

## **Economic and Sector Work (ESW) Proposal**

## I. GENERAL INFORMATION

Subtitle of Proposal: Proposed Amount in USD:

Effects of special tax regimes on productivity and informality

ESW Modality: Date of Proposal: Status:
Research 31 Aug 2017 In Creation

Team Leader: Unit:

Rodrigo Azuero IFD/FMM

Joint Proposal:

Yes

#### Selected units:

SCL/LMK

Beneficiary Countries (even if it is Regional, please specify the countries in which the work will be carried out):

**REGIONAL** 

**BRAZIL** 

COLOMBIA

**ECUADOR** 

**MEXICO** 

PERU

## II. OBJECTIVES, EXPECTED RESULTS AND ACTIVITIES

## 1. State the objectives:

The objective of this ESW is to evaluate the effects that special tax regimes have on informality, productivity, and government revenue, in Latin America and the Caribbean. The results of this ESW will be an important input in the design of operations for the IDB Group. Additionally, the conclusions of this ESW will constitute a contribution to the literature in economics as we will analyze mechanisms that have not been explored yet.

## 2. Describe the motivation and main question(s) this ESW intends to answer:

### Motivation:

Special tax regimes are fiscal policy tools widely used in Latin America and the Caribbean. Some of these policies have been implemented to encourage firms to become formal, or to increase aggregate levels of productivity, among others. However, these taxes generate distortions in the economy that might generate significantly negative consequences on the outcomes of interest.

A clear example of such type of distortions are those generated by special tax regimes designed for small firms<sup>1</sup>. Many countries in the region, such as Colombia, Brazil, Mexico, and Peru, establish lower rates in the corporate income tax for small firms. In addition to the foregone government revenue, such a policy would penalize firms that decide to grow. Moreover, the empirical evidence suggests that small firms are much less productive than large firms. This implies that by lowering tax rates for small firms, governments will be limiting the extent to which factors of production are allocated to their most efficient use, which will translate into lower levels of aggregate productivity in the economy<sup>2</sup>.

Understanding the effects that special tax regimes have on productivity and informality is crucial for at least three reasons. First, these policies are widely implemented in the Region. In Colombia, for example, there are currently 266 different special tax regimes (DeJusticia 2017). Second, the growth rate of total factor productivity in the region has been low during the last fifty years. During this time, the productivity gap between Latin America and the Caribbean with the US increased, while other regions that started with lower levels of total factor productivity, such as East Asia, have surpassed the region. Third, approximately 47% of workers in Latin America and the Caribbean are informal (Bosch, et al. 2013). This implies that approximately half of the workers are not protected by a legal contract, are not contributing to pensions, or lack some of the benefits that formal workers can receive such as comprehensive health insurance<sup>3</sup>.

Motivated by these facts, the main question addressed in this ESW is:

What are the effects of special tax regimes on informality, productivity, and on government revenue?

Some of the specific questions that we want to address are:

- 1. How do special tax regimes modify the decisions of firms and workers to operate formally or informally?
- 2. What are the misallocation costs generated by special tax regimes?
- 3. What is the amount of forgone government revenue due to special tax regimes?
- 4. What alternative policies are there available to decrease informality, increase productivity, while doing so in the least distortive way possible?

# 3. Describe how the question(s) asked complements existing literature on this subject (including any previous ESWs):

Latin America and the Caribbean is a region characterized by low and stagnant levels of productivity, as well as high and persistent levels of informality. Several explanations for these phenomena have emerged in the literature. De Soto (1989) argues that this is largely due to the complex regulation and heavy taxation that small firms face. Given these explicit and implicit costs, small firms decide to operate informally and not registering their business. By doing so, they are not able to get the benefits from operating formally, such as access to credit and security, among others. According to this view, lowering taxes for small firms, as well as simplifying the regulation they face, will not only decrease informality but also increase productivity in an economy.

Partly as a response to this view, special tax regimes benefiting small firms have been widely implemented in the region. In Colombia, for example, firms with less than 50 workers do not pay corporate income taxes during the first two years since registration. Brazil establishes a progressive corporate income tax rate that depends on firms' profits. For instance, a manufacturing firm with profits of 150,000 \$BRL will have a corporate income tax rate of 4% while a similar firm making 350,000\$BRL will face a 12.11% rate. These are only two examples of policies widely implemented in the region favoring small productive units.

The literature has analyzed the effects that such type of policies has on aggregate levels of productivities. Guner et al. (2008), develop a general equilibrium macroeconomic model to assess the effects of size-dependent policies on aggregate levels of productivity. By calibrating this model to the US economy, the authors find that a policy reducing average size of establishments by 20% can lead to reduction in output per establishment of about 25.6%. Similar studies have found large and negative effects of similar size-dependent policies on aggregate levels of productivity in various contexts such as India (García-Santana & Pijoan-Mas, 2014), France (Gourio & Roys, 2014, Garicano et al. 2016), Sri Lanka (Abidoye et al. 2009), and Japan (Guner et al. 2006).

Levy (2008), Shleifer & La Porta (2014), Hsieh & Olken (2009, 2014), and Ulyssea (2017) analyze the potential distortions of such policies, while taking into account the high levels of informality observed in developing countries, and particularly in LAC. The authors provide theoretical and empirical evidence suggesting that subsidizing small firms can have negative consequences on aggregate levels of productivity and informality. This is a consequence of various factors. First, small firms are units characterized by their low levels of productivity, when compared to large firms. By subsidizing small firms, governments will be limiting the

<sup>&</sup>lt;sup>1</sup> Firms can be categorized as small depending on the number of employees, the amount of sales, or the total annual profits.

<sup>&</sup>lt;sup>2</sup> The literature has coined the term 'misallocation costs' when productive factors are not allocated to their most efficient use (See Hsieh & Klenow, 2009).

<sup>&</sup>lt;sup>3</sup> Defining informality is not a trivial task. However, what is common to various definitions is the lack of coverage of some services such as severance payments, comprehensive health insurance, or legal protection, among others.

extent to which factors of production are allocated to their most efficient use. Second, this set of policies can incentivize firms to become small. Third, it is a well-documented fact that small informal firms rarely transition to formality, regardless of the policy used to incentivize them. This implies that special tax regimes directed to small firms could decrease government revenue while transition rates from informality to formality remain unaffected.

The list of special tax regimes operating in the region is extensive, and lower rates in the corporate income tax for small firms is only one example of them. The list includes different value-added tax (VAT) rates for firms depending on the economic sector in which they operate, or special deductions for investments in physical assets depending on the geographic location of plants, among others, that have not received special attention by the literature. We aim to identify the set of policies that have in common two characteristics: being widely implemented in the region, and having the highest potential to affect aggregate levels of productivity and informality. Once we identify such policies, we will develop a model to assess their effects on informality and productivity. We will incorporate three mechanisms through which such policies can affect informality and productivity:

- 1. Distortions generated due to misallocation of resources.
- 2. Incentives for firms to remain small
- 3. Effects of special tax regimes on transition rates from informality to formality

The empirical analysis of the data, by itself, constitutes a contribution to the existing literature. Given the large number of special-tax regimes imposed in the region, we do not know which of them imposes more distortions in the behavior of firms and workers. As we have access to unique data, we will be able to perform a thorough empirical analysis identifying patterns in the distribution of firms and workers that indicate some behavior arising from these legislations.

Moreover, given that we want to quantify each of the aforementioned mechanisms, and considering that we also want to perform policy counterfactuals, one of the expected products of this ESW is a set of general guidelines to develop a structural model that can be calibrated-estimated with data. To the best of our knowledge, this will be the first analysis of how special tax regimes affect informality and productivity, by directly quantifying these three mechanisms.

The results of this ESW will also constitute a direct contribution to the literature on misallocation of resources. As argued in Hsieh & Olken (2009) and Restuccia & Rogerson (2008,2017), we know that misallocation of resources explains a large portion of the observed differences in productivities between countries. In LAC, Busso et al. (2013) estimate that by achieving an efficient allocation of resources, the region could boost manufacturing TFP by between 45 percent and 127 percent. Although we know that costs related to misallocation are of first order of importance, we still are not sure about what are the regulation or distortions in the economy that are responsible for this (Restuccia & Rogerson, 2017). This ESW will constitute a contribution to the literature of to contribute by directly quantifying the effect that special tax regimes have on total misallocation of resources.

Given that the results of this ESW will be used to develop an economic model, such a model can be used to assess the effect of policy counterfactuals. The results of the policy counterfactuals will shed light on the literature analyzing the optimal design of a social security system in economies with high levels of informality. We will be able, for instance, to analyze the effects of funding social security through a value added tax, as opposed to a payroll tax, a policy originally proposed in Antón, Hernández & Levy (2013).

This ESW is complementary to an ESW from SCL/LMK leaded by Mariano Bosch. Both ESW are part of the IDB Group's research agenda analyzing the effects of special tax regimes on productivity and informality. SCL/LMK will focus on the design of randomized control trials to identify the effects of interest. IFD/FMM will focus on the empirical analysis of the existing data, as well as innovating from the modeling point of view.

# 4. Provide a description of the main outputs (deliverables) and related activities expected to be carried out:

- 1. Review of the relevant literature and regulation about special tax regimes, and its potential effects on informality, productivity, and government revenue.
- 2. Empirical analysis of at least one experience in the region. This analysis should include the main features about firm dynamics, as well as populations' characteristics that can potentially affect the incentives they face in the labor market.
- 3. A methodological proposal describing the main features of an economic model.

## 5. Describe the methodological approach to be used and the type of data (when applicable) which will be used. Be as specific as possible:

The first step of this project consists of doing a thorough review of the regulation and the economic literature related to special tax regimes in the region. Special tax regimes are policy tools widely used in the region to benefit productive units depending on the geographic location, the size of the workforce they employ, the value of their production, and the economic sector they belong to, among other dimensions. Colombia, for example, has had 14 tax reforms in the last 26 years and currently has 266 special tax regimes operating in the economy<sup>4</sup>. Given the large number of regulatory measures, we need to do a careful exercise of documenting the legislation related to special tax regimes in the Region.

Once the thorough revision of the regulation and the literature is done, we will identify the type of special tax regimes that deserve careful consideration. This will be done considering how common are such special tax regimes and their potential as a source of distortions in the economy. For such a purpose, we will use as input the current literature on misallocation, size-dependent policies, informality, productivity, and firm dynamics, in developing countries.

In parallel to the review of the regulation, we will perform an exercise of data analysis for different sources. A description of the dataset we intend to use for this analysis is described below:

- I. Economic Census of Mexico. This dataset surveys all productive units, from a set of twenty different economic activities such as fishing, mining, electricity, and manufacturing. The census collects detailed information about the production process of each establishment such as the workforce composition and compensation, value of production, availability of physical capital, among others. An important feature of this dataset is that it includes formal as well as informal firms. It has been done every five years since 1989 and in 2014, it recorded information for a total of 5'656,014 establishment. This dataset is commonly used in articles analyzing informality and firm dynamics in Mexico<sup>5</sup>.
- II. SUNAT Administrative dataset (Peru). The ``Superintendencia Nacional de Administración Tributaria' SUNAT, is the Peruvian agency in charge of collecting tax revenue at the national level. We should be able to access their administrative records, which contains detailed information of tax payment in Peru
- III. RAIS Administrative Dataset (Brazil). The "Relação Anual de Informações Sociais" (RAIS) is an administrative dataset collected by the Brazilian Ministry of Labor, including all taxes payed by formal firms in Brazil. We have access to this dataset for the years 2002-2012. This information will help us understand the incentives faced by firms when considering whether to become formal or not. This dataset has been used in the analysis of firm dynamics and informality in Brazil (Ulyssea, 2017).
- IV. MEI Administrative Dataset (Brazil). The "Microemprendedor Individual" is a special tax regime in Brazil for people with annual profits under \$60,000\$BRL. We have the administrative records of people participating in such a regime, as well as their contributing history.
- V. IMSS Administrative Dataset. The ``Instituto Mexicano del Seguro Social' is the Mexican institution that regulates and manages public health, pensions, and social security. By law, all employers and private sector employees need to be registered with IMSS. Access to the administrative dataset would allow us to observe all the registries of social security contributions.
- VI. IESS Instituto Ecuatoriano de Seguridad Social (Ecuador). This dataset is equivalent to the IMSS in Ecuador. We do have access to administrative records.
- VII. World Bank Enterprise Survey (WBES). The World Bank Group collects information about a country's business environment through the World Bank Enterprise Survey. This dataset contains firms' perception about how easy is to do business in each country, as well as some basic characterization of the firms (number of employees, economic sector, total payment to employees, among others). We have access to the WBES for Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Trinidad and Tobago, Uruguay, and Venezuela. Although in most cases the information collected includes only formal firms, we also have access to a sample of informal firms in Argentina, Guatemala, and Peru.
- VIII. Manufacturing Surveys. Most countries in the region perform surveys to firms participating in the manufacturing sector. Information collected in this survey include labor force composition, tax payments, electricity consumption,

<sup>&</sup>lt;sup>4</sup> DeJusticia (2017).

<sup>&</sup>lt;sup>5</sup> See for example Hsieh & Olken (2014) and Hsieh & Klenow (2014).

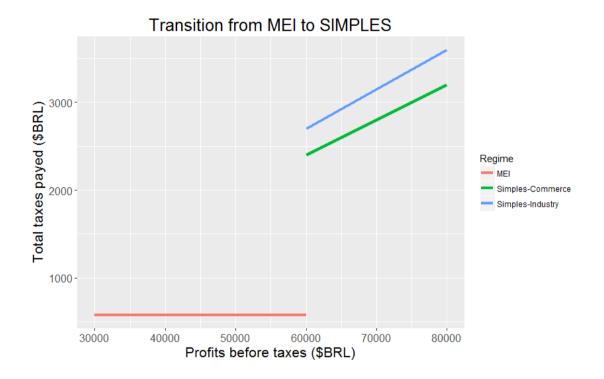
among others. A detailed characterization of each survey can be found in Busso et al. (2013).

IX. Household Surveys. We will use household surveys of the Region to have a detailed characterization of the labor force. The household surveys are already available and ready for our use through the IDB Group's system of household surveys.

The second step is data analysis and consists on the following steps.

- a. Clean the dataset. This is an important task as we will have administrative dataset containing all the tax payments recorded for various countries in various years.
- b. Characterize the flows of workers between formality, informality, and unemployment.
- c. Establish the main features of firm dynamics. Specifically, the ones that are affected by special tax regimes.
- d. Identify patterns in the data that could have emerged because of special tax regimes.

The last step is of great relevance since we will be able to identify special-tax regimes that impose significant distortions in the economy. That way, we can focus on a specific type of policies, or a specific country, to try to understand more in detail the consequences of imposing such policies. For instance, Brazil has a simplified tax regime for self-employed individuals with annual profits under \$60,000 BRL called MEI<sup>6</sup>. In this regime, rather than paying ordinary corporate income taxes, they pay a fee equivalent to 5% of the minimum wage in addition to \$1 BRL. Once a self-employed individual reports profits beyond \$60,000 BRL, he/she should pay corporate income taxes according to the 4% or 4.5% rate, depending on whether the economic sector of activity is commerce or industry, as established in the SIMPLES regime of Brazil. This transition is depicted in the figure below:



This discontinuous transition from the MEI to the SIMPLES regime could possibly generate incentives for individuals to report profits just under \$60,000 BRL. We can analyze this in the data from Brazil if we observe a large mass of individuals with reported income just under \$60,000 BRL. This can give us an idea about the extent to which such policies bind.

Once we have the corresponding insights from the data analysis and the review of the regulation and the economic literature, we will decide for an economic model to use. Although we don't necessarily plan to have the full model estimated-calibrated by the end of 2018, we will lay-out carefully the main characteristics of such a model (agents, actions, timing, notion of equilibrium, among others). Below, we provide the description of a potential model. However, it is important to note that the model might change as we receive feedback from policymakers and the academic community, as well as we start to identify patterns in the data or in the regulation.

<sup>&</sup>lt;sup>6</sup> Micro Emprendedor Individual.

#### I. Equilibrium Model of Informality with Self-Employment.

In Latin America and the Caribbean, small firms, including one-person firms, are the least productive units and the most likely to be informal. Within the small firms, one-person firms (self-employment) are largely prevalent in the region: approximately 30% of all workers are self-employed. This implies that special tax regimes can have an effect on productivity and informality by distorting people's decisions on whether to become self-employed or to look for a job at a large and productive company.

Think about of an unemployed individual. This person can wait for a job offer from a large and high-productivity firm or can decide to become self-employed. Although this last option would probably provide a lower wage, a less stable job, and a lower level of production than if she were to work for a large firm, this is an immediate option as she does not need to wait until a job offer arrives. There are various types of policies that can influence this decision. Such is the case of uneven enforcement -when regulation is highly enforced in large firms when compared to small ones- or special tax regimes such, as a lower corporate income tax rate for small firms.

In order to assess the effects that special tax regimes have on workers' decisions of whether to become self-employed or to wait for a potentially better job offer, we would develop an equilibrium model of informality with self-employment. The model will include search frictions, since these mediate the extent to which people are willing to wait for job offers from high-productivity firms<sup>7</sup>. Modeling firms' behavior will be crucial since we are interested also in how special tax regimes shape their behavior, and we could also do tax-incidence analysis: when imposing a tax to a firm, what percentage is translated to the worker and what fraction is absorbed by the firm.

This approach follows the empirical applications of general equilibrium search models such as Dey & Flinn (2005, 2008), Aizawa & Fang (2013), and Meghir, Narita & Robin (2015). An outline of the possible model is given below:

There are two types of agents in the economy. Workers and firms. The mass of workers is normalized to be 1, firms are set to have a measure M. Workers are risk averse and provide labor to firms. They have a flow utility given by:

$$u = -e^{-\gamma(c+b.\times f)}$$

where  $\gamma$  is the absolute risk aversion parameter, b is a perceived benefit for working in the formal sector f is a variable indicating if the worker is formal (f=1) or not (f=0). Workers have a discount factor  $\beta$ , their goal is to maximize lifetime utility, and time is discrete.

Workers can be unemployed, working for a large firm, working for a small firm, or self-employed. Moreover, each firm, be it small, large, or one-person firm (self-employment) can be operating formally or informally. Given frictions in the labor market, job offers from large or small firms are not always available. Every period, workers are matched with firms with probability  $\lambda^u{}_{fs}$  where f denotes if the firm is formal or not, and s is the size of the firm and u indicates whether the worker is unemployed (u=1) or not (u=0). Every period, jobs are destroyed with exogenous probability  $\delta_{fs}$  that depends on whether the employment relationship is formal or not, and the size of the firm. At any period, there is a probability  $\eta$  that a worker will exit the labor market. To guarantee a constant mass of workers in the economy, every period a mass  $\eta$  of workers enter the labor market as unemployed.

Firms objectives is to maximize profits. They chose a wage level offered to all its employees and they should also decide on whether to operate formally or not. Operating informally implies that firms do not have to pay taxes, but they need to incur in a cost that is increasing and convex in the size of their labor force, reflecting the fact that informality is more expensive for larger firms. Firms are also heterogeneous in their productivity. A formal firm's profits are given by:

$$\pi_f = (1 - \tau_\pi(l, y))(y - l(1 + \tau_w(l, y))w)$$

Where  $\tau_{\pi}$  are taxes levied on profits and  $\tau_{w}$  are payroll taxes. Note that we allow tax rates to depend firm size and production to incorporate size dependent policies in the analysis.

Informal firms do not pay taxes. However, they must pay a cost c(l) for operating in informality that is increasing and convex in the size of the firm. This captures the notion that it is harder for small firms to be informal as they are more likely to get

<sup>&</sup>lt;sup>7</sup> In addition to this argument, Meghir, Narita & Robin (2015), show that search frictions largely explain the prevalence of informality. If a worker is separated from an informal firm, she will not be able to find a job immediately Taking this into account, informal firms do not need to pay similar wages to those payed by formal firms, as they know workers are willing to pay to avoid the search cost.

$$\pi_i = (y - wl) - c(l)$$
.

All workers are also characterized by an entrepreneurial level of productivity s that evolves stochastically. If workers decide to become self-employed, they obtain such a level of productivity. They are also subject to the tradeoff of paying high taxes if operating formally, or paying a cost to operate informally. Self-employed agents can also hire workers. However, in addition to the wage payed, they must pay a delegation cost s (s). This cost is increasing and convex in the size of the firm, and it reflects the fact that it is costly for individuals to verify the production process when delegating work. The cost function also sets a limit beyond which self-employed individuals can no longer hire additional workers.

Self-employed individuals are matched every period with a potential worker with probability  $\lambda^{u}_{fs}$  and they offer a level of wages. Profits for formal self-employed agents is given by:

$$\pi_f^s = (1 - \tau_{\pi}(l, s))(s - wl(1 + \tau_l)) - x(l)$$

for those who decide to operate formally. For agents who decide to be informal, their profits will be given by:

$$\pi_i^s = s - w(l)l - (c(l) + x(l))$$

Self-employed individuals are not able to look for jobs.

Finally, the monetized benefits of being employed formally (b) should be no more than the taxes collected by the government. The case where benefits are strictly less than taxes occurs when workers do not value the benefits of being employed formally as much as their costs (Antón, Hernández & Levy 2013).

A steady state equilibrium of this model will be characterized by a set of objects guaranteeing that workers and firms are behaving optimally, that inflow of workers equals outflows in every possible state, and that government's budget constraint is satisfied.

When it comes to taking this model to the data, we could either estimate it or calibrate it to match specific moments of interest. An ideal setting would be the Mexican case. Not only Mexico has high and persistent levels of informality and low levels of productivity, but in addition it has unique data about informal firms. The Economic Census in Mexico is the only census including formal and informal establishments. This would provide us with the necessary data from the firms and self-employed side of the model. The data for the worker side of the model could come from the ``Instituto Mexicano de Seguro Social'', a dataset that has been previously used (Bosch & Campos-Vásquez, 2014), or with the household survey, ENOE, already available to us.

This model will allow us to evaluate the effects that different special tax regimes have on people's incentives to act as self-employed units. For instance, lowering taxes for small firms can increase the value of being self-employed. Moreover, unemployed people will be more likely to be matched with small firms. This imposes a problem for large firms since it becomes harder for them to attract workers. Large and productive firms will find it hard to hire new workers, due to search frictions, and expand its production capacity. By estimating such a model, we will be able to simulate policies affecting people's decision to become self-employed.

We can also estimate policies such as funding social security contributions through other sources different to payroll taxes, as proposed in Antón, Hernandez & Levy (2013). We can simulate the effects on the economy of lowering payroll taxes and distributing all revenue equally among the population, regardless of whether they are in the formal labor market or not. This could make it more attractive to become formal, as they pay lower taxes.

A possible extension of this model is that of joint household search, as in Dey & Flinn (2008). In some countries in the Region, all family members of a formal employee have access to better quality health insurance than unemployed or informal workers. It is enough to have one member of the family under formal employment to guarantee high-quality health insurance for all family members. This family-extended benefits can potentially affect the way people look for formal employment. For instance, a couple's marginal value of one formal employment might be different when none of them are employed than when just one of them is employed, since health insurance will be guaranteed to both. We also plan to benefit from the "initial workshop" that would take place, tentatively, around October 1, 2017.

<sup>&</sup>lt;sup>8</sup>The role that delegation in small firms, and the extent to which this explains the lower growth rates for small firms in developing countries has been explored in the literature. See, for instance, Akcigit et al. (2017).

6. Specify the strategy and activities you will follow to disseminate the knowledge generated within this ESW. For that purpose, take into consideration: i) target audience of the knowledge generated; ii) goals of the dissemination strategy to each target population; iii) key dissemination activities for that target population:

- 1. Target audience: Policymakers in Ministries of Finance and Planning, Ministries of Health, Ministries of Labor, and other public institutions. Researches working in topics related to labor markets, firm dynamics, and economic growth.
- 2. Goals:
  - i. Receive feedback to improve the quality of our work. We expect to receive feedback related to the methodologies and data being used, as well as institutional details that policymakers can provide.
  - ii. Present results of our work so that policymakers can implement legislation considering the effects of special tax regimes on the economy.
  - iii. Provide academics and scholars with our view of where the research on special tax regimes should be going to.
- 3. Presentation of results in a brown-bag lunch seminar or an event in the region.

## **III. DELIVERABLES**

Deliverable	Deliverable Name	Planned Date
DUR- Unreviewed/Unpublished review	Note about special tax regimes	31 Dic 2018
DUR- Unreviewed/Unpublihsed review	Methodological Proposal	31 Dic 2018
DPR-Peer Review Report	Peer Review Report	31 Dic 2018
DCW- Conference/Seminars/Workshop	Presentation of results and steps to take	31 Dic 2018

## IV. BUDGET (\*):

### **Proposed Amount in USD:**

	Project Cost - IDB Financing				
Activity	Consulting (USD)	Travel (USD)	Other (USD)	Total Request (USD)	Other Financing (USD)
Data Analysis	30,000.00	5,000.00	0.00	35,000.00	
Consulting Services for methodological proposal	35,000.00	5,000.00	0.00	40,000.00	
Travels	0.00	10,000.00	0.00	10,000.00	
Peer reviewer/Advisor	10,000.00	0.00	0.00	10,000.00	
Materials, logistic	0.00	0.00	5,000.00	5,000.00	
Total	75,000.00	20,000.00	5,000.00	100,000.00	

#### V. BANK STAFF PARTICIPATION IN ESW:

Staff Name	Role	Unit
Rodrigo Azuero	Team Leader	IFD/FMM
Carola Pessino	Team Member	IFD/FMM
Karen Astudillo	Team Member	IFD/FMM

### VI. RISKS:

#### 6.1 Implementation Risks:

- 1. Data cleaning. We do not have all the necessary data yet. It could be the case that the state of the data is such that we would devote more time than expected cleaning the data.
- 2. Access to data. Some of the data used for this project comes from administrative sources. Although we should have no problem with access to such data, there might be a delay as we might have to register, apply, and fulfill all the requirements to have access to the data.

We plan to diminish implementation risks by having data from multiple countries. That way, if our strategy to pursue a project in country X does not work, having data ready for another one will solve this issue. We will also work with Bank's employees that have experience with statistical agencies in the countries. This will decrease our chances of not having access to a given dataset. For instance, CAN and LMK staff members have worked in the past with some manufacturing surveys in the region.

#### VII. COORDINATION WITH OTHER MDBs

## 7.1 Summarize collaboration or coordination with other MDBs, donors and other strategic partners (if any):

This ESW is part of the IDB Group's research agenda on misallocation, productivity, and informality. We will be working closely with LMK, RES and CAN.

We will also interact with members of the Fiscal Affairs Department at the International Monetary Fund, given that they are

following a similar research agenda.

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