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INNOVATION AND PRODUCTIVITY IN THE SERVICE SECTOR

A. Justification and Background

The service sector is increasingly important not only in developed economies (OECD, 2010; European Commission, 2009), but also in developing ones. On average, in Latin America and the Caribbean (LAC), the service sector accounts for more than 60 percent of both GDP and total employment (World Development Indicators, 2011). While the share of the service sector has been increasing, its rate of productivity growth has remained stubbornly low, particularly among small and medium enterprises (SMEs), when compared to other sectors of the economy. Consequently, it has pulled down the region's aggregate productivity levels (IDB, 2010). Thus, boosting innovation in services, especially in SMEs, is central to improving the performance of this sector, and the economy as a whole.

The service sector can impact the whole economy through its capacity to affect a country's efficiency and technological frontier. First, traditional services, such as transport, logistics, and wholesale trade, are the links between the different production blocks of the economy; hence, an increase in the productivity of these sectors will improve productivity in the production of final goods as well. Second, knowledge-intensive business services (KIBS), such as telecommunications, software, and engineering services, can strengthen the innovative capacity of the whole economy, improving country's long-run growth potential (Europe Innova, 2011; Sissons, 2011; OECD, 2001). Finally, manufacturing and services are becoming increasingly integrated; therefore from a value chain (or value system) perspective, the competitiveness of the manufacturing sector, for instance, depends to a great extent on the efficiency and value added in the production of services.

In this respect, services are increasingly considered to be fundamental inputs and outputs of innovation processes in the other sectors of the economy (Kuusisto, 2008a). This contrasts with the traditional view in which service sectors are considered "innovation averse," thus "uninteresting" for innovation policies (and policymakers) (Baumol, 1967; Pavitt, 1984). Indeed, Baumol (1967) put forward the hypothesis that productivity improvements in service sectors are less likely than in the goods-producing sectors of the economy "because of the inherent nature of services". On the other hand, Pavitt (1984) suggested that from an innovation point of view, services are a "supplier dominated" sector in the sense that, in the best case, they merely adopt innovations carried out elsewhere in the economy, with only minor adaptations. As a consequence of these traditional views on the service economy, national innovation policies have paid limited attention to services, and service-sector firms have been systematically neglected in government-sponsored innovation programs.

Recently, these traditional views are being challenged by research in developed countries suggesting that services are more innovative than previously thought and that in some subsectors (e.g. KIBS) they are even more innovative than the goods-producing sectors of the economy (Evangelista and Savona, 2003; Bogliacino, Lucchese, and Pianta, 2007). The same research, however, finds that several characteristics of innovation in firms in the service sector differ from firms in the goods-producing sectors. First, most innovations in services appear to be non-technical and the result of small, incremental changes in processes and procedures that do not require much formal research and development (R&D). Therefore, innovation seems to have

an "ad-hoc" nature and to be a continuous process, complicating the identification of innovations as single events. Second, services make greater use of trademarks, designs, and copyrights to protect their innovations (they use a different set of rights than manufacturing). Thus, in terms of innovation inputs, it seems that ICT capital, software, training, marketing investments, and knowledge acquisition are more important for innovation in services than in other sectors of the economy (Uppenber and Strauss, 2010; Hertog, 2010).Thus, the traditional view that services are less innovative than the goods-producing sectors of the economy could be explained by the difficulty of identifying service innovations as single events in which R&D expenditures are less critical inputs. The arrival of innovation surveys, first in developed countries, and later in developing countries, has helped to dramatically challenge this view.

In terms of motivation, evidence from OECD countries also suggests that service-sector firms innovate for many of the same reasons that manufacturing firms do: to increase market share, to improve service quality, and to expand product or service range (OECD, 2005). However, it is also clear that "one-size-fits-all" theories on innovation in services are misleading to the extent that services are a diverse group of sectors with regard to both production and innovation (Tether, 2004).Additionally, and of fundamental importance for the region, although evidence for developed countries seems to suggest that large service sector firms are also more innovative than small firms, the correlation between size and innovation (the size premium) is weaker in services than in manufacturing. This, in principle, points to a higher potential for SME-driven innovation in services.

Despite the increasing interest in understanding and promoting innovation in the service sector in developed countries (Gallouj and Savona, 2008; Europe Innova, 2011; Kuusisto, 2008a; OECD, 2005, 2009a,b, 2010; Uppenberg and Strauss, 2010; Rubalcaba and Gago, 2006; Cainelli et al., 2006), there is far less research and no systematic studies on how to promote innovation and productivity growth in services in LAC (Tacsir, 2011). Developing policies and programs to support service-sector innovation requires a better understanding of this process. *This project aims to fill this gap in several ways by expanding our knowledge and understanding of several key focus areas related to the process of innovation in the service sector.*

First, one of the primary focuses of this research is determining the drivers of innovation and productivity in market services, with special emphasis on the role of public policy. Taking as a given that business practices related to innovation are different in service sectors than in goods-producing activities, proper support and encouragement for innovation and productivity growth in the service sector may necessitate new policy designs and programs. The results of the project are expected to serve as a platform for discussion, exchange of views, and policy design for policymakers and innovation agencies in LAC.

Second, this project will place particular emphasis on SMEs. This is justified not only by the importance of SMEs in the service sector (Tacsir, 2011) but also because large firms are in a better position to carry out research and innovate with little external support. Among the advantages cited for large firms are a larger spread of fixed costs over greater output, economies of scope, and better appropriation of external knowledge spillovers (Cohen and Levinthal, 1989; Crespi and Zuñiga, 2010). In addition, SMEs have different characteristics and needs that justify a special focus on them. There is evidence that technologies developed for large service companies do not serve the SMEs' needs well; SMEs are less prone to innovate and they innovate differently: instead of R&D activities they follow different strategies that combine organizational innovation, purchase of equipment and learning through interaction with clients, and they also face different competitive challenges (European Commission, 2010).

Third, this project will analyze both KIBS and traditional services. Even though traditional services tend to be less innovative than KIBS (e.g. Aboal *et al*., 2011), this is a very important subsector to be analyzed, not only because of its weight in terms of value added and employment, but also because some of the most vulnerable workers (female, young, less educated, less formalized workers) are employed there. Therefore the understanding of how innovation and productivity gains happen on this sector can have potential impact on the design of more focused innovation policies with a better positive impact on vulnerable groups. In particular, the project encourages research exploring the gender biases in specific service innovations and service sectors, given that, as pointed out by Danilda and GranatThorslund (eds.) (2011), innovation is not always gender-neutral (see also Schiebinger, 2008).

Finally, this project will pay special attention to ICTs, given that they are key sources of services innovation and diffusion (Gago and Rubalcaba, 2006). We expect to have at least two case studies related to ICTs as part of this research.

The Competitiveness and Innovation Division (IFD-CTI) of the IDB and the Center for Economics Research (CINVE), together with the International Development Research Center (IDRC), are inviting prospective research partners to submit research proposals that clearly make a substantial contribution to a better general understanding of innovation and productivity in the service sector in Latin America, in these key focus areas, where the evidence is embryonic.

The aim of the project is to select four (4) country papers to analyze quantitatively the relationship between productivity and innovation, four (4) case studies of the market service economy innovation, and four (4) policy evaluation studies that focus on public-private interventions aimed at enhancing productivity in market service sectors.

B. Objectives

The main focus of this research is to increase understanding of innovation and productivity in market services at the firm level, with a special focus on the role of public policy.

Specific Objectives

(1) To generate *new knowledge* and to increase understanding of the main determinants of productivity and innovation in services in LAC, identifying the main market failures that hinder productivity growth and innovation in services and the extent to which each one of them can be addressed with specific policies;
(2) To support *public policy* design suitable for fostering innovation and productivity growth in services, and raise awareness among policymakers on the critical role and distinctive characteristics of the service sector;
(3) To assist innovation agencies and governments in assessing the effectiveness of public-private interventions, to foster innovation and productivity in the service sector; and
(4) To generate new knowledge and *better indicators* that could be used by productive development institutions, professional boards, NGOs, and business associations to promote innovation and increase productivity in the service sector.

C. Framework and Content of the Study

The project has two components: (a) A quantitative analysis on service innovation and productivity based mostly on innovation surveys or similar datasets and (b) An analysis of case studies on service sector innovation and impact evaluations. The first component will produce: four (4) country papers to analyze quantitatively the relationship between productivity and innovation and it will be financed by the IDB. The second component will have two subcomponents: four (4) case studies and four (4) policy evaluation studies about enhancing productivity in public or private interventions, and will be financed by CINVE-IDRC.

Teams can choose to present proposals for every component (i.e., quantitative analysis and case study) and subcomponents or just one. The panel of experts may eventually choose one or more according to eligibility criteria. Eligibility will be based on scope of the project, quality of the proposal and research team, novelty of the case studies and impact evaluations and the feasibility to affect public policy. Indeed, it is expected that research findings generated by this project will have policy impact and will advise policy makers on the design of successful innovation policies with the aim of improving the performance and competitiveness of SMEs in LAC. Hence, proposals that have government support or a clear link with innovation institutions will be preferred (for example, by including officers from innovation agencies, business organizations, or research councils among the research teams).

C.1 Quantitative Analysis Component: On the Determinants of Innovation in Services and its Linkages with Productivity

For the quantitative analysis, the project will characterize the main innovation patterns and innovation-related obstacles faced by firms in the service sector in the region. In this particular, the project will make extensive use of the available national innovation surveys (or similar surveys) that cover the service sector.[1] Some useful references on the types of descriptive analysis that we are interested on can be found in Tether (2004) and the OECD micro-data project (2010). The research under this component will also extend the descriptive analysis by exploring the correlation between productivity and innovation in services. From a methodological point of view, one way of doing this could be by implementing several variations of the CDM model (Crepon, Duguet, and Mairesse, 1998) as adapted to the region by Crespi and Zuñiga (2010) to explore the links between innovation and productivity in the service sectors; however other options are also available (see Crespi *et al.,* 2008). In this respect, given the access to the rich data provided by the innovation surveys (or similar surveys), it will be possible to put the role of R&D in context and show the importance of other ways to innovate and increase productivity in the region (for example, by looking at the returns of other innovation inputs such as machinery acquisition, licensing and training, among others).

The rich available information in the innovation surveys allows market failures leading to low innovation investments to be characterized by: *(a) characterizing spillovers* (for example, by measuring diffusion as the surveys collect information on the degree of novelty of each innovation or identifying the sources of innovative ideas—customers, competitors, universities, etc.—or looking at imitation risks); (b) access to financing for innovation; and (c) lack of

[1] Innovation surveys with some information on service innovation have already been collected in Argentina (but with a focus only on SMEs), Brazil, Chile, Colombia, Panama, and Uruguay.

complementary assets (human capital, information, etc). In order to explore the impacts of these obstacles on innovation investments (not only R&D), discrete recursive models could be estimated (Savignac, 2007; Alvarez and Crespi, 2012). Working samples will include traditional and knowledge-intensive business services.

Finally, this component also includes the implementation of a survey targeted to policy makers. The aims of this survey will be: (a) to collect information on priorities, programs, and selected interventions that different innovation and productivity promotion agencies have implemented in the region in the past; and (b) to characterize the application and the access to public support mechanisms oriented to enhance productivity and innovation of the service sector firms. This will not only foster understanding of the extent to which policy interventions are aligned with the market failures that affect innovation and productivity growth in services, but will also identify specific cases of policy interventions that might be interesting to study. The design of the questionnaire for the policy makers' survey will be discussed during the project inception meeting.

C.2 Case Studies and Impact Evaluation

In order to better understand the transmission mechanism underpinning innovation in services and generate micro-evidence for policy design, this component will select four (4) case studies of attempted innovations in the service sector and four (4) impact evaluations of productivity-enhancing public or private interventions in the service sector. It is expected that at least two impact evaluations and two case studies will come from Central American or Caribbean countries. We also expect to have at least one impact evaluation and one case study related to ICTs.

Firm-level case studies and impact evaluations of public-private interventions are the most appropriate instruments to fulfill the objectives of this research. Even if case studies cannot be representative of an economy as a whole, the main mechanisms of innovation and successful interventions can be understood. Key lessons can be identified, highlighting the importance of innovation policy and offering insight into ways to design and program specific innovation policies for the service sector. In other words, when properly designed, case studies can shed light on the transmission mechanisms at work that underlie the correlations provided by the quantitative-econometric analysis.

The results of the selected case studies should identify the factors underlying successful innovation in services, particularly the role of entrepreneurship and ICT infrastructure, the importance of the high-skilled labor force, gender issues, software, intellectual property rights such as patents and trademarks, organizational needs and how the firm's innovation is related to other firms in the sector. The importance of several key external drivers for innovation such as supporting institutions, competition, regulation and the organization of the factor markets (labor and finance) will also be analyzed. Similarly, the selected impact evaluations should be able to identify the success or failure of the intervention or policy in terms of productivity and the mechanisms through which innovation finally occurs inside the firm. Results will also point to the main barriers to innovation and identify possible policies to overcome them.

This component will attempt to cover several service sectors. It will include both traditional (such as retail, tourism, and transportation) and KIBS services. The selected case studies must cover relevant experiences for public policy, and will be required to have available identifiable external and internal results of success or failure.

All proposals should include a clear description of the policy context in which the innovations are taking place.

C.2.1 Case Studies

The in-depth study of a few cases in individual countries could provide valuable insights on the relationship between innovation and productivity in the service sector and on how innovation occurs inside the firms, especially in SMEs. These case studies will serve to better understand the types of factors that have been critical in LAC to foster (or deter) innovation and the role of governments and public policies in incentivizing innovation. The expected result is a series of case studies that provide clear insights on how innovation works in the service sector, what drivers and barriers sectors/firms in LAC face when innovating, and the impact on productivity and competitiveness. For examples of case studies on innovation in services, see Tacsir (2011) for LAC and Hertog (2010) and Kuusisto (2008b) for developed countries and the references therein.

Each team must choose at least two (2) SMEs located in LAC countries, or a sub-sector (such as retail, insurance or banking, logistics, audio-visual, etc.) as a case study. The case studies must include cases (firms or sub-sectors) that have undergone a private or public intervention (e.g., the adoption of e-banking by micro-credit institutions, GPS in public transport firms, electronic booking in hotels, etc). Preference will be given to teams that propose case studies that include both successes and failures (for example, sub-sectors where some firms were successful on adopting a technology[2] and some firms were not), and are able to underline the critical factors behind the success and the failure. The selection of cases should be based on a preliminary assessment of the broad sectors or activities in which an intervention has been relevant for the firm/sector. The objective of this initial assessment is to provide an overview of the extent to which the cases are relevant for the country and sector, as well as the relevant players in the intervention. This initial assessment will also serve in the identification of the most appropriate cases on which to focus.

The case studies must answer at least the following questions: 1) How does innovation occur inside firms? 2) What types of innovations has the firm undertaken? 3) What innovation strategies are successful in terms of increasing productivity and competitiveness? 4) What are the key drivers and barriers to innovation (available necessary skills, framework conditions for entrepreneurship, culture and society, legislation and regulation, ad-hoc alliances, lack of finance, risk aversion, competing business priorities, etc.)? 4) What is the role of supporting institutions and infrastructure (e.g., research centers, ICT infrastructure, software, training, marketing investments)? 5) How do existing policy practices and innovation-promotion policies affect the direction and propensity of innovative practices? 6) What is the role of sector institutions (sector chambers, specialized technology transfer institutions, etc.) in promoting the occurrence and diffusion of innovations that eventually proved successful? and 7) What types of interactions with public officials have occurred?

To construct each case, the team can gather information from several sources. It is mandatory, however, to conduct interviews and focus groups with the relevant players for each case (e.g., firm representatives, union representatives, relevant research institutes and universities, other relevant private sector representatives, government and innovation agency representatives). The

[2] By technology we refer not only to artifacts, ICT based production systems, but also to the adoption of "managerial" technologies (Bloom et al., 2011).

information from the interviews and focus groups should also be properly supported by additional research. For instance, if a team claims that the intervention caused an increase in productivity for "firm A", the research should reasonably prove this claim by gathering information on productivity before and after the intervention. In all instances, the team should ask whether the story emerging from the interviews is credible and try to show data and provide external validation.

The team should also consider alternative explanations and assess whether they are likely to be more plausible. If barriers at the country level are identified (e.g., poor logistics infrastructure, poor public policies, lack of adequate skills in the workforce) the team is expected to explain how the firm managed to overcome them. The interviews should be conducted in a way that all of these aspects are properly gathered. The final story should provide clear insights regarding the barriers and drivers for countries/firms/sectors to innovate, and should assess the failure or success in terms of productivity and competitiveness and the potential roles for the public sector to help mitigate these barriers.

All proposals should explain what type of innovation they are considering. The aim of this project is to understand the determinants of innovation and productivity in the service sector. With this objective in mind, the innovation studied should be categorized in one or several of the following dimensions (Bogota Manual): new or improved services, process innovation, or organizational or marketing innovation, and should describe how it was implemented and how it affected productivity. See Tacsir (2011) for some examples of innovations in the service sector.

C.2.2 Impact Evaluations

In order to produce impact evaluations of public-private interventions in the service sector, the research strategy should follow the implementation of experimental (e.g., Bloom *et al*., 2011) or quasi-experimental approaches (e.g., Crespi *et al*., 2011). Interventions do not need to be policy experiments only. Field experiences by NGOs, business associations, etc., will be also considered. See for example Monge-Gonzalez and Rodriguez-Alvarez (2012), who evaluate the impact of having access to certain financial services(such as invoice discounting, purchase orders, and others), together with training courses of short duration provided by a microfinance institution to improve the performance of SME clients in Costa Rica. This approach requires very specific data on public-private interventions, public policy, or a specific program with data on firms affected by the intervention or participating in the program, and data on a control group of similar firms not affected or not participating.

The main assumption required is that a firm's participation in the program is random (experimental design). If not, the participation or selection of firms into the treatment group should be based on some observable or unobservable characteristic that can be controlled for (quasi-experimental design). Among the techniques that can be used are: regression methods and propensity score matching that explicitly control for observable variables differing between groups or difference-in-differences and fixed effects models which use data before and after the program for the two groups to account for a certain type of unobserved heterogeneity. A second strand of techniques includes the instrumental variables approach and regression discontinuity designs in order to exploit particular features of assignment rules to try to replicate the experimental setting (for more information and detailed methodologies, see Crespi *et al.*, 2012; Bernal and Peña, 2011; Khandker *et al.*, 2010).

These methodologies require available data for a number of firms before and after the intervention, with data on many variables, besides the outcome variable, such as characteristics of the firms, financial and economic variables, etc. Teams proposing this type of methodology should describe the intervention exhaustively, the available data, its periodicity, the chosen methodology, and the implied assumptions. The micro-data can be gathered from sector or economy-wide survey studies, industry federations, chambers of commerce, or investment promotion agencies, among other means. The feasibility of linking performance information on the beneficiaries from these interventions with register data in order to select a suitable control group will be particularly valued. A clear description of data and sources is needed, as well as explanations about access to the data.

Regarding the outcome variables (productivity and innovation outputs), special care should be taken. Productivity in the service sector, especially in sectors like tourism, finance or health, is very difficult to measure. Concepts of productivity and innovation measurement in manufacturing are based on contrasting input and output, but productivity and innovation measurement concepts established in manufacturing cannot simply be transferred to service due to its peculiarities. For example, the interaction with the customer is always a part of the service sector and hence the customer's actions need to be considered on the input side. Furthermore, service readiness, which is the major prerequisite of service delivery, also needs to be incorporated into the measurement of productivity. The proposal should specify how the team plans to calculate the outcome variable. One alternative is to measure labor productivity, which is less subject to measurement errors (Crespi *et al*., 2006; Biege *et al*., 2011), for measurement of productivity in KIBS).

Taking into consideration that in LAC the production structure is strongly dominated by SMEs, the results should stress the effects of the intervention on innovation by firm size. Evidence shows that the innovation process in SMEs presents characteristics that are different from those in large firms. In fact, innovation in SMEs is characterized by more informal research and acquisition of already developed knowledge. Hence, the innovation process in LAC is different than in developed economies, where innovation is a more systematic process and expands knowledge frontiers.

D. Specific Content of the Proposals

In order to participate in this project, a **research institution** should submit a proposal including:

(i) A background section indicating whether and how the research subject is relevant for each particular country, how each particular country study could add value to the previous research, and how the results to be generated in each particular case might be important to policy makers.

(ii) For the quantitative analysis component, each proposal should include: (a) a brief description of the database(s) to be used; (b) a plan for the descriptive analysis (some examples are Tether, 2004 or the description of innovation "modes" included in the OECD micro-data project (2010); and (c) the methodology for assessing the linkages between innovation and productivity in services (for example, the CDM model or the Crespi *et al.*, 2009). Particular care should be taken in explaining the proposed identification strategy; (d) the methodology for assessing the market failures that harm innovation in services; and (e) an indication of the policy makers to be interviewed as part of the policy survey.

(iii) For the case studies, teams should present a clearly written (5 pages maximum) statement summarizing the history of the case, relevant literature review, the proposer's involvement, what lesson(s) the case illustrates, the policy context, and a detailed explanation of why the selected

case study is important. Additionally, a detailed plan of interviews, and the list of agents to be interviewed must be included. Teams should include a prospective questionnaire for the interviews (as an appendix). Case studies including both successful and unsuccessful interventions are preferred. Teams should clarify the link with policy makers and agencies of innovations. Teams with clear associations will be given a plus.

(iv) For the policy evaluation studies, proposals (5 pages maximum) should include a detailed explanation of why the proposed impact evaluation study is important for the purposes of this research project. This research is mainly based on analyzing secondary micro-data. Thus, the proposal should describe the source, availability, the main characteristics of the information available (type of data, methodology used to obtain it, periodicity and feasibility of linking it with other data, etc.). The methodology should clearly explain what sort of cross-sectional data will be used to evaluate the intervention and if this includes any data linked with other data sources. A description of the data should also be included. The methodology should clearly indicate the main assumptions and explain why the proposed methodology was chosen. Demonstrating access to firm-level data is a necessary condition. Finally, given that researchers may be dealing with official data, they should clearly state how access to the data will be granted and how data confidentiality will be protected.

(v) Curricula vitae of the research team, emphasizing previous relevant experience with involvement with case study research and policy evaluation (2 pages maximum per researcher).

(vi) A budget (in a separate annex) indicating the time and resources that will be used within the context of the research work plan. The budget proposed should distinguish between items financed by the IDB, CINVE-IDRC, and those financed by the institution or other sources. The budget should also distinguish among amounts assigned to professional honoraria, overhead, and other major categories of research expenditure.

(vii) Some papers will be chosen to be disseminated as IDB working papers, and may be included in a book published by IDB-CINVE-IDRC. Proposals should include suggestions for further dissemination of the final version of the paper and its policy implications, within each particular national context. Special emphasis should be placed on promoting innovative ways to reach a wide audience of policy makers and innovation practitioners in the region.

(viii) Institutions may present proposals individually or jointly with other institutions in the same country or in the region. For administrative purposes, IDB and CINVE-IDRC will request that each institution sign a letter of agreement, which will require a separate budget per institution. Proposing research institutions should be based in the Latin American and Caribbean region. U.S. and European institutions do not qualify. However, researchers from the United States and Europe can participate with research teams from proposing institutions.

(ix) The research proposals and different drafts of the research papers should be submitted in Spanish, Portuguese, or English.

(x) Finally, teams can present proposal for all the components (quantitative analysis, cases studies, policy evaluations) signing a contract with IDB for the first component (quantitative analysis) and CINVE-IDRC for the second (case studies and impact evaluation).

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F. Schedule of Activities

The tentative schedule of activities is as follows:

April 9, 2012: Call for research proposals issued.

May 14, 2012: Due date for **receiving proposals (COB 6pm ET USA).** Institutions should ensure that complete documentation is submitted to the evaluation committee. Complete documentation includes: the research proposal and CVs (CVs up to three pages long). Send proposals to both of the following addresses: innoserv@iadb.org and innoserv@cinve.org.uy.

May 28, 2012: Announcement of **selected research proposals** by a panel of experts.

June 2012: Inception workshop (Montevideo, Uruguay) to discuss proposed methodologies and data requirements for the selected proposals with participation from IDB and OECD research teams. It is expected that the first inception workshop will take place during the second half of June.

October 22, 2012: Due date for receiving a **first draft** of the research papers (with a special focus on the quantitative analysis and the advance reached in the other components).

November, 2012: Special panel will be held as part of the LACEA meeting (Lima, Peru) to disseminate the results of the project. This meeting will be also used as a **second workshop** to discuss advances and quality issues and give feedback to country teams.

December 31, 2012: Due date for receiving a **final draft of the IDB component** research paper (quantitative component) including the comments received by the reviewers

February 15, 2013: Due date for receiving a **second draft of the CINVE-IDRC component** research papers.

March 1, 2013: Feedback from CINVE panel regarding the Second Draft.

April 15, 2013: Deadline for a **final version for CINVE-IDRC component** of the research papers.

November, 2013: Some papers will be chosen to be disseminated as IDB working papers, and may be included in a journal special issue or a book published by IDB-CINVE-IDRC. At this same time, all files, tables, and relevant do-files should have been delivered to the IDB, and CINVE.

G. Costs:

Each proposal will receive a maximum combined grant of not more than: **US$47,500**

G.1 Quantitative Analysis

The IDB will contribute to this component **up to US$ 22,500** for each study, depending on the scope of the work proposed.

G.2Case Studies and Impact Evaluation

CINVE-IDRC will contribute **up to US$ 25,000** for each study, depending on the scope of the work proposed.

G.3 Payment Schedule

15 percent within 30 days of signing the formal agreement between the respective research center and the IDB and/or CINVE-IDRC.

30 percent within 30 days of presenting and approving the first draft of the research paper and the delivery of the sector dataset.

30 percent within 30 days of presenting and approving the second draft of the research paper.

25 percent upon approval by the IDB or CINVE-IDRC of the final research paper.

G.4 Penalty for late submission of drafts

There will be a penalty of **US$ 200** per day of delay in the submission of the drafts.