



Approach Paper

Assesing Impacts of Productive Development Programs at the Firm Level in Brazil





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ABBREVIATIONS AND ACRONYMS

ABDI	Brazilian Agency of Industrial Development
APEX	Brazilian Trade and Investment Promotion Agency
BNB	Northeast Bank of Brazil
BNDES	Brazilian Development Bank
CNI	National Confederation of Industry
CNPJ	Brazilian Firms Identification Number
DID	Difference-in-difference
FAT	Fund for Workers' Assistance
FE	Fixed effects
FINEP	Brazilian Innovation Agency
GDP	Gross Domestic Product
IDB	Inter-American Development Bank
IEL	Euvaldo Losi Institute
INPI	National Institute of Intellectual Property
INMETRO	National Institute of Metrology, Quality and Technology
LAC	Latin America and the Caribbean
NSG	Non Sovereign Guarantee
OVE	Office of Evaluation and Oversight
PDP	Productive Development Programs
PSD	Private sector development
PSM	Propensity-score matching
RAIS	Annual Social Information Report
SEBRAE	Brazilian Small Business Support Service
SECEX	Secretary for External Trade
SENAI	National Industrial Training Service
SESI	Social Service of Industry
SG	Sovereign Guarantee
SMEs	Small and medium-sized enterprises
TFP	Total Factor Productivity

I. CONTEXT

A. Introduction

- 1.1 As part of the Office of Evaluation and Oversight's (OVE) Work Program, OVE will conduct a comparative analysis of the main types of firm productivity enhancement-oriented programs (or productive development programs, PDPs) supported by the IDB Group (or Bank) in Latin America and the Caribbean (LAC) region and specifically implemented by Brazilian institutions. Rather than evaluating Bank projects, the evaluation will examine whether and how Bank-supported approaches implemented by Brazilian institutions affect firm level outcomes, with the main indicator being productivity. The assessment will also measure program results on employment, real wages, exports (value-range) and innovation (patents and trademarks registration). The overarching objective of this exercise is to provide insight for future strategic decisions regarding the targeting of Bank support to productive development in the Region.
- 1.2 **The rationale for choosing Brazil is threefold.** First, projects aimed at firm productivity represent 16.9% of IDB Group's private sector portfolio in the country. Second, OVE has access to comprehensive datasets that facilitate impact evaluations in Brazil. Country stakeholders have collected data from firms exposed to different models of intervention supporting productivity enhancement, which allows OVE to learn about alternative support approaches. Third, this is a follow-up of a previous evaluation that assessed results of several approaches supporting SMEs in the Brazilian manufacturing sector (see Box 1.1).

Box 1.1 Impact Evaluation of SME Programs in Brazil

In 2014 OVE conducted an impact evaluation—*A Comparative Analysis of IDB Approaches Supporting SMEs: Assessing Results in the Brazilian Manufacturing Sector*—to assess the effectiveness of programs that support manufacturing SMEs in Brazil (Figure 2.2). The evaluation found that credit is the only type of support that significantly affects all outcome variables, and it also has the most positive impact on employment and wages. The success of credit lines for SME support is related to the incentives created by program design, to the extent SMEs use the funds not only for working capital but also to invest in goods, such as transportation equipment and computers, that ultimately boost their performance. The evaluation also found that export support has a significantly positive impact on the value of exports and produces employment benefits. Business consulting interventions show a positive impact on employment, an impact that increases when combined with credit support. Overall, the results of the evaluation are positive and synergies have been found, highlighting the importance of coordination among institutions that support SME programs.

- 1.3 **The evaluation includes features that extend beyond the previous study.** In addition to including productivity at the firm level as the main outcome of interest, the current evaluation will include firms of all sizes in both manufacturing and service sectors. The evaluation also intends to measure to what extent the results vary by region of the country. The evaluation will not seek to assess aggregate productivity effects of programs in the economy, spillover effects of

programs on indirect beneficiaries, or the impact of loan size on the outcomes of interest.

- 1.4 **LAC countries have been growing at a slow pace relative to the rest of the world, including both advanced and emerging market countries in other regions.** Income per capita in LAC was almost a quarter of the United States' income per capita in 1960, while in 2010 it was only one-sixth. In contrast, several East Asian countries that had income levels well below those of LAC in 1960 are quickly approaching or have joined the ranks of high-income nations (Daude and Fernandez-Arias, 2010).
- 1.5 **LAC's slow growth and increasing income gap can be attributed to its low productivity, regardless of the indicator used for measurement.**¹ This gap is caused mainly by a negative gap in total factor productivity (TFP) growth rather than differences in the pace of factor accumulation² (Daude and Fernandez-Arias, 2010). While the latter is in line with the rest of the world, TFP in the region has not increased since the mid-1970s, and has in fact declined in many countries (Busso et al, 2012).
- 1.6 **The literature describes a range of macro and micro-level policies to overcome the root causes of low productivity.**³ Some broad policies aim to enhance the well-functioning of the market and the overall efficiency of factors of production by reducing informality, reforming labor and financial markets, improving infrastructure, fiscal regimes and education systems, and boosting business climate.⁴ More targeted policies aim to address market failures hampering firm productivity through subsidized credit, grants, and tax exemptions. Although broad policies are extremely relevant for the public policy agenda, this evaluation focuses on the more targeted programs for which firms are the main beneficiaries.
- 1.7 **PDP support is not immune to criticism.** Previous implementation of import-substitution industrialization policies in the region showed that the targeted poli-

¹ For instance, Aravena and Fuentes (2013) found that low labor productivity was the main cause of low growth in LAC during the last three decades (with a negative contribution of -0.3%).

² A country or firm accrues factors when producing more of the same and becomes more productive when producing the same products at lower costs. Sosa et al (2013) found that factor accumulation (especially labor), rather than growth in TFP, remains the main driver of GDP growth. Given the expected moderation of capital accumulation and natural constraints on labor, TFP performance will be pivotal to sustain high growth rates in the region in the future.

³ For an overall description of these policies and their rationale, see Rodrik (2004), Agosin and Fernandez-Arias (2014), and Stein (2014).

⁴ Productivity policies also aim to use existing factors of production better, which implies not only better use of resources within existing firms but also reallocating resources from low to high productivity firms and sectors. Firm productivity in LAC is heterogeneous, even within narrowly defined sectors, with few productive firms and many firms with very low productivity (Busso et al, 2012).

cies in particular could lead to rent-seeking and the capture of public policy by private interests (Agosin and Fernandez-Arias, 2014). They could also undermine the functioning of markets (Rodrik, 2004). Protectionist barriers and subsidies usually benefitted well-organized sunset and low productivity industries (Fristchtak and Moreira, 2015). Credit subsidies can lead to inefficient allocation of funding in the economy if inefficient firms crowd out more efficient and productive ones (Johnston and Per Brekk,1999). Similarly, the provision of subsidized long-term interest rates by development banks has been criticized as impeding the development of a long-term credit market. Such subsidized lending can crowd out credit that would otherwise be supplied by private agents in a free market (McKinnon, 1973; Cohen and Noll, 1991).⁵

- 1.8 **An extensive number of new PDPs have been created in LAC to support firm productivity.**⁶ The institutional arrangements, policies, and financial instruments vary to fit the diversity of circumstances within sectors and countries in the region. The rationale for PDP policy and lending support at the firm level is based on the view that firms are affected by market failures that impede them from reaching their potential to generate jobs and income. If the support correctly addresses these market failures, it could allow the firm to operate more efficiently and in turn lead to increased social welfare that stems either from greater competition, innovation, and access to external markets or from improved coordination in clusters and value chains (Agosin and Fernandez-Arias, 2014, Stein, 2014).
- 1.9 **The Bank has undertaken significant efforts to evaluate the effectiveness of different individual PDP support models and their spillovers.**⁷ However, there is less knowledge on whether and how alternative PDP-oriented interventions reinforce each other. In general, these interventions (i.e. productive finance, business consulting, value chain, export promotion and innovation support, etc.) vary in their expected timing and intensity of effects. The main objective of this evaluation is to provide rigorous evidence on the impacts of different PDP support models where IDB Group has been active.
- 1.10 **The proposed evaluation focuses on an empirical comparative analysis of the different types of PDP-oriented programs supported by the IDB Group in LAC and specifically implemented by Brazilian institutions for firms in the manufacturing and service sectors.** It aims to provide lessons about these various approaches supporting PDPs. This evaluation will not evaluate Bank

⁵ Mazzucato and Penna (2015) point out that numerous scholarly attempts to test the crowding out hypothesis have reached contradictory conclusions. For a review, see Hemming et al, 2022, Hur et al, 2010 and David et al, 2000.

⁶ For an overview of the differences between import-substitution policies and the new industrial policies see Rodrik (2004), Agosin and Fernandez-Arias (2014), Stein (2014) and Bartlett (2014).

⁷ For an overview of previous evaluations of PDP programs see OVE (2014) and Crespi et al (2014).

projects directly, but will provide evidence regarding the effectiveness of Bank-supported models implemented by Brazilian institutions.

B. Bank support to PDP

1.11 **The Bank has extensive experience supporting PDP interventions in LAC countries through sovereign (SG) and non-sovereign guaranteed (NSG) lending and technical cooperation.** The IDB Group portfolio (2003-2014) related to PDPs in Brazil consists of 42 SG and NSG operations amounting to US\$ 4093.8 million, which represents 16.9% of the IDB Group private sector portfolio in the country.⁸

Table 1.1 – IDB Group’s approaches to PDP support in Brazil

	Productive Finance	Business Consulting	Value Chain	Innovation	Exports
Main Justification /Market failure	Asymmetry of Information/ Adverse selection/moral hazard in credit markets	Asymmetry of Information	Coordination failure/Unexploited agglomeration externalities	Capture externalities	Information externalities
Output	Provision of credit for firms	Training	Consolidation of firm’s network	Technology transfer/ R&D/ Equipment/ Training	Enhanced knowledge of potential external markets: missions, fairs, Certifications
Outcome	Firm Growth and employment creation	Firm Growth and employment creation	Capture externalities	Process Innovations/Product Differentiation	Firm Growth/Exports
Impact	Productivity growth	Productivity growth	Productivity growth	Productivity growth	Productivity growth

Source: OVE elaboration

1.12 **The Bank carries out different types of interventions that support the PDP across the LAC region in order to address market failures.** Based on the project review, Table 1.1 identifies the main approaches to support PDPs in Brazil and links the motivation for the interventions and expected outputs, outcomes and impacts. Rather than providing an exhaustive list, Table 1.1 focuses only on the specific types of market failures identified by OVE in the IDB Group’s opera-

⁸ OVE only considered IDB’s Group PDP operations that explicitly named productivity as an objective. In order to identify the IDB Group projects that support PDP at the firm level, OVE reviewed all individual loan and technical cooperation documents for all PSD projects approved between 2003 and 2014. All IIC, MIF, SCF and OMJ projects were classified as PSD projects. For IDB-SG projects OVE considered as SPD projects all the IFD projects related to three sectors: Agriculture and Rural Development (AG); Financial Markets (FM); Private Firms and SME Development (PS).

tions. Table I.1 in the Annex breaks down the IDB Group’s operations aimed at supporting PDPs particularly in the case of Brazil by type of approach.

- **Productive Finance.** Average financing to the private sector in LAC (40 percent of the GDP) is much lower than the averages for advanced economies (112 percent of GDP).⁹ Supply financing constraints are related to market failures that hamper firm expansion and modernization plans. The root causes may be related to both government failures (poor rules of law, lack of legal basis for credit bureau, etc.) and market failures, such as adverse selection and moral hazard in credit markets.¹⁰ Thus, besides regulatory reforms, significant number of interventions have been designed to alleviate credit constraints and provide firms with the capital they need to implement their expansion and modernization plans. For example, both second-tier development banks provision of subsidized lending programs and credit guarantee schemes as a risk transfer mechanism are policies commonly used to overcome the absence of long term funding and adequate collateral. In particular, the guarantees reduce the lender’s credit risk by diminishing the financial loss the financial institution would suffer if the firm defaults.
- **Business consulting.**¹¹ Firms, particularly SMEs, often lack adequate information on basic regulations, environmental management, and business management. Projects focused on business consulting are based on the idea that supporting the development of business plans and the design of business strategy improve business performance, firm growth, and ultimately firm productivity.¹² This support is usually combined with other kind of support such as credit, value chain or innovation in order to enhance business models.
- **Value Chain.**¹³ These programs are based on the idea that individual firms can benefit from productive associations with others, and they provide a localized network of specialized organizations, services and knowledge.¹⁴ These projects aim to overcome coordination failures that prevent firms from

⁹ See Fernandez-Arias et al, 2014. Recent statistics specifically focused on Brazil show a faster increase of the country averages: from 36% in 2007 to 59% in 2014 (Source: Brazilian Central Bank, 2015).

¹⁰ Potential lenders attribute a high risk of default particularly to SMEs—which often lack credit history, adequate collateral, and expertise to produce sophisticated financial statements—and thus deny them credit. See Beck and Demirguc-Kunt, 2006; Michelacci and Silva, 2007; and Canton et al., 2012.

¹¹ See McKenzie (2012) for a review of business consulting program evaluations in developing countries. The Bank supports several programs aimed at lowering transaction costs, reducing informality, and improving regulations and market operations. These interventions may include policies regarding business registration, property registration, and regulatory frameworks.

¹² See Rosholm, 2007.

¹³ Value chain support includes also cluster support. OVE chose “value chain” nomenclature because it is the most representative kind of support of this category among IDB Group’s projects from 2003-2014.

¹⁴ See, for example, Schmitz, 1995 and Martin et al., 2011.

capturing such externalities. The concept of value chain has been widely adopted as a policy tool for local economic development programs, which explains the support given by development agencies in various countries—Brazil, South Korea, Japan, France, and many others.¹⁵

- **Innovation.** Social returns to innovation exceed private returns, implying that investors do not reap all the benefits of the investment. Asymmetry of information hampers assessment of project cost-benefit analysis, reducing the incentive to introduce innovation. Innovation can also entail coordination problems as it depends on complementary investments such as human capital, technological infrastructure, and knowledge. This knowledge is often tacitly gained through interaction among market and non-market institutions.¹⁶ Since innovation is the main driver of economic progress and has intangible and positive knowledge spillover effects, the role of public policy is to address market and coordination failures in order to facilitate investment in knowledge generation and to encourage innovation.¹⁷ Policy instruments vary and include financing science and research, particularly for product differentiation and process innovation, subsidized lending to firms, and funding to start new businesses.
- **Exports.** The programs that support export promotion are justified as interventions that correct market failures, such as information externalities, and help firms overcome the obstacles to exporting. Firms' lack of cross-border knowledge on markets, suppliers, and technologies is a barrier for their access to international markets (Crespi, 2011). Greenaway and Kneller (2007) argue that a “learning by exporting” process for firms engaged in export activities leads them to innovate and be more productive. The hypothesis is that the increased competition in foreign markets may provide information to firms on new products and processes, thereby reducing costs and improving quality. Likewise, firms exposed to new markets can scale up their production, but they also need to be more efficient and increase their investments in innovation to tackle external competitors.

C. The Brazilian perspective

- 1.13 **During the early 2000s, federal government policies aimed at fostering competitiveness in Brazilian industries.** These include the 2003 Industrial, Technological and Foreign Trade Policy, the 2008 Productive Development Policy, and the 2011 Bigger Brazil Plan. These policies envisaged a new regulatory framework and created institutions to strengthen the link between government policies and business strategies: the National Council of Industrial Development and the Brazilian Agency of Industrial Development (ABDI), which

¹⁵ Martin et al., 2011.

¹⁶ Crespi et al., 2011

¹⁷ Lundvall and Borrás, 2005.

- is directly subordinated to the President of the Republic, and the SME Secretariat.¹⁸
- 1.14 **The Brazilian Trade and Investment Promotion Agency (APEX) was created in 2003 with the goal of promoting exports of goods and services and opening Brazilian companies to external markets.** It is responsible for coordinating and implementing export promotion policies for Brazilian goods and services and for attracting foreign direct investment. APEX focuses particularly on activities that increase firms' exports and create jobs, serving companies of all sizes.¹⁹
- 1.15 **Brazilian institutions historically collaborate with one another when implementing their PDPs support programs.** For example, Brazilian Small Service Support Service (SEBRAE), which is the main contributor to SME support programs in Brazil,²⁰ collaborates with both Brazilian Development Bank (BNDES) and Brazilian Innovation Agency (FINEP) in venture capital and private equity funds aimed at fostering innovative startups, and with APEX in export promotion.
- 1.16 **These institutions adopt measures to improve the overall business climate and create a more propitious environment for technology development.** The policies aim to eliminate taxes on investments and exports, simplify measures to start up and shut down companies, and invest in National Institute of Intellectual Property (INPI) to simplify procedures and accelerate the registration of a patent or trademark. The National Institute of Metrology, Quality and Technology (INMETRO) offers information on the requirements and conformity assessment procedures established by foreign imports and aims to foster instruments of basic industrial technology to promote growth and technological innovation, increase competitiveness, and create a favorable environment for scientific and industrial development.
- 1.17 **Productivity indicators, such as labor productivity and total factor productivity, show that in recent years Brazil has performed poorly in terms of productivity.** Over the last two decades, the Brazilian economy experienced productivity growth until 2008. This growth was largely due to better basic education of the labor force which improved human capital and increased human capital. There was no expansion of efficiency arising from the incorporation of

¹⁸ The National Council comprises 13 ministers, 10 entrepreneurs, and 3 trade unionists. ABDI is the executive secretary of this Council, and its board is named directly by the President.

¹⁹ The agency's top management body, the Deliberative Council, comprises representatives from the public sector (Ministry of Development, Industry and Trade, its Foreign Trade Chamber, the Ministry of External Relations, and BNDES) and the private sector.

²⁰ Created in 1972 as a public center responsible for providing managerial assistance to SMEs, SEBRAE became a private nonprofit organization in 1990. SEBRAE is funded by a monthly social contribution paid by employers.

- technology, expansion of scale production, improvement of the business environment, or other factors that affect labor and total factor productivity.²¹
- 1.18 **After 2008, productivity growth slowed down drastically, due particularly to the financial crisis along with the slowdown of the Brazilian economy.** From 2008 onward, Brazil's economy worsened as the manufacturing sector, which is one of the main contributors to productivity growth, experienced a severe fall in productivity.²²
 - 1.19 **Maintaining GDP growth requires a growth in productivity over the coming years.** Considering the demographic projections of Brazilian Institute of Geography and Statistics (IBGE), high participation growth rates and employment rates in the near future are not expected, indicating that GDP growth will be increasingly dependent on increases in productivity.²³
 - 1.20 **Technology may prove to be one of the most important factors to generate productivity gains in the long run.** While new technologies may allow for product innovation, technologies related to the production process may allow significant increases in production using the same inputs (De Negri and Cavalcante, 2014).
 - 1.21 **Another important route to increase productivity is education and skilled labor.** Although numerous studies report an increase in skilled labor in Brazil and its positive effect on productivity growth over the last two decades, there is still a shortage of labor in certain specialized categories.²⁴
 - 1.22 **The evolution of productivity has been a topic of increasing economic debate in Brazil.** Regardless of the measure used -- labor productivity or total factor productivity, studying the evolution of productivity, whether at the aggregate or the firm level, is needed to understand and monitor the country's competitiveness.²⁵

²¹ See De Negri and Cavalcante(2014), Messa (2014) and Mation (2014).

²² See De Negri and Cavalcante (2014), Bonelli (2014) and Cavalcante e De Negri (2014)

²³ See De Negri, Cavalcante and Jacinto (2014).

²⁴ Jacinto and Ribeiro (2013), Oliveira and De Negri (2014) and Cavalcante e De Negri (2014).

²⁵ Bonelli and Fonseca (1998), Rocha (1999), Gomes, Pessoa and Veloso, 2003), Rocha (2007), Barbosa Filho, Pessoa and Veloso (2010) and Jacinto and Ribeiro (2013).

II. EVALUATION DESIGN

A. Objective

2.1 **The objective of the evaluation is to analyze the models of interventions identified in Table 1.1, comparing their achieved results and drawing lessons for the future.** The specific evaluation questions are as follows:

- What effects do different models of PDP interventions and various combinations of these interventions have on productivity, employment, real wages, exports and innovation in Brazil?
- To what extent do the timing and sequencing of PDP interventions affect their impact on productivity, employment, real wages, exports and innovation in Brazil?

B. Methodology

2.2 **PDP performance and results will be assessed through an empirical impact evaluation.**²⁶ The impact evaluation will analyze whether firms that received specific PDP support performed better in terms of productivity, employment, real wages, exports and innovation than similar firms exposed to other types of interventions or comparable firms that did not receive support. OVE will break down the results by subsectors of services and manufacturing sectors, by country region, and by firm size. Inputs from previous impact evaluations and academic studies will be used to provide further evidence on the evaluation questions.²⁷

2.3 **Benefiting from the availability of a panel dataset at the firm level with a large number of establishments, OVE will adopt the fixed-effects (FE) model.** It aims to control for unobservable characteristics that are time invariant as well as secular (aggregate, sectors and region specific) time trends.

2.4 **OVE will complement the FE estimation strategy with the use of propensity-score matching (PSM) techniques.**²⁸ OVE will test different PSM, consistently including age and education in the specification and altering the use of geographical and sector dummies. The use of both techniques aims to guarantee that the estimations compare control and treated groups that are similar enough (PSM) while mitigating omitted variable bias—that is, a bias arising from unobserved and uncontrolled differences between these two groups (FE estimation).

2.5 **To test the robustness of the results, the analysis will include treatment falsification tests,**²⁹ as well as checking the comparability of pre-treatment

²⁶ For an in-depth discussion of the methodology that will be used in this evaluation, see OVE (2014).

²⁷ See references listed in this Approach Paper.

²⁸ The evaluation will also implement the estimation strategy that uses a combination of propensity score matching at baseline (between treated and untreated firms) and the difference-in-difference estimator as suggested by Crespi et al. (2011).

²⁹ Similarly to OVE(2014), this evaluation will use lagged outcomes as an additional robustness check to deal with self-selection bias.

trends between different treatments and control groups. In addition, to take into account that different PDP support models might impact firm's performance within differential time horizons, OVE will perform event studies to assess the timing in which each intervention might have had effects.³⁰ The final aim of these strategies is to empirically test whether participation in a PDP program is related to better firm-level performance.

- 2.6 **OVE has established partnerships with Brazilian stakeholders that support PDP interventions in order to construct a comprehensive dataset that allows the evaluation of different impacts stemming from different types of PDP's support.** The specific data and strategies for the impact evaluation are described below.

1. Control group

- 2.7 **The control group is constructed based on the Annual Social Information Report (RAIS) dataset, which provides information about employees and establishments.**³¹ Establishments have a unique identification number (CNPJ) that allows them to be identified across other databases used for the analysis. RAIS dataset comprises the universe of formal employment and firms in Brazil and provides detailed information about firms (i.e. activity, size, age and geographical location) and employees that allow OVE to construct robust control groups observationally similar to treated firms. Currently, RAIS is a governmental instrument that regulates the concession of the "Salary Bonus", the minimum-wage supplement program. If an establishment fails to report the information required by RAIS, it faces automatic fines that are proportional to the workforce size and the length of the delay. Because the payment of the annual wage supplement is exclusively based on RAIS, employers and workers have strong incentives to fulfill RAIS. The Ministry of Labor and Employment estimates that, currently, around 97% of all formal workers in Brazil are covered by RAIS.
- 2.8 **OVE was granted access to RAIS micro data from 2000 to 2013.**³² In 2000 the data covered about 26 million workers and 2 million establishments. In 2012 these numbers went up to 47.5 million and 3.6 million, respectively. Establishments and workers have a unique identification number that allows them to be identified in other databases.

³⁰ OVE will conduct structural break detection tests in the time series of the outcome of interests and control for break trajectories if necessary.

³¹ RAIS is provided annually by the Ministry of Labor. It was established by the Law n° 76.900 of 23/12/1975 to provide labor market information for the government and research purposes. Originally, RAIS was designed to control the registry related to the Service Guarantee Fund (FGTS), which is the government severance employment fund. It was also used to provide information for the tax collection process and for the concession of benefits by the Ministry of Social Security.

³² These databases evolved slowly, and RAIS became a well-established set of data in 1985. During the 1990s, they benefited from important advances regarding the data quality. Since 1997 the data has been collected via Internet, which makes the data collection quicker and more reliable. The Ministry of Labor considers that micro data has a good quality and coverage from the year 2000 onwards.

2.9 **Data for establishments can be retrieved according to geographic location (from municipality to macro-region level), sectorial classification, establishment size, and legal nature.** The Brazilian National Classification of Economic Activities (CNAE) is compatible with the United Nation sectorial classification and the most disaggregated level has 676 sectors. In addition, data for workers (that are linked to establishment's data) has information about wages, age, gender, level of education, job spell (in month), declared hours worked, occupation, type of formal contract, nationality, admission and redundancy data.

2. Treated firms

- 2.10 **The data for treated firms is being provided by several Bank partners in Brazil that provide support for PDPs.** These include ABDI, APEX, BNDES, BNB, CNI, FINEP, INMETRO and SEBRAE.
- 2.11 **ABDI was the counterpart of a technical cooperation funded by the European Union to support the international insertion of Brazilian SMEs.** Implemented from 2008 to 2012, the project consisted of training activities, research, and access to high-tech equipment to promote cooperation between Brazilian and European institutions. The project was implemented in partnership with several Brazilian agencies and institutions—for example, the Foreign Trade Chamber of the Ministry of Development, Industry and Trade and regional SEBRAE offices—which selected the SME beneficiaries.
- 2.12 **APEX offers support by creating export consortiums, trade promotion in international business fairs, market research, trademark development, and trade information.** APEX supports export promotion by cofinancing these activities for up to 85% of the total value.
- 2.13 **BNDES has a strong role in Brazilian long term investment finding for firms of all sizes and sectors.** BNDES has financing through several financial lines, including to innovation, exports, firms' equipment and goods and SME lines, such as BNDES card, which is an automatic credit line to support the growth of small business and only in 2012 reached about US\$ 5 billion in financing to 700,000 SMEs.
- 2.14 **BNB is the government's primary financing agent in the country's northeastern region.** BNB has been lending to micro, small, and medium-sized enterprises since it started its operations in 1954, two years after its foundation. BNB's traditional financial services include investment solutions, such as savings accounts and certificates of deposit, as well as checking accounts, insurance products, and bill collection services.³³

³³ Apart from these evaluated programs, BNB also implements the largest microfinance program in LAC, known as Crediamigo, and the rural microfinance program, known as Agroamigo.

- 2.15 **The National Confederation of Industry (CNI) is a syndication union representing the interests of the industrial community with a mission to boost the competitiveness of Brazilian industries.** CNI coordinates a system of 27 federations in the states and Federal District of Brazil, the National Industrial Training Service (SENAI), the Social Service of Industry (SESI) and the Euvaldo Lodi Institute (IEL), which is the link between industry and academia. These institutions offer entrepreneurial qualification, business training and management and supporting for innovation.
- 2.16 **FINEP supports innovation by providing loans and nonreimbursable financial support to firms of all sizes and sectors.** It selects its beneficiaries through public calls for proposals, invitation letters, and bids.
- 2.17 **INMETRO's Export Alert offers free information on technical requirements and conformity assessment procedures established by foreign importers.** The information is provided upon request online.
- 2.18 **SEBRAE is the main institution in Brazil that provides support for SMEs and its budget was approximately US\$ 1.6 billion in 2011.** SEBRAE promotes partially or fully funded activities through which firms would enhance their access to finance, business models, better connect to value chains, explore external markets and introduce innovation.

3. Variables of interest

- 2.19 **The main outcomes of interest are productivity, employment, real wages, exports-value range, and patent and trademark registration.** The common expected impact shared by all models of intervention is productivity. OVE will also assess results at the firm level in terms of total employment, real wages, exports and innovation. IBGE will allow the calculation of labor productivity, capital productivity, and TFP. RAIS provides firm level data on employment and wages. SECEX and INPI will allow OVE to assess exports and innovation results, respectively.
- 2.20 **IBGE will provide information at the firm level about value added and its components** (net operating revenues, costs of resold goods, gross value of production, intermediate consumption, gross value added, personnel expenses, industrial operation costs and consumption of raw materials) in the manufacturing and service sectors.³⁴ IBGE compiles these datasets by conducting three annual surveys: a) Annual Industrial Survey - Enterprise (PIA-Enterprise); b) Annual Survey of Services - Enterprise (PAS Enterprise); c) Annual Survey of Trade (PAC Enterprise). In addition, OVE will access the Innovation Survey (PINTEC)

³⁴ Field missions will be required to support the impact evaluations activities related to the tabulation of IBGE's data.

that will be useful for assessing PDP innovation support results on research and development (R&D).

- 2.21 **The information contained in these IBGE’s datasets allow for different measures of productivity.** For the labor productivity calculation, the most used in the literature is the value added per worker, where the added value is the sales value net of intermediate goods and services. OVE will complement the analysis by calculating both the capital productivity and total factor productivity (TFP), which requires an analytical framework and assumptions on the form of the production function.
- 2.22 **Data from the Secretary for External Trade (SECEX) provides the list of firms that export/import to measure the effect of PDP programs on the likelihood of exporting.** SECEX micro data is available from 2001 onwards.³⁵ As the export data are available by value range, OVE will estimate the program effects by assuming that all establishments located in a given value range export the same average value.
- 2.23 **INPI will provide data on patent and trademark registration.** OVE will use it to measure the effect of PDP programs on innovation. Due to the backlog in patent processing and trademark registration, OVE will use the “application” for patents and trademarks as a proxy for innovation.³⁶

4. Combination of treatments

- 2.24 **The database to be constructed can help evaluate the impact of one PDP support program compared with that of another type of support,** and whether the joint impact of different types of support are larger than the sum of the two individual interventions.

III. TIMELINE AND STAFFING

- 3.1 **The PDP evaluation is part of OVE’s Work Plan and is planned to be delivered to the Board by April 2016.** The evaluation will be conducted by Jose Claudio Pires (Team Leader, Lead Specialist) and consultants Simon Lodato, Paulo Jacinto and Claudia Berg. The OVE team will work in close cooperation with Brazilian stakeholders.

³⁵ SECEX micro data is publicly available at:

<http://www.desenvolvimento.gov.br/sitio/interna/interna.php?area=5&menu=2413&refi=603>

³⁶ In addition to the INPI database, OVE will use PINTEC (IBGE) as a proxy for R&D inputs (technological efforts).

REFERENCES

- Agosin, M. and E., Fernandez-Arias (2014). Rethinking Productive Development. In Rethinking Productive Development. Sound Policies and Institutions for Economic Transformation, Palgrave, Macmillan.
- Aravena, C. and J.A. Fuentes (2013). El Desempeño Mediocre de la Productividad Laboral en América Latina: una Interpretación Neoclásica, Macroeconomía del Desarrollo, CEPAL.
- Barbosa Filho, F. H.; S. A. Pessôa, S. A. and F. A. Veloso (2010) Evolução da produtividade total dos fatores na economia brasileira com ênfase no capital humano – 1992-2007. Revista Brasileira de Economia, Rio de Janeiro, 64(2).
- Bartlett, W. (2014) Shut out? South East Europe and the EU's New Industrial Policy. LSE "Europe in Question" Discussion Paper Series, LEQS Paper 84/2014.
- Beck, T., and A. Demirguc-Kunt (2006). Small and medium-size enterprises: Access to finance as a growth constraint. Journal of Banking and Finance 30 (11): 2931–2943.
- Bonelli, R. (2014) Produtividade e armadilha do lento crescimento. In: Produtividade no Brasil: Desempenho e determinantes – vol. 1 – Desempenho. Org: De Negri, F.; Cavalcante, L. R. Brasilia, ABDI/IPEA
- Bonelli, R.; R. Fonseca (1998) Ganhos de produtividade e de eficiência: novos resultados para a economia brasileira. Pesquisa e Planejamento Econômico, 28(2).
- Busso, M., L. Madrigal, C. Pages (2012). Productivity and Resource Misallocation in Latin America. IDB Working Paper Series no. IDB-WP-306.
- Cavalcante, L. R. and F. De Negri (2014) Evolução recente dos indicadores de produtividade no Brasil. In: Produtividade no Brasil: Desempenho e determinantes, vol. 1 – Desempenho. Org: De Negri, F.; Cavalcante, L. R. Brasilia, ABDI/IPEA.
- Cohen, L. and R. Noll, (1991). The Technology Pork Barrel. Washington, D.C; Brookings Institution.
- Crespi, G., A. Maffioli, P. Mohnen, and G. Vazquez (2011). Evaluating the Impact of Science, Technology and Innovation Programs: a Methodological Toolkit. Impact Evaluation Guidelines, Technical Notes No. IDB-TN-333, Washington, DC: Inter-American Development Bank.
- Daude, C. and E. Fernandez-Arias (2010). Aggregate Productivity: The Key to Unlock Latin American's Development Potential. The Age of Productivity, Carmen Pagés (ed), New York: Palgrave Macmillan.
- David, P., B. Hall and A. Toole (2000). Is Public R&D a Complement or Substitute for Private R&D? A Review of the Econometric Evidence. Research Policy, 29, 497-529.

- De Negri, F. and R. L. Cavalcante (2014). Os dilemas e os desafios da produtividade no Brasil. In: *Produtividade no Brasil: Desempenho e determinantes – vol. 1 – Desempenho*. Org: De Negri, F.; Cavalcante, L. R. Brasília, ABDI/IPEA.
- Fernandez-Arias, E., U. Panizza, F. de Oloqui (2014). Giving Credit to Productivity. In *Rethinking Productive Development. Sound Policies and Institutions for Economic Transformation*, Palgrave, Macmillan.
- Frischtack, C. and M. Moreira (2015), Where is Brazil Going? Taking Stock of Recent Trends in Industrial and Trade Policies and the Challenges Ahead, In *Meddling with Growth: Brazil's Micro-Policies in the Age of Turbulence*, LAP Lambert Academic Publishing.
- Gomes, V., S. A. Pessôa and F. Veloso (2003) Evolução da produtividade total dos fatores na economia brasileira: uma análise comparativa. *Pesquisa e Planejamento Econômico*, 33(3).
- Greenaway, D., and R. Kneller (2007). Firm Heterogeneity, Exporting and Foreign Direct Investment. *Economic Journal* 117 (517): 134-161.
- Hemming, R., M. Kell and S. Mahfouz (2002). The Effectiveness of Fiscal Policy in Stimulating Economic Activity – a Review of the Literature, IMF Working Paper Series, WP/02/208.
- Hur, S., S. Mallick and D. Park (2010). Fiscal Policy and Crowding Out in Developmental State: the National Development Bank and the Brazil Model, *The Journal of Development Studies*, 49, 1484-1499.
- IDB (2014). Support to SMEs and Financial Access. Supervision Sector Framework Document. Capital Markets and Financial Institutions Division, Institutions for Development Sector.
- Jacinto, P. A. and E. P. Ribeiro (2013). Crescimento da Produtividade no Brasil no setor de serviços e da indústria: dinâmica e heterogeneidade. In: 41º Encontro Nacional de Economia. Foz do Iguaçu, PR.
- Johnston, R. and O. Per Brekk (1999). Financial Sector Reform and Monetary Instruments and Operations, in *Sequencing Financial Sector Reforms*, International Monetary Fund, Washington, DC.
- Lundvall, B., and S. Borrás (2005). Science, Technology and Innovation Policy. In *Innovation Handbook*, edited by J. Fagerberg, D.C. Mowery, and R.R. Nelson. Oxford: Oxford University Press.
- Mazzucato, M. and C. Penna (2015). Beyond Market Failures: the Market Creating and Shaping Roles of State Investments Banks, Working Paper 831, Levy Economic Institute of Bard College, New York.
- Martin, P., T. Mayer, and F. Mayneris, (2011). Public support to clusters: A firm level study of French “Local Productive Systems.” *Regional Science and Urban Economics* 41(2): 108-123.
- Mation, L. F. (2014). Comparações internacionais de produtividade E impactos do ambiente de negócios. . In: *Produtividade no Brasil: Desempenho e*

- determinantes, vol. 1 – Desempenho. Orgs: De Negri, F.; Cavalcante, L. R. Brasília, ABDI/IPEA.
- Mckinnon, R. 1973. Money and Capital in Economic Development. Brooking Institution Press, Washington, DC
- Messa, A.(2014) Metodologias de cálculo da produtividade total dos fatores e da produtividade da mão de obra. In: Produtividade no Brasil: Desempenho e determinantes, vol. 1 – Desempenho. Org.: De Negri, F.; Cavalcante, L. R. Brasília, ABDI/IPEA.
- McKenzie, D., and C. Woodruff (2012). What are we learning from business training and entrepreneurship evaluations around the developing world? Policy Research Working Paper 6202. Washington, DC: World Bank.
- Michelacci, C., and O. Silva (2007). Why so many local entrepreneurs? Review of Economics and Statistics, 89(4), 615–633.
- Oliveira, J. M. and F. De Negri (2014) O desafio da produtividade na visão das empresas. In: Produtividade no Brasil: Desempenho e determinantes, vol. 1 – Desempenho. Organizadores: De Negri, F.; Cavalcante, L. R. Brasília, ABDI/IPEA.
- OVE. Office of Evaluation and Oversight (2014). A Comparative Analysis of IDB Approaches Supporting SMEs: Assessing Results in the Brazilian Manufacturing Sector, Inter-American Development Bank, RE-450-1, October.
- Rocha, F. (2007) Produtividade do trabalho e mudança estrutural nas indústrias brasileiras extrativa e de transformação, 1970-2001. Revista de Economia Política, 27(2), 2007.
- Rocha, F. (1999) Composição do crescimento dos serviços na economia brasileira: uma análise da matriz insumo-produto (1985-1992). Econômica, v. I, n. II, 107-130.
- Rodrik, D.(2004) Industrial Policy for the Twenty-First Century. Research Working Paper Series, John Kennedy School of Government, Harvard University, Cambridge, MA.
- Rosholm, M., H.S. Nielsen and A. Dabalén (2007). Evaluation of training in African enterprises. Journal of Development Economics 84(1): 310-329.
- Schmitz, H. (1995). Collective efficiency: Growth path for small-scale industry. Journal of Development Studies 31(4): 529–566.
- Sosa, S., T. Evridiki, H. Sun Kim (2013). Is the Growth Momentum in Latin America Sustainable? IMF Working Paper, WP/13/109, Washington, DC.
- Stein, E. (2014). A Conceptual Framework for Productive Development Policies. In Rethinking Productive Development. Sound Policies and Institutions for Economic Transformation, Palgrave, Macmillan
- Stiglitz, J., and A. Weiss (1981). Credit Rationing in Markets with Imperfect Information. The American Economic Review 71(3): 393-410.

Table I.1: IDB Group's Approaches to PDP's support: IDB's Operations in Brazil (2003-2014)

	Project Number	Project Name	Year	Amount	Approaches to SME Support					Activities	
					Credit	Business Consulting	Value Chains	Exports	Innovation		
1	TC0201026	Program to Promote Commercial Opportunities among Rural Small Producers	MIF	GRANT	2003	\$ 1,125,000.00					Capacitation, certification and training on managerial skills of rural MSMs; participation at interntional and national trade fairs and mssions by European buyers to Brazil
2	BR-M1011	Support for the Productive Chain of the Honey Industry in Piaui	MIF	GRANT	2004	\$ 65,000.00					Capacitation and training on managerial skills of rural MSMs
3	BR-M1003	Virtual Incubator for Fruit-Processing Microenterprises	MIF	GRANT	2004	\$ 27,700.00					Capacitation and training on managerial skills of rural MSMs
4	BR-M1013	Investment Fund for Competitive Technology-Based Companies CRP Venture	MIF	VC FUND	2004	\$ 3,775,000.00					Venture capital funding and technical advisory for high tec start-ups SMEs
5	BR-M1009	Competitiveness of the Productive Chain of the Rattan Sector	MIF	GRANT	2004	\$ 89,500.00					Producers and artisans capacitation and diagnostic studies for identification of bottlenecks on the rattar value chain and structuring of new trade channels
6	BR-M1005	Microenterprise Development in the Agricultural Sector	MIF	GRANT	2004	\$ 92,750.00					Technical assistance on production and logistic, managerial skills and development of strategic plan for the mushroom comercialization in the national and international markets
7	BR-M1010	Strengthening the Cleaner Production Center in Bahia	MIF	GRANT	2004	\$ 68,000.00					Training PME's on clean production technologies and consolidation of the "Bolsa de Residuos" project.
8	BR-T1023	Support for APL's Competitiveness in Bahia and San Paulo States	MIF	GRANT	2005	\$ 147,200.00					Identification of needs and opportunities for the Local Productive Arrangements (APLs) of Sao Paulo and Bahia vis-à-vis international experiences.
9	BR-M1015	Competitiveness Support program for Software SMES	MIF	GRANT	2005	\$ 1,300,000.00					SME's' software product quality improvement and internationalization services, training and development of SME partnerships with universities and export promotion activities
10	BR-T1028	Qualification of Support Services to SMES of the Furniture and Mechanic Clusters	MIF	GRANT	2005	\$ 48,000.00					Identification of needs and opportunities for the furniture and mechanical APLs vis-à-vis international experiences.
11	BR-M1024	Estrada Real - Network of Tourism SMES Mina Gerais State	MIF	GRANT	2005	\$ 1,701,740.00					Technical assistance on commercialization and training; design and organization of the network; product development
12	BR-M1039	Sustainable Development of Wood & Furniture Supply Chain in the Amazon Region	MIF	GRANT	2006	\$ 2,100,000.00					Institutional Strengthening of the furniture supply chain specialized centers; capacitation of human resources on forest management; identification of opportunities of partnerships between private/public sector.
13	BR-M1028	Support for Alternative Market Opportunities in Rural Areas in Tocantins	MIF	GRANT	2006	\$ 600,000.00					Training and technical assistance for rural MSMEs and implementation of bio-ful production facilities.
14	BR-M1038	FIPAC Investment Growth Fund for Brazilian Tecnology-Based SMES	MIF	VC FUND	2006	\$ 5,100,000.00					Venture capital funding and technical advisory for high tec start-ups SMEs

Project Number	Project Name	Year	Amount	Approaches to SME Support					Activities	
				Credit	Business Consulting	Value Chains	Exports	Innovation		
BR-M1037	Stratus VC III Investment Fund for SME Technology-Based Companies	MIF	VC FUND	2006	\$ 4,100,000.00					Venture capital funding and technical advisory for high tec start-ups SMEs
BR-M1041	Small-Firm Access to Corporate Supply Chains	MIF	GRANT	2007	\$ 758,000.00					Technical Assistance to SME and procurement teams of large and medium-sized firms to form supply chains
BR-M1053	Capital Tech Innovation and Investment Fund for Brazilian Technology Based SMES	MIF	VC FUND	2007	\$ 2,100,000.00					Venture capital funding and technical advisory for high tec start-ups SMEs
BR-M1044	Consolidation and Support for Development of Venture Capital INOVAR II	MIF	VC FUND	2007	\$ 2,678,600.00					Venture capital funding and technical advisory for high tec start-ups SMEs
BR-M1051	Networked Community for Organic Producers' Market Access (OrganicsNet)	MIF	GRANT	2007	\$ 101,000.00					Build a web platform and an integrated production system to better organize organic farmer supply chain, pooling production and improving logistics. SME training on marketing, product differentiation and certification.
BR-T1058	Cluster Support Program of the State of Parana	MIF	GRANT	2007	\$ 150,000.00					Identification of needs and opportunities for the Local Productive Arrangements (APLs) of Parana state vis-à-vis other experiences.
BR-M1060	Support for Local Competitiveness Initiatives	MIF	GRANT	2008	\$ 2,745,000.00					Technical assistance on selected territories to design and organize institutional networks; public and private partnerships and business networks; promotion of a facility for innovative projects
BR-M1049	Business Tourism to Enhance Territorial Competitiveness	MIF	GRANT	2008	\$ 2,750,000.00					Coordination and strengthening of the business tourism network, training and consulting projects, and development of public private initiatives for the enhancement of Belo Horizonte territorial competitiveness
BR-M1073	New Distribution Channels for the Music Industry in Rio de Janeiro	MIF	GRANT	2009	\$ 710,050.00					Coordination of music industry chain; training and advisory services on business models adapted to the digital context, creation and distribution through social networks.
BR-T1120	Strengthening Regional Innovation Systems	IFD	GRAMT	2009	\$ 750,000.00					Strengthening of innovation systems of selected Brazilian states and to support the implementation of pilot projects to test different innovation policies including in clusters.
BR-M1097	Development of the Cerrado Native Fruit Chain of Maranhao	MIF	GRAMT	2010	\$ 1,500,000.00					Creation of networks and bulking centers; technical assistance to indigenous farmer small producers and their integration into the native fruit value chain.
BR-M1072	Commercialization of products from Quilombos	MIF	GRANT	2010	\$ 781,000.00					Working capital, technical assistance on productive and commercialization techniques, Logistic center and commercial platform for the community producers
BR-M1065	Technology transfer for a ecoefficient chain value management	MIF	GRANT	2010	\$ 989,715.00					Technical assistance, capacitation and eco-friendly technology transfer to SMEs of petrochemical, building and car industry in the Brazilian Northeast
BR-M1113	Empowering Small Scale Coffee Farmers Global Markets Climate Change Resistance	MIF	GRANT	2012	\$ 1,912,800.00					Technical assistance, capacitation of small coffee farmers on best practices on production and climate change resilience.

Project Number	Project Name	Year	Amount	Approaches to SME Support					Activities	
				Credit	Business Consulting	Value Chains	Exports	Innovation		
BR-M1117	Colectivo Model: Community Development Leveraged by a Company's Value Chain	MIF	GRANT	2013	\$ 3,000,000.00					Training and integration of women's ownwer MSMEs and cooperatives located in poor communities on the Coca Cola's retai distribution channels and brands to increase local product sales.
BR-M1130	The Capital Tech VC Fund	MIF	VC FUND	2014	\$ 5,280,000.00					Venture capital funding and technical advisory for high tec start-ups SMEs
BR- 0358	Financing of MSMES - BNDES	IFD	LOAN	2004	\$ 1,000,000,000.00					BNDES's working capital, maquinery and equipments credit lines through first tiers financial intermediaries to fund MSMEs.
BR-L1054	Financing MSMES - BNDES II	IFD	LOAN	2007	\$ 1,000,000,000.00					BNDES's working capital, maquinery and equipments credit lines through first tiers financial intermediaries to fund MSMEs.
BR-L1016	Competitiveness of Business in Local Production Systems in São Paulo	IFD	LOAN	2007	\$ 10,000,000.00					Consulting services for cluster diagnosis, definition and implementation of cluster competitiveness improvement plans, training on business and marketing, exports and innovation support.
BR-L1178	BNDES: Third Program under the CCLIP Line to Support MSMEs	IFD	LOAN	2008	\$ 1,000,000,000.00					BNDES's working capital, maquinery and equipments credit lines through first tiers financial intermediaries to fund MSMEs.
BR-L1180	Program to Support Micro, Small and Medium-Sized Enterprises	IFD	LOAN	2009	\$ 1,000,000,000.00					BNDES's working capital, maquinery and equipments credit lines through first tiers financial intermediaries to fund MSMEs.
BR-L1021	Cluster Competitiveness Support Program for Minas Gerais	IFD	LOAN	2009	\$ 10,000,000.00					Consulting services for cluster diagnosis, definition and implementation of cluster competitiveness improvement plans, training on business and marketing, exports and innovation support.
BR-L1020	Innovation and Dissemination Local Cluster Competitiveness State of Pernambuco	IFD	LOAN	2009	\$ 10,000,000.00					Consulting services for cluster diagnosis, definition and implementation of cluster competitiveness improvement plans, training on business and marketing, exports and innovation support.
BR-L1298	Banorte Todo Dia -The Bank of the Neighborhood	OMJ	LOAN	2011	\$ 5,000,000.00					Credit, training and financial education for small store owners
BR1124A-01	SANRISIL	IIC	LOAN	2004	\$ 2,500,000.00					Financing expansion production plan to improve industrial efficiency
BR1125A-01	MARACAJU	IIC	LOAN	2003	\$ 3,000,000.00					Financing expansion production plan to improve industrial efficiency
BR1130A-01	DORI	IIC	LOAN	2004	\$ 6,000,000.00					Financing expansion production plan to improve industrial efficiency
BR3808A-01	DESLER BRASIL	IIC	LOAN	2011	\$ 800,000.00					Financing the purchase of equipment, working capital and new technologies

Source: OVE elaboration base on internal IDB's project databases