I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 18119

Rethinking Credit and Capital Subsidies to Create Jobs Through MSMEs. The Role of Impact Investment Funds

David A. Robalino
Loubna Bourkane
Amir Ben Ghod Bene

SEPTEMBER 2025

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 18119

Rethinking Credit and Capital Subsidies to Create Jobs Through MSMEs. The Role of Impact Investment Funds

David A. Robalino
African Development Bank and IZA

Loubna Bourkane
African Development Bank

Amir Ben Ghod Bene
Arab Investment Fund

SEPTEMBER 2025

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Rethinking Credit and Capital Subsidies to Create Jobs Through MSMEs. The Role of Impact Investment Funds

The paper discusses the limits of credit and capital subsidies to finance MSMEs in the presence of jobs-related externalities. Using a stylized model of the decision to lend to enterprises with different levels of risk, we show that instruments like credit guarantees are likely to exclude enterprises that have a higher social rate of return and a higher social value than some of those that get access to credit. We also show that pigouvian wage subsidies equal to the value of the jobs externality are unlikely to be an efficient policy instrument; they would need to be firm specific and do not change the distribution of financial risks. We argue that impact investment funds focused on jobs (IIFJ) can be a market mechanism to channel part of existing government subsidies and deal with market failures resulting from both asymmetric information and jobs externalities. Using an extended version of the model that is calibrated to a representative country we show that – if well designed – IIFJ can generate significant welfare gains relative to traditional investment funds because of their impact on jobs.

JEL Classification: G2, J3, O1

Keywords: jobs externalities, credit guarantees, pigouvian wage subsidies, impact investment funds

Corresponding author:
David A. Robalino
American University of Beirut
P.O.Box 11-0236
Riad El-Solh
Beirut 1107 2020
Lebanon

E-mail: dr22@aub.edu.lb

1. Introduction

Micro, small, and medium enterprises (MSMEs) are today the main source of jobs in most countries and will likely play a critical role in the future in reducing employment deficits through higher productivity, higher quality jobs. It is estimated that, on average, MSMEs employ two thirds of workers worldwide either as wage employees or own account workers, including farmers. They tend to be low productivity enterprises often operating in the informal sector and contribute only one third of gross domestic product. Yet, they will have to contribute over half and more likely two-thirds of the new jobs needed over the next 15 years just to keep participation and employment rates constant [17].

Most countries have put in place policies to promote entrepreneurship and the development of MSMEs by addressing different types of market and government failures. These are related to asymmetric information and principal-agent problems in credit and capital markets; learning-by-doing and cost-discovery externalities at the level of the firm; coordination failures within value chains; and quasi-public goods demanded by MSMEs [13]. Some of the policy interventions to address these failures involve different forms of subsidized credit and capital (the most common interventions world-wide); subsidized technical assistance and support services; interventions to facilitate access to markets and develop value chains; and investments in basic infrastructure to ensure access to services such as electricity and internet. Most policy frameworks also try to deal with government failures by simplifying business, taxes, and labor regulations, sometimes creating special regimes for MSMEs [17].

But in general, MSME policy frameworks ignore other market failures that can affect the quantity and type of jobs these enterprises can create. Reviews for OECD countries show, for instance, that MSME policy frameworks tend to focus on issues related to competitiveness, internationalization, and the creation of value added, taking jobs as a by-product of MSME development [14]. In middle and low-income countries MSME policy frameworks are more likely to have job creation and improvements in jobs quality as objectives, but without specific policy instruments [17].

This paper focuses on credit and capital subsidies for MSMEs (and to some

extent subsidized technical assistance) and shows how existing programs can be inadequate, or at least insufficient, when in addition to market failures linked to asymmetric information and principal-agent problems, there are externalities related to the jobs MSMEs create. These emerge when salaries do not longer reflect the opportunity cost of labor [12], and/or when the social value of a job is above the value-added it generates – that is divided between employers and workers – because it contributes, for instance to human capital development, economic inclusion, poverty reduction, and social cohesion [19] and [18].

In these cases, the social rate of return of a given investment project can be above the internal rate of return, which is one of the criteria used, explicitly or implicitly, to allocate current subsidies. Credit guarantees, for instance, go to those MSMEs who are able to obtain a loan from a commercial bank, presumably because they are more profitable/credit worthy than those that cannot. And when the subsidies are allocated directly by the government, they also benefit the entrepreneurs/MSMEs that were able to prepare business plans, obtain co-financing from a bank, or had the most profitable investments. As a result, current programs inevitably exclude lower productivity MSMEs, even when there can be investment projects – albeit more risky and costly – that can improve their commercial opportunities, increase their productivity, and enable the creation of quality jobs. In fact, a recent study for 128 countries estimates that there are 65 million formal micro, small and medium enterprises that are credit constrained or 40 percent of the total [11].

The paper argues that impact investment funds focused on jobs (IIFJ) can be a market mechanism to channel part of existing government subsidies and realign social and private rates of return on investments, improving the impact of existing financial instruments on employment outcomes. Regional IIFJs could be used to finance investment projects that integrate MSMEs within different value chains, thus opening new markets, mobilizing technical assistance to increase their productivity, and facilitating access to additional sources of credit. The nature of these investment projects can increase costs and reduce risk-adjusted rates of return, but while delivering higher social rates of return. These projects can be financed because, contrary to other investment funds, IIFJs deliver to investors both a return on their capital but also social returns. In addition, the balance between internal and social rates of return to investors can be influenced by government subsidies in the

form of concessional capital and guarantees on investment returns.

The paper is organized in five sections. The next section discusses briefly the market failures that affect access to finance to MSMEs, and presents a stylized model of the decision to lend to enterprises that illustrates the limits of existing mechanisms and the rationale for impact investment funds. Section 3 uses a more refined version of the model to compare the investment strategies of traditional and IIFJ investment funds and assess their employment and welfare impacts. Section 4 discusses how IIFJs would operate in practice and presents estimates of the financial returns they could deliver to investors based on the structure of their investment portfolio, setup costs, management fees, and the level and type of government subsidies. The last section summarizes the main results of the analysis and discusses issues related to governance and implementation.

2. Limits of existing financial instruments for MSMEs and the rationale for IIFJs in the presence of jobs externalities

The main justifications for public policies to facilitate access to finance to MSMEs and entrepreneurs are asymmetric information and principal/agent problems in the markets for debt and capital. Asymmetric information because, in general, commercial banks (also institutional investors) have limited/imperfect information about the credit worthiness of different firms; their managers and owners have better knowledge concerning the operation of the business. The problem, however, is more acute in the case of would-be entrepreneurs and MSMEs than large firms. First, it is quite difficult to assess the profitability and risk of a new business, particularly in the case of young entrepreneurs with little experience, no credit history, and little or no equity. Second, stablished MSMEs often do not produce audited financial statements and have no obligation to make public disclosure of their financial reports. Third, in MSMEs the line of demarcation between the finances of the owner and those of the business is usually blurred. Fourth, MSMEs do not follow standards of corporate governance with clearly defined roles and responsibilities for shareholders, managers, and stakeholders. They tend to

reflect the idiosyncrasies of their owners and their informal relationships with stakeholders. Finally, the problem of asymmetric information is more severe because the large heterogeneity of the population of MSMEs and would-be entrepreneurs, which are characterized by a wider variance in profitability and growth prospects than larger enterprises, and exhibit greater year-to-year volatility in earnings [15].

The principal/agent problem, which exists in all financial transactions, is also more severe in the case of MSMEs and new entrepreneurs. Indeed, once financing is received, the entrepreneur may use funds in ways other than those for which it was intended. An entrepreneur might undertake excessively risky projects since all the "upside" of the project belongs to the entrepreneur while a banker would prefer a less risky operation, even if profitability is lower. A large firm wishing to undertake a comparatively risky activity can select appropriate risk sharing formulas, such as equity issuance, but small firms have fewer or no choices available [15].

Financial institutions have set up multiple mechanisms to deal with asymmetric information and principal agent problems [6]. But eventually, they have to manage residual risks by other means, usually by requesting equity or collateral close to the level of the loans. All these mechanisms exclude entrepreneurs and MSMEs with no or short credit histories, poor or no financial statements, low levels of capital, no collateral, and no possible guarantors [9]. They constitute, unfortunately, the majority of potential and stablished entrepreneurs.

The small scale of the financial operations of MSMEs compounds the problems of asymmetric information and principal/agent. The financial industry is an industry of fix costs. It costs the same to prepare, disburse, and monitor the repayment of a small loan than a big loan. Therefore, traditional commercial banks have few incentives to deal with medium and small enterprises, and no incentives to deal with very small and micro enterprises. Small regional banks and micro finance institutions are better suited for dealing with the problem of scale, but they also have limits. The financial sustainability of these institutions involves a tradeoff between the average size of the loan and the level of the interest rates they charge [7]. Micro and very small enterprises might simply not be able to afford the borrowing costs.

In response to these market failures, governments around the world intervene

through different forms of implicit or explicit subsidies. For instance, most countries have programs that offer *subsidized support services* to improve the quality of start-up business plans, SME investment projects, and, in general, business and financial management. These interventions can reduce the problem of asymmetric information for both banks and institutional investors, while improving the profitability of enterprises and reducing financial risks. Also common are *credit guarantees* to allow financial institutions to take on more risks. Many governments also intervene directly through *public investment funds* or *development banks*. In addition, governments intervene by subsidizing the operations of *micro-finance institutions or associations*. More recently, there are initiatives to promote financial innovations such as *asset-based finance*, *alternative debt*, *hybrid instruments*, and *equity instruments* [15]. From the point of view of most MSMEs, however, the relevant financial instruments remain subsidized credits (credits with below market interest rates or no interests), credit guarantees, and concessional capital.

These interventions are likely to be insufficient, however, when there are jobs-related externalities that create a gap between social and private rates of return on investments. Indeed, as discussed in the introduction, beyond *labor externalities* that emerge with high inactivity, unemployment, or informality rates [12], there are multiple examples of *social externalities* related to poor labor market outcomes (see reviews by [1] and [4]). For instance, local employment deficits lead to problems with mental health, substance abuse, family break-ups, and crime [3], [10], and [16]. Economic distress in the household because of unemployment or low labour earnings adversely affects children [5]. Employment deficits reduce tax revenue and increase public spending needs [8]. Jobs contribute directly and indirectly to human capital development and the overall productivity of the labor force [20]. And, economic problems related to the lack of good jobs can lead voters to support fringe political candidates [2].

Private investors, even with government support, usually do not take into account these externalities and give preference to investment projects with high internal rates of return (IRR). The implication is that projects with positive but "below market" IRR might not be financed even when they have a high social rate of return (SRR) given their potential impact on jobs.

To illustrate the limits of existing mechanisms, consider a simple two-period

model where banks lend to MSMEs based on the interest rate they can pay and the risk of default associated with the loan.[1] In the model, there is a set **I** of enterprises characterized by their labor productivity v_i, capital per worker k_i, the output-labor elasticity of their production function α_i (also the share of wages in value added), and their "riskiness" ρ_i. Financial risks are assumed to be a function $f(.)$ of labor productivity and capital per worker that in our application takes the following form:

$$\rho_i = f(v_i, k_i) = \left(\frac{1}{1 + e^{-(b_0 + b_1(v_i + k_i)}}\right) \tag{1}$$

where b_0 and b_1 are parameters to be calibrated to match a given distribution of risks within **I**.

Bank's expected earnings in period 2 from a loan given in period 1 to firm i can be written as:

$$\Pi_i = (1 - \rho_i) r_i K_i + \rho_i(\lambda K_i - K_i) \tag{2}$$

where r_i is the interest rate that the MSME pays on the loan K_i, ρ_i is the risk of default, and λ_i is the share of capital that the bank can recover in the case of default when there is a credit guarantee program. For instance, if $\lambda = 1$ the bank recovers the entire capital and there are no losses or gains (the implicit interest rate on the loan is zero).

The maximum interest rate that an MSME can pay on the loan is equal to the internal rate of return of the investment which can be written as:

$$irr_i = \left(\frac{v_i(1 - s_w \alpha_i)}{k_i}\right) \tag{3}$$

where $s_w <= 1$ is a wage subsidy that will be used later when introducing jobs externalities.

[1] A similar framework could be used for institutional investors where the interest rate is the expected return on capital and the risk of default is replaced by the probability that the investment project will fail.

Replacing equation (2) in (1) and dividing by K_i gives the condition for a given credit i to be viable:

$$(1-\rho_i)\Big(\frac{v_i(1-s_w\alpha_i)}{k_i}\Big)+\rho_i(\lambda-1)\geq\pi^* \tag{4}$$

where π^* is the minimum return the bank expects from the financial transaction.

Equation (3) implies that MSMEs with access to credit need to have an internal rate of return that verifies:

$$\Big(\frac{v_i(1-s_w\alpha_i)}{k_i}\Big)\geq\frac{\pi^*+\rho_i(1-\lambda)}{(1-\rho_i)} \tag{5}$$

The right hand side of equation (5) can be interpreted as the minimum interest rate that the bank expects to receive for a given level of risk. As this risk increases, so does the expected interest rate. The credit guarantee $\lambda>0$ reduces the interest rate and increases the share of enterprises that can meet condition (5).

To show this graphically, in Figure 1 we project the set $\mathbf{I}$ into (ρ, irr) space along with the curves defined by equation (5) for different values of λ.

In the figure, for a given λ, only the enterprises (dots) that lie above the upward sloping line meet constraint (5) and have access to credit. When the level of the guarantee λ increases, the upward sloping lines shift down and to the right and the share of firms that have access to credit increases. Without the credit guarantee, $\lambda=0$, just a few firms on the north-west quadrant of both panels have access to finance. With a 50% credit guarantee, $\lambda=0.5$, a considerable number of additional firms can access credit.

With jobs-related externalities, however, the distribution of firms that have access to credit thanks to the government guarantees is not necessarily efficient.

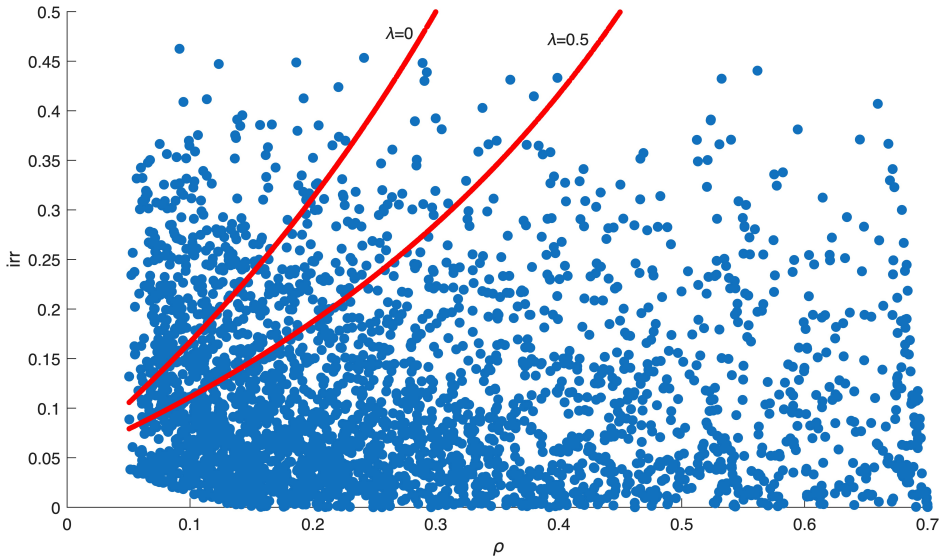


Figure 1: Impact of Credit Guarantees on Access to Finance

Note: The graph presents a random sample of firms in **I** based on the following uniform distributions of the parameters: $v_i \in [1, 4]$, $k_i \in [1, 10]$, and $\alpha_i \in [0.1, 0.9]$. In addition the parameters b_0 and b_1 in equation (1) are calibrated so that the firm with the lowest productivity and capital per worker has $\rho_{max} = 0.7$ and the firm with the highest productivity and capital per worker has $\rho_{min} = 0.05$. The upward sloping curves represent the right-hand side of equation (5) for $\lambda = 0$ and $\lambda = 0.5$. Only firms with an irr_i above the upward sloping lines have access to credit.

To illustrate this we define the social rate of return srr_i and the expected social value $E[u_i]$ of the firm:

$$srr_i = \left(\frac{v_i(1 - s_w\alpha + \chi_i)}{k_i}\right) \tag{6}$$

$$E[u_i] = (1 - \rho_i)log\left(\frac{K_i}{k_i}(v_i + \chi_i)\right) \tag{7}$$

where $\chi_i \geq 0$ captures the jobs-related social externalities assumed to be proportional to the productivity v_i of the firm, and K_i is the investment that needs to be financed. The parameter χ_i is specific to the firm because, in reality, the externalities generated are likely to depend on the types of

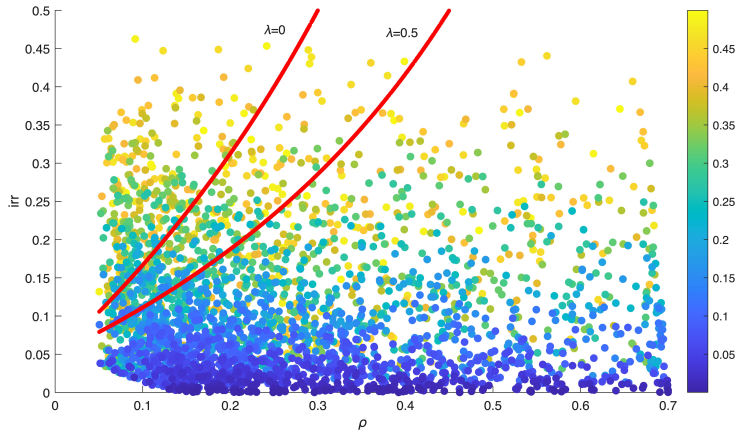
jobs created and the population groups they employ, for instance, women or youth in particular regions. These jobs externalities imply that social rates of return are higher than internal rates of return and that the social value of a firm/investment project is potentially higher than the value added it generates.

If Figure 1 is reproduced adding for each firm as a third, color, dimension their srr_i and $E[u_i]$, one can see that it is possible to find points (firms) that fall below the curve $\lambda = 0.5$ but that have a higher srr_i and/or $E[u_i]$ (a lighter color) than some of those above the curve (see top and bottom panels of Figure 2).

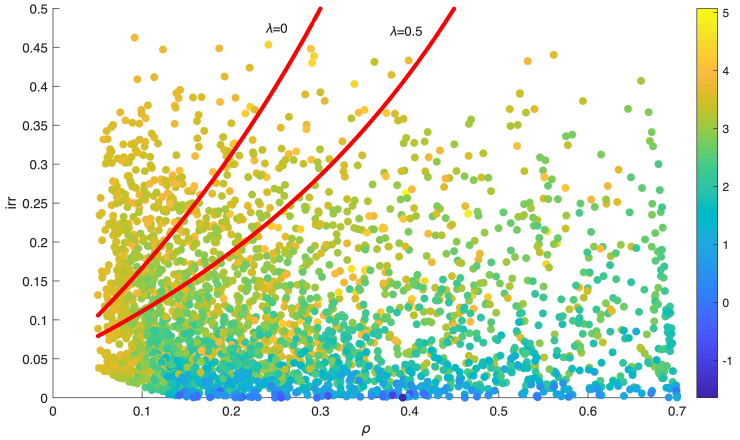
Society would be better off if some of those projects below the curve were financed instead of some of those chosen by the banks. In other words, for any level of risk ρ, ranking investments projects by their irr_i – like banks implicitly do –, can generate a set of investments that is suboptimal from a social point of view.

Some economists have suggested that "pigouvian" wage subsidies equal to the externality generated by the job are the right policy instrument to correct the market failure [13]. And, theoretically, this makes sense. In our case, setting $s_w = (\alpha_i - \chi_i)/\alpha_i$ would align the internal and social rates of return of each firm or investment project. The credit guarantee would then take care of asymmetric information and principal agent problems. In practice, however, there are several difficulties to make this happen. To start with, the optimal wage subsidy would have to be firm specific, since it depends on the share of wages in value added and the types of jobs created. Setting a single wage subsidy s_w for all firms, like in Figure 3, does not address the exclusion problem. And, it is not easy to estimate the value of the externalities; an arbitrary subsidy set by the government will likely be distortionary.

In addition, wage subsidies do not change the nature of the risk facing commercial banks. Presumably, these subsidies would be paid when an investment project succeeds and jobs are created and maintained. In general, for a given level of risk, banks are likely to prefer dealing with more profitable companies that can afford the interest rate without the need for subsidies. If anything, the subsidies might signal problems ahead.



(a) Distribution of Firms with their Social Rates of Return



(b) Distribution of Firms with their Social Value

Figure 2: Impact of Credit Guarantees With and Without Wage Subsidies

Note: The distribution of firms is exactly the same as in Figure 1. The color dimension represents the social rate of return ssr_i (top-panel) and the expected social value of the firm $E[u_i]$ (bottom panel). The credit guarantee expands access to finance but can exclude firms with lower irr_i than those financed, but a higher srr_i and/or $E[u_i]$.

The implication for public policy is that a different mechanism is needed to deal with jobs externalities and reallocate at least part of the subsidies used today to expand access to finance to entrepreneurs and MSMEs. The objective would be to co-finance investments with "below market" but positive IRR and high SRR. As a result, some micro and very small enterprises that

previously could not have qualified for loans – even with credit guarantees – given their size and profitability, would become eligible to financial and support services that allow them to escape the low productivity trap.

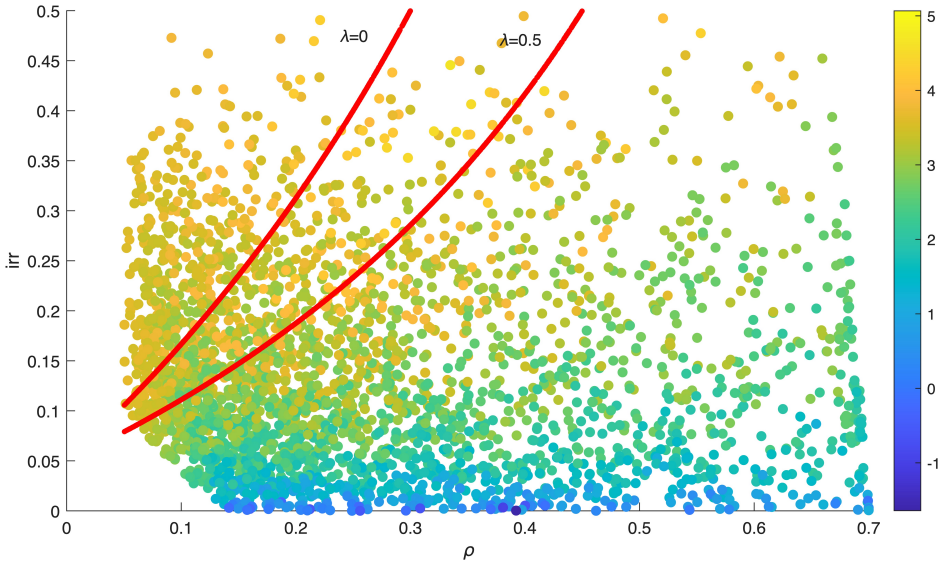


Figure 3: Impact of Credit Guarantees on Access to Finance with Wage Subsidies

Note: In the figure, the irr_i for each firm has been recalculated using equation (2) with a wage subsidy of 20% ($s_w = 0.8$). Like in the top panel of Figure 2 the color dimension represents the social rate of return ssr_i. The wage subsidy shifts all points upward and a few more firms, theoretically, get access to credit. But the impact is limited and the problem of exclusion is not corrected.

We argue that impact investment funds for jobs (IIFJ) can be a market mechanism to deal with job social externalities and asymmetric information and mobilize private investments to fund high SRR / low IRR projects. These could be, for example, investments to develop specific value chains and create commercial and growth opportunities for MSMEs, while facilitating their access to finance and support services. Contrary to direct investments by public investments funds which risk "picking winners," IIFJs are market driven. By design, they cater to individual or institutional investors who are willing to receive lower internal rates of return on their investments in exchange for achieving a given social impact, like creating more quality jobs

for women and youth. This is an important feature that can reduce costs for the government. But, subsidies and concessional finance can also be mobilized to increase the rates of return offered to private investors thus attracting more capital for a given social rate of return.

3. Simulating the investment strategies and welfare impacts of traditional and impact investment funds

In this section we expand the model presented above in order to assess the welfare impact of IIFJs in a representative country. This is done by comparing the investment strategies of IIFJ to those of traditional investment funds, which even when mobilizing concessional capital would be affected by the same problems as the credit guarantees.

The main assumption behind the new model is that, in any given country, there is a finite set of investment opportunities that depend on what the country is already producing, and that there is limited flexibility in terms of how these investment projects combine labor and capital given the production technology. That investment opportunities come in take it or leave it "quantas" is likely to be a more realistic assumption than a continuum of investment possibilities with a smooth substitution between capital and labor based on the interplay between prices and wages.

Formally, the set of investment opportunities is given by $\mathbf{I}$, where each investment project $i \in \mathbf{I}$ is characterized by its economic sector $s_i \in \mathbf{S}$ and region $r_i \in \mathbf{R}$, the size of the investment K_i, labor productivity v_i, capital per worker k_i, and its duration d_i (the time it takes to implement the project before it starts generating revenues). It is also assumed that each project is associated with a production function characterized by the parameters α_s (the output-labor elasticity) which are sector specific.

At time 0, the variables s_i, r_i,K_i, d_i, v_i, and k_i that define the set of invest-

ment opportunities are drawn from the following probability distributions.

$$r_i \sim \mathcal{U}(\mathbf{R}) \tag{8}$$
$$s_i \sim \mathcal{U}(\mathbf{S}) \tag{9}$$
$$log(K_i) \sim \mathcal{N}(\overline{K}, \sigma_{\overline{K}}) \tag{10}$$
$$d_i \sim \mathcal{U}(d_min, d_max) \tag{11}$$
$$v_i \sim \mathcal{N}(\overline{v}_{rs}, \sigma_v) \tag{12}$$
$$k_i \sim \mathcal{N}(\overline{k}_{rs}, \sigma_k) \tag{13}$$

Given these distributions, total factor productivity, the number of jobs created, and output for a given investment project in a region/sector are given by:

$$A_i = \frac{v_i}{k_i^{(1-\alpha_{s_i})}} \tag{14}$$
$$J_i = K_i/k_i \tag{15}$$
$$Q_i = v_i * J_i \tag{16}$$

One of the implications of this setting is that, for a given level of labor productivity, there are projects that are more or less intensive in capital and therefore create more or less jobs, depending on the level of total factor productivity.

For each investment project, it is possible to define the present value of net social and private benefits:

$$\begin{aligned} NPV(\Pi_i) = \sum_{t=0}^{d_i} \Big(t \frac{K_i}{d_i} \frac{1}{k_i} v_i (1 + \chi - \alpha) - \frac{K_i}{d_i} \Big) (1 + r_i)^{-t} \\ + \sum_{t=d+1}^{T} \Big(\frac{K_i}{k_i} v_i (1 + \chi - \alpha) \Big) (1 + r_i)^{-t} \end{aligned} \tag{17}$$

where r_i is the discount rate, χ the value of the externalities related to each job expressed as a share of labor productivity, and T the planning horizon (5 years, for instance, is a reference for investors in private equity funds).

The first part of equation (14) indicates that total investment K_i is divided in equal tranches K_i/d_i and that jobs and output are proportional to cumulative investments. Costs, on the other hand, are related to wages (a share α of value-added) and yearly investments. The second part of the equation indicates that after the implementation period, when the project is in steady state, revenues are equal to value added and the only costs are related to wages. The internal rate of return (IRR) of the project is the discount rate for which $NPV(\Pi_i) = 0$ when $\chi = 0$, whereas the social rate of return (SRR) is the discount rate for which $NPV(\Pi_i) = 0$ when $\chi > 0$.

We are interested in the social impacts of different investment strategies z that generate a portfolio of investment projects $\mathbf{I}^z \subset \mathbf{I}$, and define the relevant welfare function by:

$$U_z = \sum_i (Q_i + \chi J_i), i \in \mathbf{I}^z \tag{18}$$

In particular, we will compare the investment strategies of traditional and impact investment funds. The first would seek to maximize returns on capital by ranking investment opportunities based on their IRR and picking the most profitable projects until the capital runs outs. For the second strategy we postulate that IIFJ would rank investment projects based on their SRR, imposing the restriction that the IRR has to be above a given threshold.

Implementation

The model has been calibrated using national accounts data for Morocco, our representative country.[2] The calibration involves having estimates of the parameters of the different distributions in equations (10) to (13) and the labor shares α_s. In the case of Morocco, data on value added and employment are available for seven economic sectors (agriculture, industry including crafts, construction, commerce, social services, high-end services including finance and ICTs, and other sectors) and 10 geographic regions.

Given estimates of labor productivity by region and economic sector, and

[2]The choice of the country has been opportunistic given by work the authors are conducting there, but similar simulations could be conducted in other countries without changing the main messages from the analysis.

labor shares by sector, the scale factors A_{rs} and the means $\overline{k}_{rs}$ of the distributions that generate capital per worker (equation 10) are jointly determined (through equation 14) to match exogenously defined average IRRs per economic sector. For the distribution of the size of investments and their duration, the means are defined exogenously to reproduce the means observed in the largest MSME program of the country (Tamwilcom). The variance of all distributions are defined exogenously as a share of the mean in order to generate variation in the distribution of investment projects. These parameters do not affect the conclusions from the analysis. The last parameter, is the jobs-related social externality χ for which there are no specific data sources.

As discussed in section 2, the literature provides several examples about the existence of these externalities and in the last section of the paper we discuss alternatives to approximate their social value. In the simulations we simply assume, conservatively, that jobs-related externalities represent 10% of value added per worker (see Table 1 for the value of the different parameters and distributions).

Under these various assumptions, the model can generate large samples of investment projects across regions and sectors. These projects vary widely in terms of labor productivity (between USD 5,000 per worker to USD 40,000), capital per worker (between USD 10,000 to USD 90,000), ticket size (between USD 100,000 and USD 1 million), and internal rates of return (between -10% to over 50%).

One of these samples is shown in Figure 4 which plots each investment project as a function of its IRR and SRR. Each dot in the figure represents an investment project and its color represents the economic sector. The figure shows that there is a considerable variation in IRR and SRR within and across economic sectors. The range for IRR is similar across economic sectors, but some sectors like agriculture and construction tend to have higher SRR, while sectors like commerce have the lowest SRR. As discussed in the previous section, the figure illustrates how market mechanisms and existing public instruments are likely to focus on the investment projects with the highest IRR. The goal of impact investing funds would be to move downwards in the distribution of IRR and focus on projects with high social rates of return.

	Agriculture	Industry	Construct-ion.	Commerce	Social services	High pro-ductivity services	Other ser-vices
MEAN LABOR PRODUCTIVITY (USD 000)							
Béni Mellal-Khénifra	2.989	26.020	3.991	6.993	17.802	11.682	12.298
Casablanca-Settat	2.640	30.768	8.221	7.243	14.567	13.815	19.449
Drâa-Tafilalet	3.727	4.646	4.273	7.069	13.496	8.697	18.973
Fès-Meknès	4.200	5.893	4.158	7.287	15.998	8.271	12.089
Marrakech-Safi	2.256	8.572	3.213	7.220	11.605	7.598	12.721
Oriental	21.595	53.390	30.981	31.732	62.350	35.182	43.271
Rabat-Salé-Kénitra	5.595	10.599	7.599	7.629	18.729	11.910	21.310
Régions du Sud	6.491	13.250	13.785	8.106	1.765	17.238	20.706
Souss-Massa	5.818	9.240	3.335	6.923	16.572	9.358	14.261
Tanger-Tétouan-Al Hoceima	3.752	23.411	5.588	7.063	20.012	12.497	15.156
STANDARD DEVIATION (% MEAN)	5%	5%	5%	5%	5%	5%	5%
AVERAGE CAPITAL PER WORKER (USD 000)							
Béni Mellal-Khénifra	12.842	90.179	15.669	28.504	75.108	41.603	63.533
Casablanca-Settat	11.353	106.468	32.280	29.525	61.458	49.203	100.604
Drâa-Tafilalet	16.035	16.087	16.775	28.816	56.936	30.972	98.025
Fès-Meknès	18.066	20.408	16.325	29.707	67.541	29.455	62.453
Marrakech-Safi	9.700	29.680	12.615	29.434	48.911	27.050	65.750
Oriental	215.95	533.90	309.81	317.32	623.50	432.71	351.82
Rabat-Salé-Kénitra	24.064	36.698	29.826	31.091	79.028	42.420	110.138
Régions du Sud	27.923	45.891	54.126	33.029	84.432	61.396	106.945
Souss-Massa	25.021	31.994	13.093	28.218	70.011	33.307	73.702
Tanger-Tétouan-Al Hoceima	16.138	81.071	21.912	28.757	84.421	44.515	78.345
STANDARD DEVIATION (% MEAN)	5%	5%	5%	5%	5%	5%	5%
OTHER PARAMETERS							
Target IRR by sector	3%	14%	5%	5%	8%	12%	10%
Mean share of labor	0.50	0.29	0.28	0.47	0.56	0.35	0.67
Size investment ticket (USD 000)	300	300	300	300	300	300	300
Standard deviation (% mean)	50%	50%	50%	50%	50%	50%	50%
Duration investments (years)	1-4	1-4	1-4	1-4	1-4	1-4	1-4
Jobs-externality (% labor productivity)	10%	10%	10%	10%	10%	10%	10%

Table 1: Distribution of Model Parameters

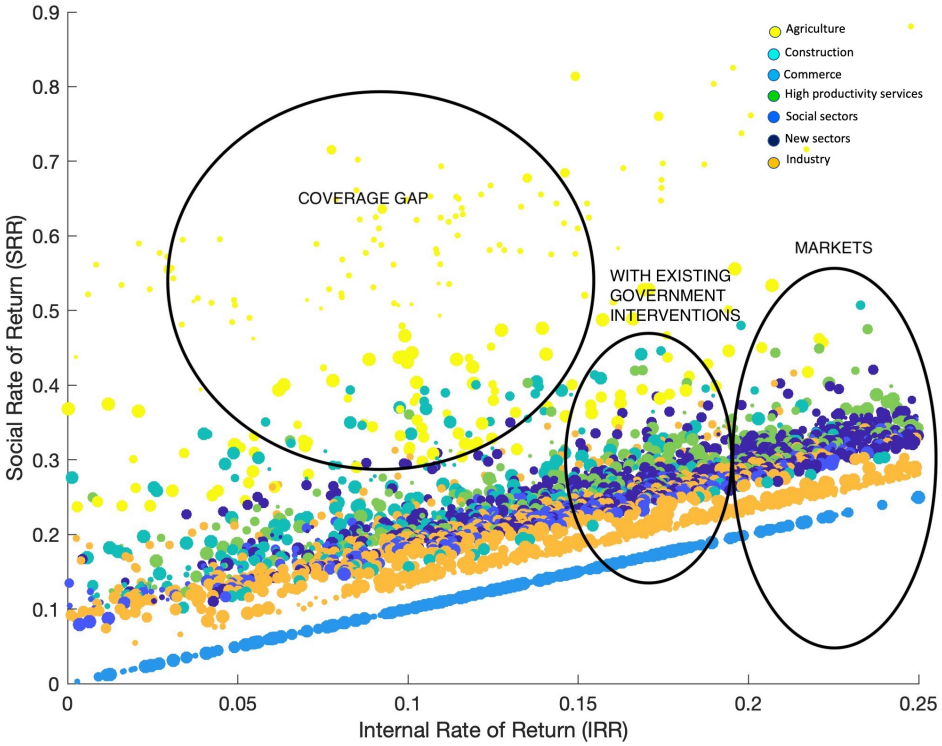


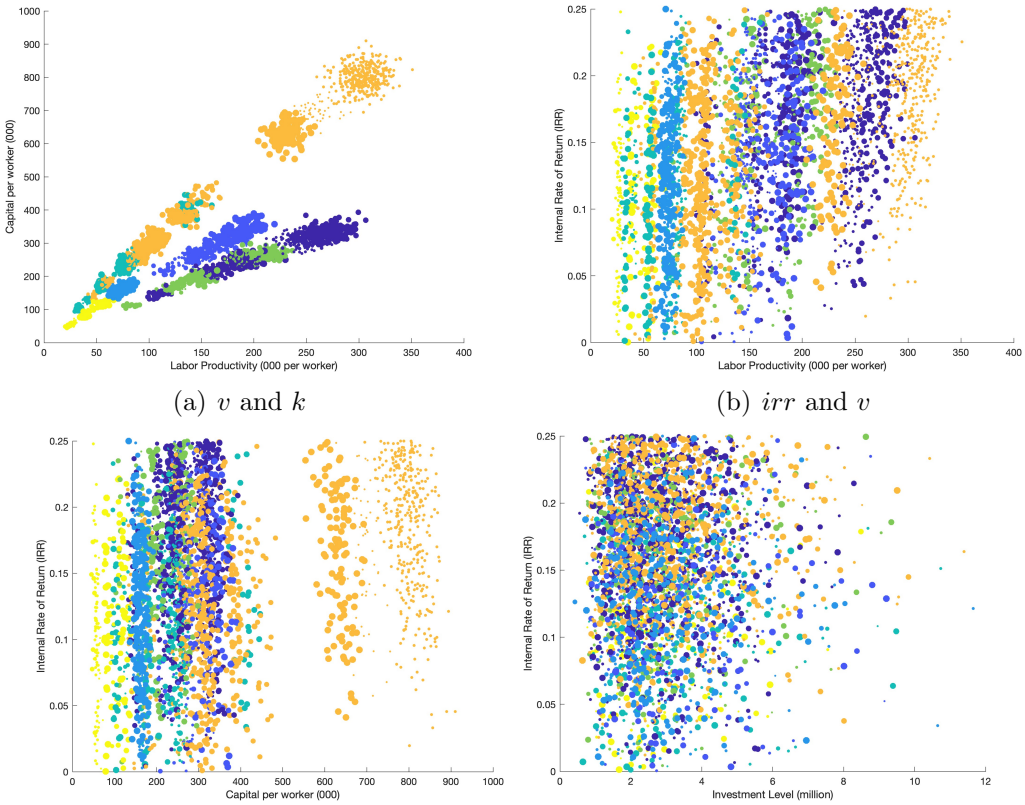
Figure 4: Funding of Investment Projects as a Function of IRR and SRR

Note: The figure shows simulated investment projects in different sectors/regions. Market mechanisms will tend to fund those projects with the highest IRR. Existing government interventions like credit subsidies and guarantees are likely to expand the coverage of projects which are funded, but a coverage gap remains. It involves projects with lower IRR but high SRR.

There are important correlations between the different variables (see Figure 5). In the first three panels, the clusters of investment projects of a same color identify a region. For instance, the cluster of investment projects in the industrial sector (orange color) with the highest level of labor productivity and capital per worker is in the region of Casablanca. In general, projects with the highest rates of return tend to be associated with higher labor productivity and higher levels of capital per worker (see first panel).

There are also correlations between the parameters that characterize the projects and their IRRs. For instance, within a given sector and region, there is a positive correlation between labor productivity and IRRs; the higher the

level of labor productivity the higher the IRRs (see second panel). Average IRRs by cluster also tend to increase with the level of capital per worker (see third panel). However, within a given region and sector, there is a negative correlation between the level of capital per worker and the rate of return; the more costly it is to set up a business in terms of investments per worker, the lower the rate of return. At the same time, there is no clear correlation between the size of the investment and the rate of return. For any ticket-size there is a similar variation in IRRs (see fourth panel).



(a) v and k

(b) irr and v

(c) irr and k

(d) irr and "K"

Figure 5: Sample of Investment Projects Across Regions and Economic Sectors

Model simulations across 500 Monte Carlos are used to map over time the portfolio of classic investment funds and IIFJs and compare their performance in terms of direct jobs created, labor productivity, total output, IRRs,

and SRRs. The simulations cover a period of ten years during which it is assumed that the funds mobilize annual investments by region of USD 10 million, which are allocated to different investments according to the two criteria defined above (IRRs vs. SRRs).

Two scenarios are considered. The first scenario assumes that the funds work with companies which are close to the average in terms of their level of labor productivity by region and economic sector and in terms IRRs. The second scenario assumes that both funds target companies with 50% of the average productivity of the sector/region and IRRs are 70% of the original. Thus, companies in the first scenario would tend to have higher levels of capital per worker, which implies that creating jobs would be more costly.

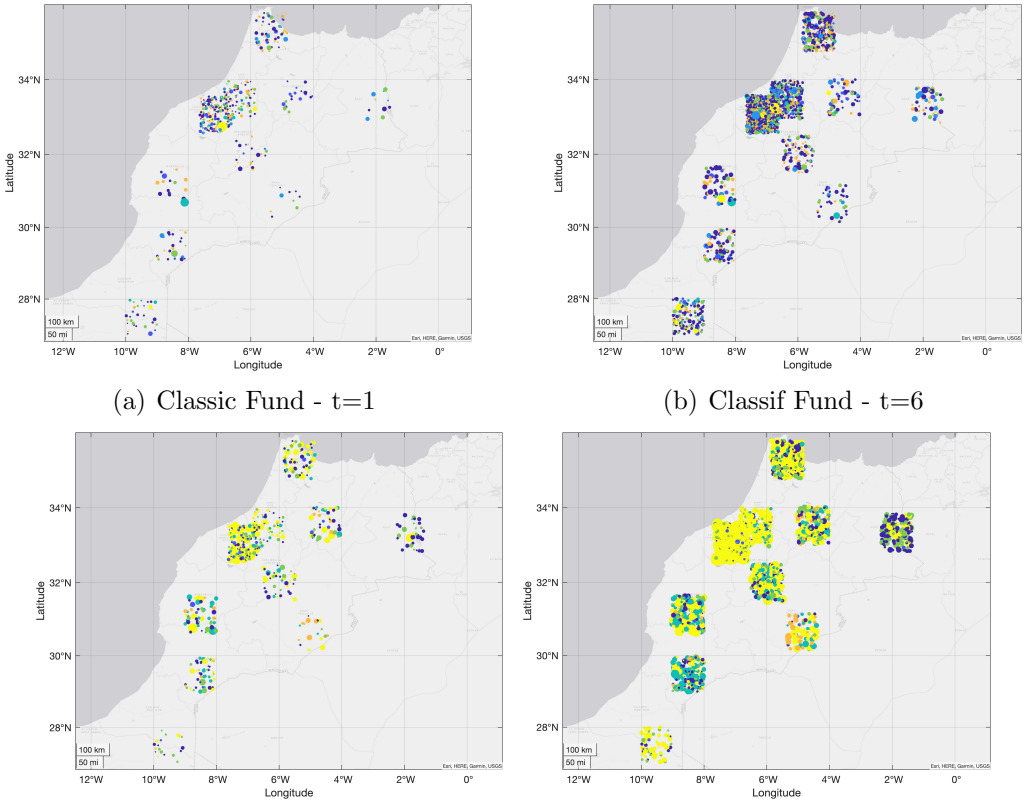
Maps of the country show how the structure of the portfolio of investments would diverge over time with the IFFJs converging towards more specialized investments and a larger coverage across regions. The classic investment fund would gradually build a more diversified portfolio of projects focusing on the more productive sectors including industry, high-productivity services, and innovations in the ICT sectors. There would also be a regional concentration of investments, with the majority of investments going to higher income regions such as Casablanca, Rabat, and Tanger(see top panel of Figure 6).

The IIFJs would generate a more balanced distribution of investments by region, since regions with an average lower labor productivity and, therefore, lower IRRs, can still generate projects with high social rates of return. At the same time, the portfolios by region of the impact funds will likely be less diversified, focusing on those sectors that have the potential to create more jobs. Priority would be given to agriculture and agribusinesses; construction; and other services. But regions such as the Oriental, Drâa, and those in the South could still attract investments in new sectors, industry/manufacturing, and the social sectors (see bottom panel of Figure 6).

An important result is that IIFEs would create a much larger number of jobs than classic investment funds, even compensating for lowers levels of labor productivity and producing higher levels of value added; IIFEJs could increase "the size of the pie" while ensuring, ex-ante, a more equitable distribution of earnings.

In scenario 1 the IIFEs would create three times more jobs than the classic

investment funds; 72,700 on average vs. 23,900 over the simulation period (see Table 2). The downside would be a reduction in average labor productivity from USD 19,600 to 6,000 and, in this case, a 7% reduction in output. As discussed above, this happens as IIFEJs focus on investment projects with higher SRRs which tend to be more intensive in labor and less intensive in capital and thus have lower labor productivity. Still, comparing total value added plus the value of the jobs-related social externalities, the IIFEJs could increase social welfare relative to traditional investments funds by 3%.



(a) Classic Fund - t=1

(b) Classif Fund - t=6

(c) IIFJ - t=1

(d) IIFJ - t=6

Figure 6: Investments by Region and Sector (sample Monte Carlo)

It is also important to note that the reported level of labor productivity is that observed today, when projects would be selected. In the model this level of labor productivity remains constant over time, but in practice it is likely to increase as small firms are connected to larger firms in the value

chain, expand their markets and increase their profitability. In addition, it is possible to set a minimum level in terms of the IRR for the projects and change the balance between average labor productivity and jobs created. This is a key policy choice underpinning the design of IIFEJs.

Performance indicators	**Capital investment fund**	**IIFEJ**	**Change**
Direct jobs created	23,977	72,756	3.03
Cost per job (USD)	30,967	10,416	0.34
Subsidy per job (USD)	0	866	
share of capital	0	8.31%	
Average labor productivity (USD)	19,654	6,030	0.31
Total output (USD 000)	471,257	438,722	0.93
Social welfare (USD 000)	495,234	511,478	1.03
Average IRR	15.38%	15.28%	-0.09%
Implied growth in 5 years	2.0	2.0	
Average SRR	22.4%	30.5%	8.1%
GDP (billion)	142.9		
Share to total capital of the IIFEJ	0.530%		

Table 2: Relative Performance of Classic and Impact Investment Funds - Scenario 1 (high v and irr)

Under scenario 2, the IIFEJs would create 2.7 times more jobs than classic investment funds or an average of 177,000 vs. 65,000 jobs. This occurs as the funds invest in lower productivity firms less intensive in capital (see Table 3). Hence, the average cost per job created in scenario 2 is USD 11,200 for the classic investment funds and USD 4,300 for IIFEJs, compared to USD 30,900 and 10,400 respectively in scenario 1. Average labor productivity would also decline under scenario 2 from USD 6,900 to 2,600 but this time total output would increase by 6%. Essentially, the relative increase in the number of jobs would compensate for the reduction in labor productivity. Total welfare – value added plus jobs-related social externalities – would increase by 26.7%.

In terms of rates of return, the results show that IIFEJs could generate a much larger SSR than classic investment funds without major reductions in IRRs. In scenario 1 the reduction in the mean IRR generated by the investment fund is less than 0.1 percentage points while the mean SRR would increase by 8 percentage points. In scenario 2 the reduction in the mean IRR generated by the IIFEJs is around 3.5 percentage points but the increase in

the average SRR would be 26 percentage points. The average IRR would remain close to 11.5% which is lower than that used in the baseline scenario in section 4. The effective rate of return to investors would then depend on the level and types of government subsidies.

Performance indicators	**Capital investment fund**	**IIFEJ**	**Change**
Direct jobs created	65,070	177,388	2.73
Cost per job (USD)	11,230	4,327	0.39
Subsidy per job (USD)	0	864	
share of capital	0	19.96%	
Average labor productivity (USD)	6,915	2,679	0.39
Total output (USD 000)	449,974	475,270	1.06
Social welfare (USD 000)	515,045	652,658	1.27
Average IRR	15.05%	11.58%	-3.47%
Implied growth in 5 years	2.0	1.7	
Average SRR	34.4%	60.7%	26.3%
GDP (billion)	142.9		
Share to total capital of the IIFEJ	0.537%		

Table 3: Relative Performance of Classic and Impact Investment Funds - Scenario 2 (low v and irr)

4. Operations and financial viability of Impact Investment Funds for Jobs (IIFJs)

This section presents some general considerations regarding the setup of IIFJs. An important issue is about their administration, which would need to outsourced to management companies selected competitively under a performance based contract (PBC) or a public private partnership (PPP). This is important to ensure proper risk sharing between the public and private sectors, and to create incentives for the fund to be managed in the best interest of stakeholders and achieve its objectives in terms of social and financial returns. The revenues of the management companies (MCs) would have two sources: 1) management fees calculated as a percentage of the capital under management; and 2) earnings linked to performance. The latter could take the form of differed income that is paid when IRRs and SRRs are above a

given target (the "hurdle rates").

Given the nature of the investments, a preferred option would be to setup the IIFEJs as open funds, with the government as an investor through the general budget or existing public investment funds. Other investors would include international financial institutions (IFIs), commercial banks, institutional investors, and other private investors. The capital, net of management fees, would be invested in both equity and quasi-equity (debt where the interests paid depend on the performance of the company) in proportions to be decided by the management companies based on the expected IRRs and SSRs stipulated in the contract. Different investors would be able to have different temporalities for capital recovery and different financial arrangements for the payments of returns.

It is unlikely that IIFEJs would be able to invest directly in micro and very small enterprises. Instead, investments would focus on individual SMEs or larger enterprises, but within a value-chain approach that allows the funds to also finance, indirectly, very small and micro enterprises acting as suppliers of final or intermediate goods and services. For this to work, the investment project would need to include funds that can finance the following items: i) tangible fixed assets such as production equipment and infrastructure; ii) intangible assets such as patents, software, websites, and training modules; and iii) working capital for operational support such as financing of raw materials, outsourcing of production components, credits to suppliers, and account receivables. Through the latter, micro and very small enterprises which are part of the value chain of the companies benefiting from the investments of the fund would be able to receive credit to finance their own working capital and their capital investments (see Figure 7).

It would also be important to ensure that the IIFEJs are able to finance activities related to due-diligence and auditing of the companies receiving investments, as well as technical assistance and support services for the micro and very small companies in their value chain. To do so, the MCs would set up partnerships with firms specializing in auditing and different types of technical assistance. The ensuing costs and fees would be included in the financing of the capital increase operation for the target companies.

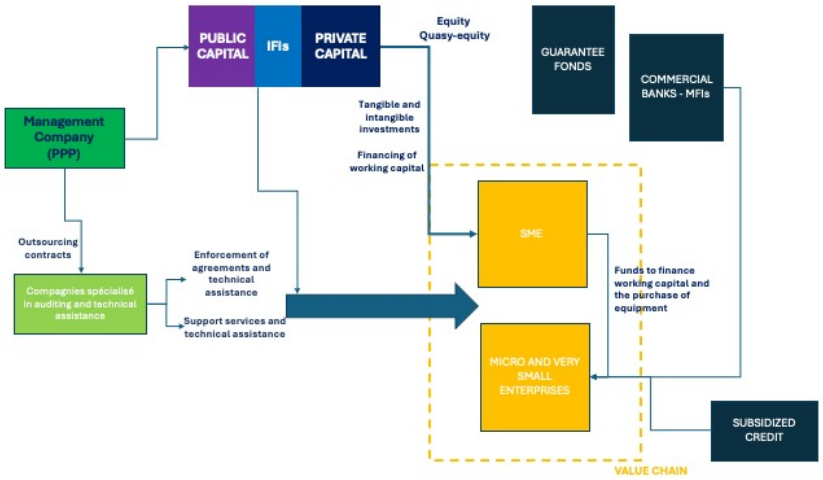


Figure 7: Structure and Functions of an Impact Investment Fund for Jobs

By design, the IIFEJs would also constitute a mechanism to integrate other financial instruments that governments have set up to facilitate access to finance to MSMEs. As indicated, the regional IIFEJs are a vehicles where existing public investments funds could invest to promote entrepreneurship and the development of MSMEs. IIFEJs would also help MSMEs access credits from banks or MFIs since by doing its due diligence, monitoring and supervision of the various players in the investment project, and by integrating micro and very small enterprises in value chains, it would be reducing risks and the problem of asymmetric information. Government credit guarantees could also reach more beneficiaries at lower costs thanks to the activities of the IIFEJs. The same could happen with other programs which offer subsidized credit (see Figure 7).

Financial viability and government subsidies

To a large extent, the financial rate of return that IIFJs can pay to investors will depend on the distribution of rates of return on equity and quasi equity; the composition of the portfolio in terms of these two asset classes; investment risks (the probability that investment projects fail); and management fees. In general, as shown in section 3, IIFJs will pay lower rates of return than traditional investments funds and will likely require government subsidies to

attract private investors. These subsidies would be justified in the presence of jobs related externalities and can be of three types. 1) concessional capital; 2) guarantees on the capital of private investors; and 3) direct transfers to the MCs.

As an illustration, consider an open IIFJ that receives investments of USD 10 million every five years during a period of 25 years. The disposable capital (after management fees) is allocated 60% to equity and 40% to debt, with the value of each investment project – the value of the tickets –, ranging between USD 100,000 and 600,000 (relatively small investments). Capital is invested in equal installments over a period of five years and investments take five years to mature and deliver returns. The expected rate of return on equity is 15% and the expected rate of return on quasi-equity 10%. This implies a 13% rate of return on each investment (0.6*15%+0.4*10%), which is in line with the results of the simulations presented in section 2. At this rate, the companies that receive the capital are expected to grow by a factor of 1.8 over a period of 5 years.

We simulate the performance of this IIFJ under different scenarios regarding investment risks, management fees, and government subsidies:

- *Investment risks.* It is assumed that between 10 and 20% of investments fail and that the standard deviation of the rate of return on successful investments is equal to 20% of the mean.
- *Management fees.* The MC receives management fees of [2-3%] of the capital, as well as payments based on performance with a hurdle rate set at [5-8%] and the percentage of carried interest at 30%. This implies that when the fund generates a rate of return above the hurdle, the MC receives 30% of the additional returns.
- *Government subsidies.* Two types are considered: 1) the government mobilizes 30% of the capital of the fund under concessional arrangements where the return is capped at [0-3%]; and 2) the government guarantees all initial capital to investors (if the fund generates a negative IRR the government assumes all the losses).

The results of the simulations suggest that the average IRR paid by this prototype fund (after management fees and before carried interests) could range

between 3.89% and 7.9% (real), with a minimum of 0.5% and a maximum of 10.3% (see Table 4).

Management fees have an important role to play. When management fees are reduced from 3 to 2%, the average IRR increases from 3.09 to 5.20%. Carry on interests can also have significant impacts on the net rate of return, the rate paid to investors without government subsidies. As show in the first column of Table 4, increasing the the hurdle rate from 5 to 8% increases the average net IRR from 2.4 to 3.22% (compare net rates of return in the first and 4th columns). At the same time, the hurdle rate might be an important parameter to improve the performance of fund managers both by increasing the IRR on investments and reducing investment risks. In the simulations, the rates of return on equity and quasi-equity are taken as given and the main factor affecting the performance of the fund are investment risks.

For instance, if these risks are halved, from 20 to 10% (column 3 in Table 4), the average IRR increases from 2.4 to 4.7%. Therefore, there is likely a tradeoff between the level of the hurdle rate and observed investment risks. If there is no hurdle rate, management costs are lower but investment risks can be higher which can reduce the expected IRR. Similarly, a hurdle rate that is too high might also reduce the incentives that fund managers have to improve the performance of the fund, increasing financial risks and reducing the IRR. Conversely, a hurdle rate in between these two extreme cases can reduce investment risks but also increase management costs. This would imply the existence of an optimal level for the hurdle rate that minimizes investment risks (at a cost) and – other things being equal – maximizes the IRR.

In all cases, government subsidies through concessional capital can increase the IRRs pay to investors by a few percentage points. For example, in the first four scenarios, capping the rate of return the government receives on its capital at 3% increases the average IRR by between 7 and 50 percentage points (compare the net rates of return with the rates of return paid to investors). And, reducing the cap from 3 to 0% increases the IRR from 2.4 to 3.5%. When low management fees and investment risks are combined with high hurdle rates and low returns on public capital, the average IRR could approximate 10%.

Government subsidies are therefore important to increases IRRs and attract

investors but when used their costs should not be underestimated. In the various scenarios considered, the fiscal cost of the concession ranges from 30 and 65% of government capital. Capital guarantees, on the other hand, if set in IIFJs where negative rates of return are unlikely (like in the scenarios considered in this section) would have little bering on the fiscal costs, yet can be an important incentive for private investors.

Manament Fees	3%	2%	"	"	"	2%
Investment Risks	20%	"	10%	"	"	10%
Hurdle Rate	5%	"	"	8%	"	8%
Concession	3%	"	"	"	0%	0%
IRR	3.89%	5.20%	6.58%	4.00%	3.91%	7.9%
min	1.40%	0.46%	3.86%	-0.15%	0.05%	5.1%
max	7.27%	8.15%	8.55%	6.84%	6.52%	10.3%
net IRR	2.39%	3.75%	4.69%	3.02%	2.39%	6.7%
min	0.28%	-0.52%	2.38%	-0.89%	-1.07%	3.9%
max	5.15%	6.29%	6.25%	5.50%	4.66%	8.6%
IRR to investors	2.45%	4.14%	5.42%	3.22%	3.44%	9.6%
min	0.28%	0.00%	2.38%	0.00%	0.00%	5.6%
max	6.08%	7.70%	7.65%	6.58%	6.65%	12.3%
Cost concession	37.8%	31.11%	29.35%	34.02%	58.60%	58.4%
min	29.3%	29.26%	29.26%	29.26%	58.45%	58.4%
max	56.3%	62.16%	36.51%	64.65%	65.74%	58.4%

Table 4: Rates of Return Paid to Investors in Prototypes IIFJ

Note: Management fees are given as a share of total capital under management. Investments risks are the share of investment projects that fail. The hurdle is the rate if the rate of return above which the management company receives 30% (in this example) of additional revenues. The concession on government capital (30% of the total capital of the fund) is the maximum rate of return paid by the fund

In principle, government subsidies should be set at a level equal to the social value of jobs related externalities. And one of the practical difficulties is to define the value of these externalities, which will more likely differ by type of job and who gets the job. The fact is, however, that governments already allocate substantial amounts of public resources to different MSMEs support programs. Impact investment funds can be a mechanism to rationalize the allocation of these subsidies. First, because the investment projects are selected based on market mechanisms. Second, because as discussed in the next section, governments can gauge how private investors in the fund address the tradeoffs between social and private rates of return. And these "revealed preferences" constitute another market mechanism to assess perceptions about the social value of different types of jobs.

5. Conclusions and discussion

We have shown in this paper that traditional credit and capital subsidies for MSMEs are unlikely to be efficient in the presence of jobs related externalities, and that impact investment funds focused on jobs (IIFJs) can be a market mechanism to improve the allocation of the public budget funding these subsidies. The majority of the capital in the proposed IIFJs would be private and investments would be conducted by competitively selected asset managers under PPP arrangements. The main difference between IIFJs and traditional investment funds is that in addition to delivering a given financial rate of return, investors and fund managers also seek a social return. This allows the fund to finance riskier, less profitable, investments in MSMEs but with high social rates of return given their impact on jobs. These investments could take place through SMEs (or larger enterprises) within a given value chain that can then integrate, and finance, micro enterprises as producers of intermediate goods and services. Impact investment funds therefore become a mechanism to leverage private investments towards the social goal of creating quality jobs through MSMEs, which today employ the majority of workers. But because the projects are riskier and less profitable – particularly those integrating micro enterprises – government subsidies might be required to ensure an adequate IRR for at least part of the investors. These subsidies could be funded by reallocations from existing programs.

In this last section, we discuss a few issues concerning governance, the calculation of jobs social externalities, the scale of operations, and integration with existing programs that would need to be considered and further analyzed prior to the implementation of IIFJs.

Governance. In terms of governance the challenge is to strike the right balance between ensuring that the IIFEJs responds to strategic objectives in terms of public policy and giving to the asset managers the necessary independence and incentives to manage the funds in the best interests of its stakeholders. This balance could be achieved if the IIFEJs has a three-tier governance structure: 1) a Board of Directors composed by the stockholders of the management company (MC); 3) an Investment Committee composed by independent professionals selected based on merit as well as the CEO of the MC and its Director of Investments; and 3) a Steering Committee with representatives from the MC, key ministries (e.g., finance, sectoral ministries,

and the ministry of labor), and local governments. The Board of Directors would be in charge of overseeing the overall direction and strategy of the IIFEJs. A CEO, reporting to the board, would be responsible for the day-to-day management and operations of the fund. The Investment Committee would centralize all decisions related to the approval of new investments and the management of the investment portfolio, without interference from the government. The Steering Committee, however, would also play a critical role by defining the strategic objectives of the IIFEFs, particularly in terms of social impacts, and overseeing that the operations and results are aligned with these objectives.

Jobs related externalities. One of the key challenges for the operationalization of IIFJs is to define the value of these externalities. In existing IIF – say for climate – the social outcomes of interest are agreed upon with investors and reported, *ex-post*, for each of the investments, but there is no valuation of social benefits. Fund managers calculate IRRs and, on top, report on social "impacts." Fund managers, therefore, are not able to really maximize social impacts, for instance, by setting a minimum SSR for a given IRR and constructing the portfolio of investments to match the policy objective. The proposed alternative in the case of jobs focused investments is to define, *ex-ante*, the social value of different types of jobs for different individuals (in different regions), so that projects can be selected based on both their IRR and SRR.

Part of the externality is the labor externality which is routinely taken into account in cost-benefit-analysis: market wages are adjusted by the unemployment rate to reflect the social opportunity cost labor. More problematic is the social externality, the value of a job above the value-added it generates, which is likely to differ by type of job, region, and the person getting the job.

One option to estimate the value of these social externalities is having consultations with investors and other relevant stakeholders. A first step would be to define a minimum set of standards a job has to meet in terms of quality (e.g., working conditions, access to social security, earnings). Then, for each population group – say by age and gender –, investors can reveal their perception of the social value of the job, expressed as a share of economy wide average earnings or average labor productivity in the economy (GDP or value-added per worker). The average valuations can be used to calculate

IRRs and SRRs for different synthetic investment portfolios that generate a certain number and distribution of jobs. Investors can then be asked to communicate their expectations regarding the IRRs they would be willing to accept for each portfolio, given their synthetic SRRs and expected social impacts. Some investors will likely be willing to accept an IRR well below market in exchange for a high SRRs, while some investors might require an IRR that can only be delivered through government subsidies. Thus, these subsidies do not have to apply to all investors equally; the fund can have different tranches of capital. It is then possible, in principle, to estimate the marginal private investment leveraged from a marginal increase in the subsidy; or the marginal benefits in the form of additional jobs arising from a marginal increase in the cost of government capital. The level of subsidies would reach its optima when the marginal – average – social benefits are equal to the marginal social costs.

Scale. Impact investment funds tend to be considered as "niche" financial instruments. But this is not a structural problem; at the end, it all depends on the capital governments (and probably international organizations) are willing to mobilize and the appetite of impact and non-impact investors. The volume of impact investment funds has been growing rapidly over the last decade and some of the public investment funds existing today could adopt some of the principles outlined in this paper to maximize the impact of implicit or explicit government subsidies on jobs (IETP, 2024). A more relevant question is whether there are enough investment opportunities in the country considering the adoption of IIFJs. The best way to find out is to gradually setup regional IIFJs and assess their performance. In principle, one of the merits of setting up independent funds at the regional level, each with its own MC is that these would probably better assimilate local knowledge and respond to regional development objectives. At the same time, this model is likely to be more costly given the fix costs related to the setup of a fund and the running of a management company. A compromise would be to keep a single fund managed by an MC, but with different accounts or windows, each focusing on a given region or subset of regions. The MC in this case would have dedicated regional teams in charge of managing the operations of the different windows at the local level. Part of the capital of the fund would be allocated to the different account/windows (say 60% of disposable funds after fees) based on expectations about potential investment opportunities and regional KPIs. The rest could be allocated based "on-

demand," with funds allocated to the best investment opportunities across regions (this was the implicit assumption used in the simulations presented in section 3).

Integration with existing programs. As discussed in section 2, one of the virtues of IIFJs is that they provide an anchor to integrate different government initiatives to promote entrepreneurship and support MSMEs, but this will require having the right institutional arrangements and sets of incentives. The IIFEJs' sponsor institution and the MC should have built-in incentives to seek partnerships with existing programs – either in terms of financial services or support services to MSMEs. It is unclear, however, that isolated actions by the MC would be sufficient to promote collaboration and avoid duplications. One alternative is that the decrees and regulations that create the IIFJs also mandate the ministries and implementing agencies in charge of entrepreneurship and MSMEs flagship programs to develop partnerships and share KPIs with the IIFJs. The budget laws and results-based budgets can then be used to enforce this mandate. The multi-agency Steering Committee of the IIFEJs can also play a critical role in promoting and enabling institutional collaboration.

References

[1] Austin, Benjamin, Edward Glaeser, and Lawrence H. Summers. 2018. *Saving the Heartland: Place-based Policies in 21st Century America.*. Brookings Papers on Economic Activity, BPEA Conference Drafts, March 8–9.

[2] Autor, David H., David Dorn, Gordon H. Hanson, and Kaveh Majlesi. Forthcoming. *Importing Political Polarization: The Electoral Consequences of Rising Trade Exposure.*. American Economic Review

[3] Autor, David H., David Dorn, Gordon H. Hanson, and Kaveh Majlesi. 2018. *When Work Disappears: Manufacturing Decline and the Falling Marriage Market Value of Young Men.* Casio Working Paper No. 7010. Munich, Germany: CESifo Group Munich.

[4] Bartik Timothy J. 2020. *Bringing Jobs To People: Improving Local Economic Development Policies*. W.E. Upjohn Institute for Employment Research.

[5] Bastian, Jacob, and Katherine Michelmore. 2018. *The Long-Term Impact of the Earned Income Tax Credit on Children's Education and Employment Outcomes*. Journal of Labor Economics 36(4): 1127–1163.

[6] Berger A.N. and Udell G.F. 2006. *A more complete conceptual framework for SME finance*. Journal of Banking and Finance 30, pp. 2945-2966

[7] Casaburi Lorenzo and Jack Willis. 2024. *Value Chain Microfinance*. NBER Working Paper 32085.

[8] Charles, Kerwin Kofi, Erik Hurst, and Mariel Schwartz. 2018. *The Transformation of Manufacturing and the Decline in U.S. Employment*. NBER Macroeconomics Annual 33 (2018): 307-72.

[9] DeYoung R., Frame W.S., Glennon D. and Nigro P. 2010. *The information revolution and small business lending: the missing evidence*. Working Paper 2010-7, Federal Reserve Bank of Atlanta

[10] Diette, Timothy M., Arthur H. Goldsmith, Darrick Hamilton, and William Darity. 2018. *Race, Unemployment, and Mental Health in the USA: What Can We Infer about the Psychological Cost of the Great Recession across Racial Groups?*. Journal of Economics, Race, and Policy 1(2–3): 75–91.

[11] IFC. 2017. *MSME Finance Gap: Assessment of the Shortfalls and Opportunities in Financing Micro, Small, and Medium Enterprises*. International Finance Corporation. Washington DC.

[12] Jenkins, G.P., Kuo, C.Y., and Harberger, A.C. 2018. *Cost-Benefits Analysis for Investment Decisions (First edition)*. Cambridge Resources International Inc., Massachusetts, US.

[13] Réka Juhász, Nathan J. Lane, and Dani Rodrik. 2023. *The New Economics of Industrial Policy*. Working Paper 31538, NBER.

[14] OECD 2019. *SME and Entrepreneurship Policy Frameworks Across OECD Countries*. OECD SME and Entrepreneurship Papers No. 29.

[15] OECD. 2016. *New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments*. OECD. Paris.

[16] Pierce, Justin R., and Peter K. Schott. 2017. *Trade Liberalization and Mortality: Evidence from U.S. Counties*. Working paper. Washington, DC: Board of Governors of the Federal Reserve System.

[17] David A. Robalino, Eléonore D'Achon, and Emi Mitane 2025. *A Review of MSMEs Policies in Developing Countries with a Focus on Decent Work*. International Labor Organization. Geneva.

[18] Robalino David, Jose Manuel Romero, and Ian Walker. 2020. *Allocating Subsidies for Private Investments to Maximize Jobs Impacts*. IZA DP No. 13373

[19] Rodrik D, Sabel CF. 2022. *Building a Good Jobs Economy*. In A Political Economy of Justice, eds. D Allen, Y Benkler, L Downey, R Henderson, J Simons. University of Chicago Press

[20] World Development Report 2013. *Jobs* World Bank. Washington DC.