Appendix to *Economic Brief* "Community Development Financial Institutions as a Means to Overcome Market Failures"

1 Conceptual framework for optimal project selection

In this section of the Appendix, we build a simple conceptual framework for optimal selection of projects deserving government support. The social return to investment, which we denote by r^*, is a key object. The framework illustrates that the optimal criterion for project selection is highly sensitive to r^*.

Private investors compare the market return on a project, denoted by r, to the market cost of funds, f. They do not fund projects with $r < f$. Government subsidies, e.g., those disbursed by the CDFI Fund, can cover that shortfall and get projects with $r < f$ funded. The true social return, r^*, may be higher than r, consistent with the economic theory of positive externalities, but it may still not exceed f, in which case the project should not be funded despite the positive external effects it g enerates. The subsidy, thus, should only be granted if r^* is sufficiently high.

To be precise, government subsidies come out of public funds, which are generally more socially costly than private market funding due to distortionary effects of taxes used by the government to raise revenue. Denoting the public cost of funds by f^*, we generally have $f^* > f$. A precise criterion for which projects should be funded with a government funding share α can be written as:

$$r^* > \alpha f^* + (1-\alpha)f,$$

while private investors, in order to participate, require that their return exceed the cost of funds on the fraction they fund:

$$r > (1-\alpha)f.$$

Investment projects typically considered by CDFIs will have $r < f < f^*$, and the key unknown is where r^* lies relative to these three numbers. Three cases are relevant here.

First, projects with $r^* < f$ should never be funded. It does not matter whether $r^* < r < f < f^*$ or $r < r^* < f < f^*$, as the private and the social return remain below the least expensive cost of funding, f, in both cases.

Second, consider the case $r < f < f^* < r^*$. This is the best-case scenario for government intervention. Even if the government fully funds the project at cost f^*, it should still proceed because $r^* > f^*$. An example of this case could be the construction of a new public toll-free highway.

Third, consider the intermediate case $r < f < r^* < f^*$. The project's externality is positive since $r^* > r$, but the private sector does not invest because $r < f$. The government should not fund the project alone either, because $r^* < f^*$.

Nevertheless, some projects in this range can be funded if the government subsidizes a fraction α of the investment. Private investors will participate if

$$r > (1-\alpha)f.$$

The minimal fraction required to attract private investment is therefore

$$\alpha = \frac{f - r}{f}.$$

The government should fund this fraction if

$$r^* > \alpha f^* + (1 - \alpha) f.$$

Substituting the minimal α and simplifying yields:

$$\frac{r^* - f}{f^* - f} > \frac{f - r}{f}.$$

This condition states simply that the project should proceed if the largest fraction the government is willing to grant exceeds the smallest fraction required by the private sector.

Because r^* is discounted by the difference $f^* - f$ on the left hand side, and r is discounted by the level f on the right hand side, this framework shows that the optimal criterion for project selection is highly sensitive to the hard-to-measure social return r^*. A numerical example solved below illustrates this point.

Therefore, the main danger with allocating subsidies to projects is that privately non-viable projects may receive funding due to an overestimation of r^*.

Note that subsidizing a privately viable project ($r > f$) does not generate inefficiency as long as $f^* < r^*$. If either $f < r < f^* < r^*$ or $f < f^* < r < r^*$, subsidization remains efficient because $f^* < r^*$.

Example

Consider $r = 2\%$, $f = 6\%$, $r^* = 7\%$, and $f^* = 8\%$. Private investors require a grant of

$$\frac{6 - 2}{6} = \frac{2}{3}$$

of total investment. The government is willing to grant

$$\frac{7 - 6}{8 - 6} = \frac{1}{2}.$$

Since $\frac{1}{2} < \frac{2}{3}$, the project should not be funded.

Now increase r^* by 50 basis points so that $r^* = 7.5\%$. The private requirement remains $\frac{2}{3}$. The government is now willing to grant

$$\frac{7.5 - 6}{8 - 6} = \frac{1.5}{2} = 0.75 > \frac{2}{3}.$$

The project becomes socially beneficial and should be funded with a grant equal to $\frac{2}{3}$ of total outlay.

Note that the socially optimal decision margin is highly sensitive to r^*, much more so than to r. If, instead, r increases by 50 bps to 2.5% (holding $r^* = 7\%$), the private sector requires

$$\frac{6 - 2.5}{6} = 0.583,$$

but the government is still willing to grant only $\frac{1}{2}$. The project remains socially undesirable.

2 Recent Studies on the Impact of CDFI Lending

Since the publication of the comprehensive evaluation by Swack et al. (2014), CDFI activities and their community-development impacts have been examined in several more recent and narrowly focused studies. Below, we review five recent examples.

Merissa Piazza and Mark Schweitzer examine the allocation of CDFI projects across urban census tracts between 2012–2021.[1] Using the standard definition of a low-income census tract—median family income below 50 percent of the area median family income—they show that low-income tracts receive the highest per capita CDFI investments. Their model shows higher minority population shares increase the likelihood of CDFI allocation and that prior CDFI presence strongly predicts future investment.

Morgan Rose studies loan charge-off rates in CDFI banks.[2] Using matched CDFI and non-CDFI bank data, he finds higher charge-off rates at CDFIs, consistent with riskier lending, but also finds that noninterest expenses are more strongly negatively correlated with charge-offs at CDFIs, consistent with development services reducing defaults.

Evan Johnson et al. study the diffusion of CDFIs across metropolitan areas from 2013–2021.[3] They find positive associations between CDFI entry and growth in underrepresented minority-owned firms.

Valentina Dimitrova-Grajzl et al. examine CDFI presence and credit outcomes in federally recognized American Indian reservations.[4] They find CDFI exposure is associated with improvements in Equifax Risk Scores, especially for individuals with low initial scores.

Brett Theodos et al. follow over 22,000 CDFI microloan and small business borrowers over 11 years.[5] They find improvements in both consumer and business credit scores following CDFI borrowing, particularly for initially lower-score borrowers.

[1] Piazza, M., & Schweitzer, M. (2026) "The Growing Role of Community Development Finance in Economic Development. Economic Development Quarterly, forthcoming.

[2] Morgan J. Rose (2025) "Charge-offs and Noninterest Expense in Community Development Financial Institutions," UMBC Working Paper.

[3] Johnson, E. E., Lanahan, L., Joshi, A. M., and Hemmatian, I. (2025). "The Role of Community Development Financial Institutions in Supporting Inclusive Economic Development." Economic Development Quarterly, 39(3), 196-210.

[4] Valentina Dimitrova-Grajzl, Peter Grajzl, A. Joseph Guse, and Michou Kokodoko (2022), "Community Development Financial Institutions and Individuals' Credit Risk in Indian Country." Journal of Economic Issues, Vol. LVI, No.1.

[5] Brett Theodos, Noah McDaniel, Eric Hangen (2025) "Credit Trajectories of Business Owners Who Receive Loans from Community Development Financial Institutions (CDFIs)," Urban Institute Research Report.