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AN ESTIMATE

The Effect of State-Level Add-On Legislation to the Federal New Market Tax Credit Program

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INTRODUCTION

In 2000, Congress created the New Market Tax Credit program (NMTC), a tax incentive designed to focus private investment into distressed neighborhoods.¹ Since its implementation, the federal government has distributed \$29 billion in tax credits. The program has permitted community development entities operating in low income communities to employ tax credits over a seven-year window. Credits at the federal level comprise 39 percent of the total investment distributed across the period. Credits of 5 percent were offered the first three years of the eligibility period and 6 percent in the remaining four years (not to exceed seven taxable years). The first four years of allocations saw biennial credit allocations of \$2.4 billion from 2001 to 2002 and \$3.5 billion from 2003 to 2004. The program grew substantially beginning in 2005 and continues to be an active program.

In practice, NMTC offers a replacement to Empowerment Zone (EZ) tax advantages at a lower administrative cost while opening the opportunity to all lower income communities, not merely those who have been designated an Empowerment Zone. The Empowerment Zone program, which contained numerous and often complex tax incentives at the federal and state level, ended in 2009.²

¹This program was contained within the Community Renewal Tax Relief Act of 2000.

²See 7 CFR 25 Public Law 103-66

STATE ADD-ON LEGISLATION

Since the passage of the NMTC legislation, several states have added legislation to extend these credits to state taxes. The justification for including state-level programs into the NMTC program is straightforward. The application and administrative costs of this program are high and the due diligence process is costly. As a consequence, using established federal programs for state-level NMTC programs offer state tax credits at substantially reduced public costs.³ This appears to be a growing trend among states wishing to participate in federal aid programs, but avoiding the additional costs associated with administering a program. State-level Earned Income Tax Credits are another example of such state-level add-ons.

As of this writing, ten states currently authorize a state-level NMTC add-on legislation. A further four states have programs similar to NMTC to be used by Enterprise Zone designees, which have become inactive. See Figure 1.

PREVIOUS STUDIES

The recent adoption of NMTC suggests that extensive, serious analysis of the credit program will be limited. However, several relevant studies have been performed to better guide our understanding of the effects of NMTC on various measures of economic outcomes.

³The Community Development Entity Certification alone is a 21 page document that the paperwork reduction act notice estimates five hours for completion. However, this completion window does not include the substantial organizational development required to assemble the policies, strategic plan and regional focus needed to begin the application. Federal review of these applications and actual NMTC applications add to the cost.

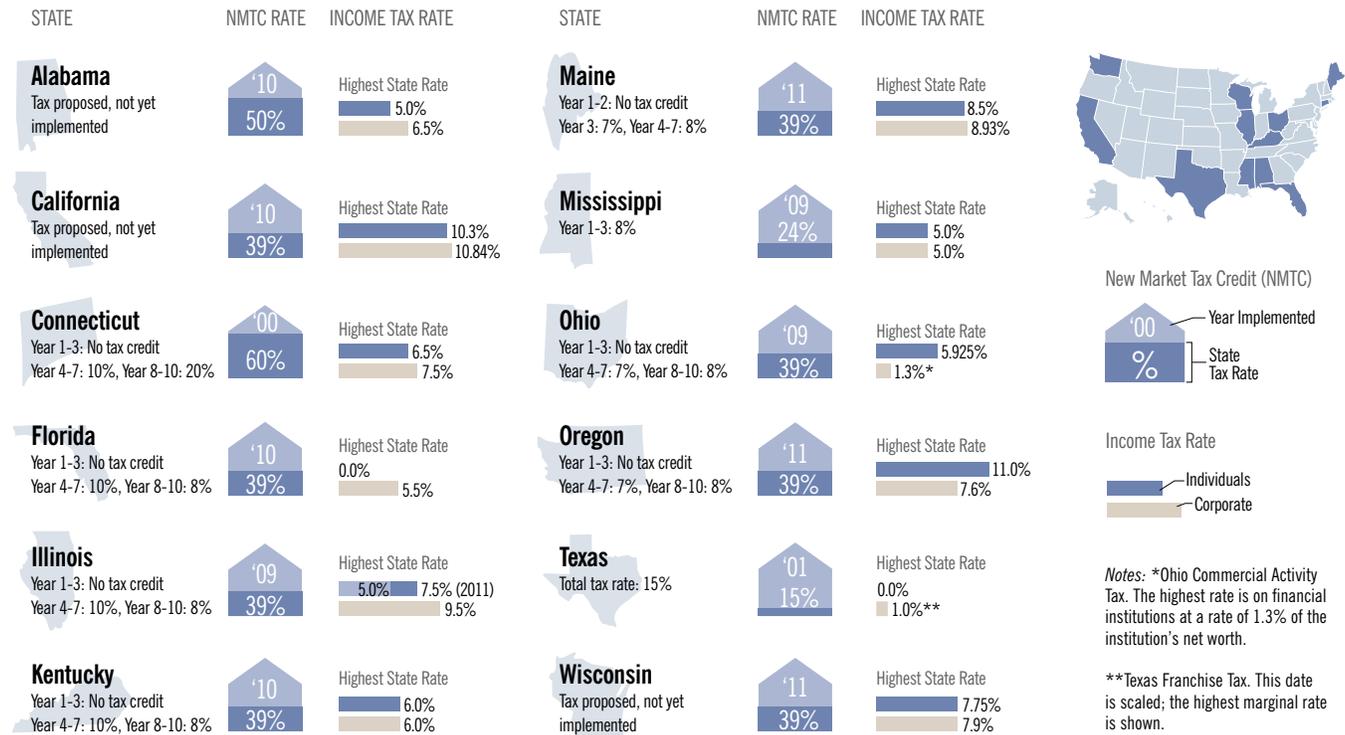
Barkley (2003) outlines the role NMTC play in replacing the various Enterprise Zone programs and how NMTC interacts with state-level venture capital programs. Though it is not an explicit evaluation of the program, this paper offers insight into the intent of NMTC in aiding investment in distressed regions. Similarly, Forbes (2005) compares the Enterprise Zone and NMTC programs. In her review, she concludes that NMTC represents a significant change in long-term antipoverty programs and:

[by] adopting a market-based solution in an effort to alleviate poverty within the nation's distressed areas, both programs heavily rely on tax incentives to attract private investments to low income communities. (Forbes 202)

She also applauds NMTC for providing a more comprehensive approach that increases the social capital of residents.

In 2007, the Government Accountability Office produced a report on NMTC. The report is primarily a data review, but also performed a quasi-experimental test of investment. It reports that NMTC tends to increase investment in low-income regions. Using a statistical model examining individual savings in distressed regions, it found effects on wealth, interest bearing assets and business assets for investors. This strongly suggests that the NMTC is more than a transfer of investment to distressed regions from non-distressed regions. However it does not conclusively answer the critical question regarding the efficacy of NMTC: *Does the program generate new investment from savings or shift savings from high- to low-income regions?*

Figure 1 » Current State New Market Tax Credit Add-On Legislation



Source: Novogradac & Company, New Market Tax Credit Resource Center, and various state legislatures, the Tax Foundation.

Several studies have estimated the economic and fiscal effects of NMTC in individual states and state-level NMTC add-ons. These include Colgan (2011) and Washington Economics Group (2007). However, neither of these studies directly assessed the incremental effects of NMTC or state-level NMTC programs. They instead measured the total potential effect, if all NMTC investments had not been undertaken at all without the tax credits within the state.

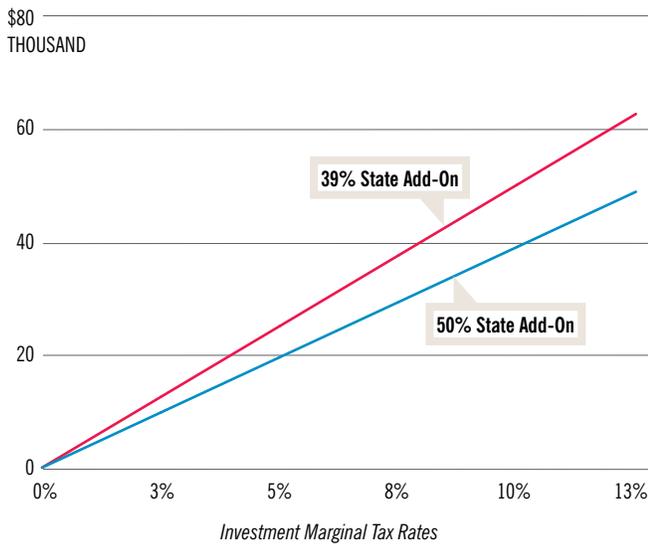
Significantly extending the work performed by the GAO, a team of researchers (Gurley-Calvez, et. al. 2011) estimated the effects of NMTC on the increase in assets by investors based upon a sample comparison group. This represents the most far reaching analysis of the issue of NMTC transferring investment from non-eligible regions or actually creating new investments. The rationale behind their analysis is simple: if investments in NMTC-eligible areas represented simply a transfer from other investment opportunities, then such measures of investment growth (asset growth, dividends, etc.) would not be statistically different from individual investments and other households (firms) in the control

group. While Gurley-Calvez, et al. found no effect on net assets or growth of net assets for corporations taking the NMTC, among individual investors there was a distinct increase in investment connected to NMTC. They attribute this to the program attracting a new set of individual investors who are attracted to the tax credit benefits. It is likely that the quality of data available on corporate investors precluded useful analysis of NMTC on firms. This study went further, reporting the estimated increased return received by NMTC investors. This stands as empirical evidence of actual gains caused by the tax incentive program. From these data, it is possible to interpolate the net increased individual investment due to NMTC. In the 2001-2004 sample, NMTC represents roughly 10.7 percent of all credits, or roughly \$641 million in the United States. This finding requires some careful restatement.

The NMTC program reports more than \$29 billion in total investments deployed to rural distressed areas, though the whole amount cannot be considered new investment. First, a portion of the investment would have occurred in distressed areas, with or without the

Figure 2 » Total State New Market Tax Credits

Based on an \$1,000,000 investment at investment marginal tax rates of 0.0% to 12.5%



Source: Author's calculations from model simulation.

program. Secondly, some of this investment is not actually new investment, but instead represents dollars that would have been spent in non-distressed areas in the absence of the program. Using estimates from the Gurley-Calvez, et. al. study, we can isolate roughly 10.7 percent of this total investment as entirely new investment. To obtain this calculation, we used the estimates of increases in individual rates of return to NMTC investors, from which Gurley-Calvez estimated a total increase in investments for this class of investor. By summing this investment growth from individuals, we derived the total share of NMTC (both corporate and individual) that could be attributed to the program.

Extrapolating these results to the entire period suggest that NMTC increased net investment in the United States by roughly \$641 million from 2001-2010. This is an important finding, as it bears directly on the efficacy of the program, whether or not redirecting assets to distressed communities is a specific policy goal.

The redirection of assets to distressed communities is commonly viewed as a program goal. If policy makers view the redirection of private sector assets as a laud-

able goal, then the benefits of the program extend to a much greater share of the total investment. Today, the federal New Market Tax Credit offers a tax incentive tool that both increases total investment and redirects investments to distressed communities that would otherwise occur elsewhere. Of further interest is the effect of state level add-on legislation to the NMTC on economic activity. To this we now turn our attention.

STATE-LEVEL NEW MARKET TAX CREDIT LEGISLATION

States that have considered or implemented state NMTC add-ons have personal income tax rates that vary from 0 percent to 11 percent at the highest rate, as shown in Figure 1. In all instances, the highest marginal tax rates are far below the average individual investment reported in Gurley-Calvez, et. al. (2011). With corporate taxes rates varying from 1.00 percent to 10.84 percent, this environment provides an effective tax rate for all investors.

The impact on investment rate of return shows annual impacts ranging from 0.1 percent to 0.8 percent over a seven-year period of the state NMTC implementation (using the most common phase-in rates). Qualified investors of \$1,000,000 could see between \$0.00 and \$54,000 in total seven-year savings at their state's maximum marginal tax rate in this sample.⁴ See Figure 2.

Modeling the Effect of State Add-on NMTC Legislation

This change in investment rate of return provides several outlines for estimating the effects of existing state add-on NMTC legislation and how this legislation has influenced overall participation in the program. In an optimal setting, we would have extensive data on state-level investment for both firms and individuals over a lengthy period; however, such data is unavailable.

Therefore, we used an alternative strategy, exploiting available data on state NMTC rates, length of implementation and level of state NMTC investment. For this strategy, we constructed a model of all 50 states using data from 2005 through 2010; NMTC data are

⁴This is exclusive the increased Federal Tax Liability on this investment. It is unclear how state add-on NMTC affect Federal Tax Liabilities.

Table 1 » Summary of New Market Tax Credits

	Investment Value	Presence	State Rate
Mean	\$53,674,370	0.090	2.26%
Maximum	\$658,000,000	1.000	50.00%
Std. Dev.	\$101,982,700	0.287	8.32%

available in annual increments from the U.S. Department of the Treasury during this period.

This model appears as:

$$NMTC_{i,t} = \alpha + \alpha_i + \beta_1 NMTCRate_{i,t+1} + \beta_2 NMTCYears_{i,t} + \varnothing \rho_t + \varepsilon_{i,t}$$

In this model, the level of total NMTC investment in each state $[i]$ in year $[t]$, is a function of several components. These include: factors that are fixed in each state during this period such as relative population, wealth, rurality, etc. $[\alpha + \alpha_i]$; the individual state NMTC rate $[\beta_1 NMTCRate_{i,t+1}]$; number of years of program implementation in each state $[\beta_2 NMTCYears_{i,t}]$; and two statistical measures of the persistence $[\varnothing \rho_t]$ of NMTC in a state from year to year (due to heavy promotions, for example) and random error $[\varepsilon_{i,t}]$. Summary statistics of the program appear in Table 1.

Before estimating this model, several economic concerns should be considered. First, there is concern that inclusion of Connecticut is a problem because it had a state version of NMTC throughout the sample period, though one not clearly designed as a state add-on. This argues comparing the model with and without Connecticut. Second, the paucity of state-level programs and the lumpy nature of the tax incentives suggest that corrections for heteroscedasticity should be included. For this, we use White's (1980) method. The short time period of the data does not raise a strong non-stationarity concern, but augmented Dickey-Fuller tests did not detect non-stationarity.⁵ With these concerns isolated, the results of the analysis are presented in Table 2.

This estimation clarifies several important issues concerning to state NMTC programs. First, the model performed well, explaining roughly three-quarters of the variation in federal NMTC investments in each state from 2005 to 2010. The length of time the credit

Table 2 » Estimation Results

Variable	Coefficient (t-statistic)
α_i	73.71836*** (17.726)
β_1 or NMTC Rate	1.072830* (1.74)
β_1 NMTC years since start	-3.873003 (0.96)
$\varnothing \rho_t$ or AR(1)	0.095099 (1.18)
α_i or Fixed Effects	Yes
R-Squared (adjusted)	0.69
F-Statistic	14.20***
Durbin-Watson Statistic	2.56

Notes: ***denotes statistical significance to the 0.01 level; *denotes statistical significance to the 0.10 level.

Source: Here's the source for the figure above.

has been in place does not influence the level of state investment. This result also holds when omitting Connecticut from the sample. The lack of statistical significance of any acceptable level discounts the importance of the autoregressive component of the model. Additionally, the fixed effects coefficients (not reported for sake of brevity) point to strong factors among states that are invariant over the observed period, 2004-2011. Of importance however, is the state NMTC rate. The coefficient provides a point estimate of the incremental effect of a 1 percent change in state NMTC on investments (millions of inflation-adjusted dollars). It can be concluded that a 1 percent increase in state NMTC rates is associated with a 1.07 percent increase in investment directed to rural, distressed areas.

Interpretation and Extension

These model results permit us to better quantify the full effect of NMTC state add-ons on the economy of an individual state. Interpreting the estimated coefficient above allows us to calculate the level of additional NMTC generated within a state due to the state-level program. In states with a 39 percent credit rate, an additional \$17.8 million to \$65.9 million in annual investment will occur in distressed areas. This estimate

⁵ We corrected for heteroscedasticity using White's (1980) method and tested for stationarity using an augmented Dickey-Fuller test.

Figure 3 » Simulated Effects of Total Investment

Based on 39% cumulative tax credit rate in Indiana, 2010 - 2017

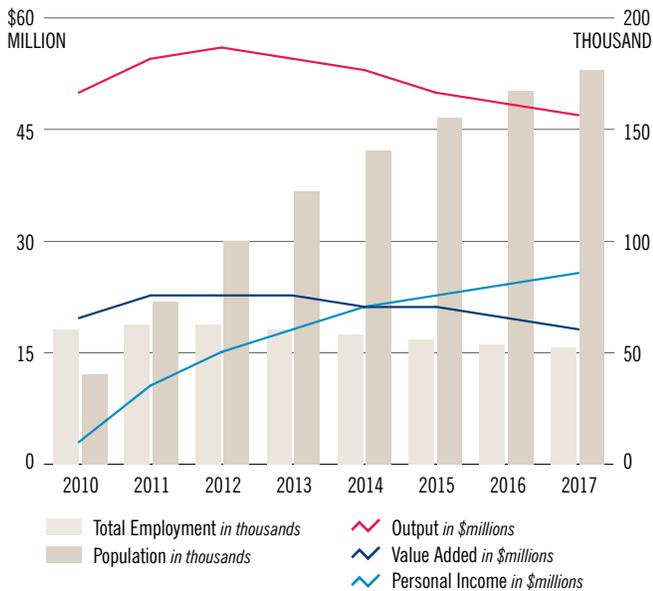
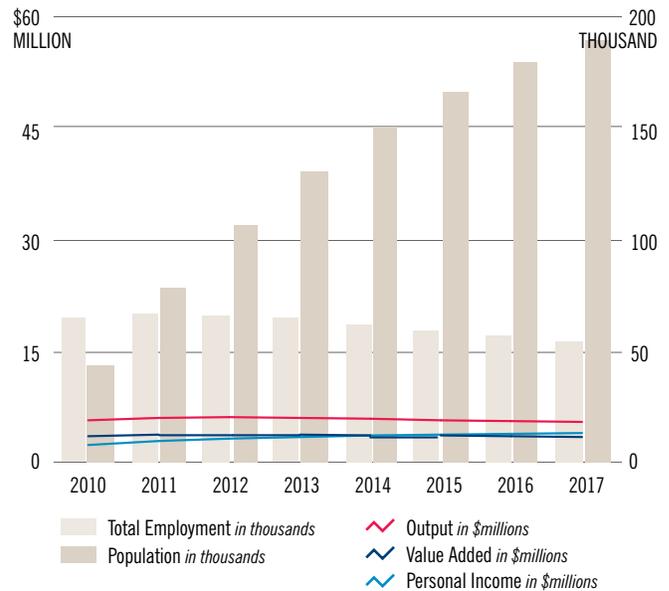


Figure 4 » Simulated Effects of New Investments

Based on 39% cumulative tax credit rate in Indiana, 2010 - 2017



is obtained by multiplying the coefficient estimate of NMTC (represented in [0,100]) typical with the 39 percent tax credit rate.

In states with a 50 percent credit, an additional annual investment will occur, between \$22.8 million and \$84.45 million. However, this investment may not consist of new funds exclusively. Assuming investors behave similarly to the state add-on regulation as they did with the federal NMTC, the new, actual investment nationwide from a single state’s NMTC investment is calculated between \$1.9 million and \$9.0 million. Additionally, the study that analyzed the investment decision in greatest detail (Gurley-Calvez, et. al. 2011) did not examine state-by-state data. As a consequence, the higher rate of return in a single state with a NMTC may lead to some interstate ‘capture’ of funds that, while already programmed for investment, would otherwise be invested in a project outside the state. This effect may prove to be significant.

In Indiana, the size of total NMTC and the potential for new investment in distressed communities is significant. To illustrate this impact, we offer two simulations of the investments as outlined previously. Both simulations were performed using the REMI, Inc. model, permitting investment modeling through tax incentives. Using the estimates of total and new investment due to

a state add-on NMTC, the total effect of the NMTC on distressed communities in Indiana can be estimated as if the program was operational in 2010. Similarly, we are able to estimate the effect that analysis confirms as purely new investment, not from elsewhere (see discussion of Gurley-Calvez, et. al. 2011). We cannot determine how much of the additional investment is a result of the movement of investment dollars from states without additional NMTC to those states with NMTC investments. This is possible for individual and corporate investors with multi-state tax obligations. Nevertheless, Figures 3 and 4 illustrate the effect of the simulation of the state’s economy, had an Indiana NMTC at the 39 percent rate been available beginning in 2010.

Fiscal Effects

Investment in a new plant and equipment receiving a state NMTC has an easily estimable tax credit and should be viewed as the primary cost of the program. Its linkage to federal NMTC dramatically reduces state administrative costs for the program. The benefits, however, are more difficult to measure. The benefits would include tax revenues associated with the new investment and revenues of said employees, households, and associated indirect economic activity. Benefits may also include growth in rural, distressed

regions. To make these estimates, we must also know what share of new state NMTC-associated investment is actually new investment in the state. We have thus far assumed this to be 10.7 percent, similar to the federal NMTC. However, this percentage is highly speculative because federal estimates are not linked to individual states. It is equally possible that the recent growth in state NMTC draws investment from surrounding states. Furthermore, because incentives occur three or more years after the investment, significant temporal effects require estimation, including appropriate discount rates and survivorship rates of firms receiving the investments. These factors render a fiscal analysis highly sensitive to assumptions regarding what share of new investment should be included as a benefit. Reasonable assumptions could place the net fiscal effects as either positive or negative.

SUMMARY

New Market Tax Credits are a relatively recent policy innovation designed to increase investment in distressed communities around the nation. To date, the best analysis of these programs suggests this goal is occurring through both the redirection of investment from non-distressed to distressed areas and through new investment resulting from decreased consumption by individual investors. Extrapolating from earlier studies, we find that the ratio of new to redirected investment is roughly one to nine in the United States.

Several states have chosen to use a similar format to the federal NMTC to further increase investment in distressed regions. In doing so, they have chosen a program with low state-level administrative costs—a growing trend among states engaged in parallel tax and expenditure programs (e.g. the state-level Earned Income Tax Credit). Our analysis of these state plans from 2005 to 2010 finds that the programs significantly boost total NMTC in a state. This is addition to an expected effect of some \$54 million per year in states adopting the 50 percent credit plan phased in over the course of seven years.

Using earlier studies and our own analysis, we offer a simulation of the effects of a tax credit, had Indiana implemented a 39 percent state New Market Tax Credit

in 2010. We find that over a seven year period, the NMTC in Indiana would have resulted in roughly \$433 million in investment in distressed regions, with 4,665 total jobs. Of this, \$46 million would have been discrete new investment and a total of 499 discrete new jobs in Indiana's distressed communities.

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About the Center

The Center for Business and Economic Research (CBER) is an award-winning economic policy and forecasting research center housed within Ball State University's Miller College of Business. CBER research encompasses health care, public finance, regional economics, transportation, and energy sector studies.

The center produces the CBER Data Center—a one-stop shop for economic data, policy analysis, and regional demographics—and the Indiana Business Bulletin—a weekly newsletter with commentary on current issues and regularly updated data on housing, wages, employment, and dozens of other economic indicators.

In addition to research and data delivery, the center serves as the business forecasting authority in the Muncie area—holding the annual Indiana Economic Outlook luncheon and quarterly meetings of the Ball State University Business Roundtable.