.[9] At the end of 2012, there were 220 active supported projects, 73 of which were newly authorized in 2012. The DED claims that projects authorized through 2011 were directly responsible for 10,137 actual new jobs by the end of 2012—with more to come as the projects progress—and that the 73 new projects are anticipated to directly generate another 7,054 new jobs in five years time. After plugging their estimates of direct job growth into their forecasting model, DED arrives at the claim that the tax credits awarded through 2012 will have created 50,096 jobs (directly and indirectly) by 2020, or 118 jobs for each million dollars in tax credits.

There are a number of reasons to doubt the DED's claims about the effects of the MQJP. With regard to direct job creation, the DED is being naïve, or perhaps narcissistic, in assuming that every new job supported by the program exists only because of the

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[6] Zheng and Warner, "Business Incentive Use Among U.S. Local Governments," 325-36.

[7] I should note that the Missouri state auditor issued a report chastising the state's Department of Economic Development over its administration of the MQJP (http://www.auditor.mo.gov/Press/2012-65.pdf). Most of the report had to do with the methods used to calculate job gains at recipient firms, which is largely beside the point in determining the actual effectiveness of the program.

[8] These numbers are summed across the three sub-programs and include all authorizations that were not disqualified.

[9] Missouri Department of Economic Development, Missouri Quality Jobs Program, Annual Report for 2012, http://ded.mo.gov/upload/2012annualreport.pdf.

program and that the eventual number of direct jobs created is the same as the number claimed when the tax credits were authorized. These assumptions fly in the face of logic and the evidence for similar programs.[10] Perhaps even more absurd is how the DED presumes that none of the new jobs are filled by workers who were already employed elsewhere in Missouri.[11]

As for the broader indirect effects, the DED relies on the belief that the reshuffling of employment that occurs between subsidized and unsubsidized firms must be greatly outweighed by large spinoff and multiplier effects. This belief is embedded into the DED's Regional Economic Models, Inc. (REMI) forecasting model which, despite a veneer of quantitative detachment, is simply a mathematical specification of the DED's prior beliefs about how the economy works.[12] More precisely, the primary sources of the indirect gains predicted by the REMI forecasting model are illusive multiplier effects that are believed to dominate the substitution effects across firms and communities.[13] This notion is, to say the least, extremely controversial among economists in that regional forecasting models are afflicted with many of the same problems as the outdated national forecasting models from the 1960s and 1970s they are based on.[14]

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[10] For the experience in Ohio, see Todd M. Gabe and David S. Kraybill, "The Effect of State Economic Development Incentives on Employment Growth of Establishments." *Journal of Regional Science*, 42, no. 4 (November 2002): 703-30. For the experience in Georgia, see Dagney Faulk, "Do State Economic Development Incentives Create Jobs? An Analysis of State Employment Tax Credits." *National Tax Journal*, 42, no. 4: 703-30.

[11] Nationally, about one-third of all new jobs in the United States are filled by job switchers and there are large differences in job-switching rates across industries. See Henry Hyatt and Erika McEntarfer, "Job to Job Flows and the Business Cycle," (March 2012), U.S. Census Bureau, Center for Economic Studies Discussion Series 12-04, ftp://ftp2.census.gov/ces/wp/2012/CES-WP-12-04.pdf

[12] The DED's model of the Missouri economy is a version of the widely used regional forecasting models produced by Regional Economic Models, Inc.

[13] Edwin S. Mills, "The Misuse of Regional Economic Models." *Cato Journal*, 13, no. 1 (May 31, 1993): 29-39.

[14] Regional forecasting models "suffer from the Lucas critique, equation parameters may be unstable over time, and their lack of deep structure confounds interpretation of estimated

To illustrate the difficulty, if not the impossibility, of modeling the indirect effects of tax credits, consider a firm that receives a $1 million credit to support a new factory that will eventually employ 50 workers. Even if we accept that all 50 of the jobs at the recipient firm would not have existed without the tax credit, it's not possible say anything useful without knowing where the workers came from to fill the new jobs. Unless they all came from the ranks of the nonemployed or from out of state, some of the 50 new jobs are simply substitutes for jobs that already existed. If the jobs were simply shifted from other Missouri employers, then it is necessary to know what happened to those firms. Because the subsidy to one employer makes it difficult for unsubsidized employers to compete for local workers, these unsubsidized firms might downsize, shut down, or relocate, thereby further eroding the alleged direct job gains.

These substitution effects are not captured very well, if at all, by the DED's forecasting model. According to the DED's model, however, these unknown and unaccounted for substitution effects will be more than offset by spinoff and multiplier effects. Fortunately, it is no longer necessary to rely on the DED's claims about the current and future effects of the program because the MQJP has been in place for several years. It is, therefore, possible to compare actual employment outcomes in Missouri against those promised by the MQJP.

Empirical Estimates

As a practical matter, it is not possible to trace the various employment effects of a tax credit authorization back their source, so it is necessary to instead look at aggregate employment. Therefore, I used data on private employment for Missouri counties for 1998-2011, with the objective of identifying statistical patterns between levels of employment and the amount of tax credits received

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parameters," [Dan S. Rickman "Modern Macroeconomics and Regional Economic Modeling," *Journal of Regional Science*, 50, no. 1, (February 2010): 23-41].

by firms in the counties.[15] To detect these patterns, I estimated baseline levels of employment, controlling for the business cycle and county-level trends. Any deviations from these baselines that are related to the receipt of MQJP tax credits might then be attributed to the program. County economies do not operate in isolation, so I also looked for the effects that a county might experience because firms in neighboring counties received tax credits, and whether a county is in a broader metropolitan area. Note that my estimates are of the net effects of tax credits and do not distinguish between direct, indirect, spinoff, or multiplier effects.

My estimation results indicate that tax credits had positive and statistically significant effects on employment in counties whose firms received tax credits under the MQJP. These effects were significant only through the third year after the tax credits were authorized, however, and were typically offset by negative and statistically significant effects on neighboring counties. The picture is complicated somewhat when looking at counties within metro areas because these counties' labor markets are closely integrated. As a result of this integration, the short-run employment gains from tax credits can also be felt by neighboring counties, although the negative longer-run effects on neighbors are amplified.

Figure 3 illustrates the average five-year effects of tax credits under the MQJP. These effects were obtained by applying the estimated effects described above to the actual allocation of tax credits across Missouri counties.[16] In the figure, the solid bars are the employment effects on the county whose firms received the credits, the dashed bars are the effects on the receiving counties' neighbors, and the solid line is the net effect. Each of these is measured in terms of the average effect of $1 million dollars in tax credits. According to Figure 3, tax credits led to a net increase in state employment only during the year of authorization and the following year. Specifically, in the year of authorization, tax credits led to 128 more jobs per $1 million in the recipient counties, but a loss of 110 jobs per $1 million in

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[15] For details and complete estimation results, see Wall, "Robbing Peter to Pay Paul," MPRA paper.
[16] Note that only statistically significant effects were used to construct Figure 3.

neighboring counties. In the year following authorization, recipient counties and their neighbors both tended to see increased employment: 249 and 82 jobs per $1 million, respectively. Beyond this initial start-up period, however, average job gains in receiving counties were more than offset by job losses in neighboring counties; the net effects were losses of 42 and 50 jobs per $1 million in tax credits during the second and third years after authorization. By the fourth year after authorization, there were no statistically significant effects on the recipient counties' employment, but neighbors tended to have lost 85 jobs per $1 million in tax credits.

Figure 3. The Effect of Tax Credits by Authorization Year
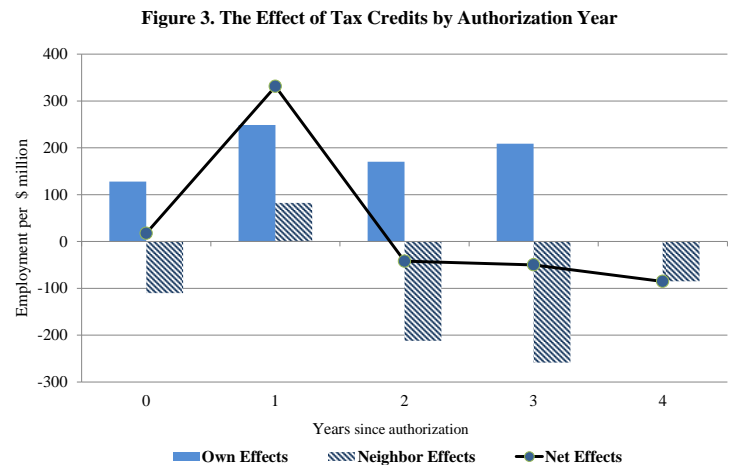
Conclusions

The MQJP has been in place long enough to obtain statistical evidence of its effects on the communities with firms receiving tax credits under the program. In the short run—the first two years—tax credits are associated with job gains in the recipient county and its neighbors. Over the medium run (the next two years), however, the recipient county gains employment only at the expense of its neighbors, and there is a net loss of jobs. At the beginning of the long run—the fourth year after authorization—there are no longer any significant job gains in the recipient county, but the market distortions created by the tax credits mean that there are still significant job losses in neighboring counties.

It's not possible given the data available to estimate what happens beyond this early stage of the long

run, but it is difficult to imagine that the trend reverses itself to result in anything close to the DED's projection of 118 new jobs per million dollars of tax credits. The more likely best-case scenario is that the employment distortions eventually work themselves out and the net effect of the tax credits approximates zero.