

Call for Research Proposals

The Future of Taxation in Latin America and the Caribbean A Research Network Project (RG-K1198)

The Inter-American Development Bank (IDB) is inviting research proposals for studies on selected issues in taxation in Latin America and the Caribbean (LAC). Section I of this call for proposals provides a brief motivation for the project. Section II provides information about each of the sub-projects in the four issues of interest: (1) Understanding the Cyclical Behavior of Fiscal Revenues, (2) Fiscal Revenues and Efficiency in LAC Non-Renewable Natural Resource Sectors, (3) Potential and Challenges of the Property and Land Taxation, and (4) Environmental Taxes. Sections IV through VI provide details on administrative arrangements for the project. Section VII contains the bibliography for this call for proposals by each of the sub-projects.

I. Motivation

Strengthening fiscal revenue mobilization has been the overriding objective of tax policies and tax policy reforms in Latin America and the Caribbean. Though this objective is important, especially in countries where fiscal revenues are still too low to meet the most basic needs in the social and infrastructure areas, it should not overshadow other objectives of tax policies, such as contributing to macroeconomic stability, improving the allocation of productive resources and contributing to the reduction of inequality.

The IADB flagship publication *Development in the Americas* of 2013 will be devoted to assess *The Future of Taxation in Latin America and the Caribbean*. It will focus on the challenges of taxation systems in order to respond to their various objectives, not just revenue mobilization. The topics selected for this project are central to reaching one or more of the objectives mentioned above and stand out as having been largely neglected by both academics and policymakers in the region. Research centers are invited to present *proposals for one or more* of the following sub-projects.

II. Topics (Sub-projects)

II.1 Understanding the Cyclical Behavior of Fiscal Revenues in LAC

Fiscal policy in developing countries has been largely procyclical. While Gavin and Perotti (1997) first called attention to the issue in Latin America, Talvi and Végh (2005) subsequently claimed that such

procyclicality was the rule across the developing world. Recent progress notwithstanding, LAC continues to be cited as a region plagued by procyclical fiscal policies.¹

Much of the literature on cyclicalities has focused on discretionary fiscal interventions, particularly on the expenditure side. Discretionary fiscal policy has two main shortcomings: it suffers from implementation lags, including a political decision-making process influenced by multiple and possibly contradictory considerations; and it is not automatically reversed when the economic cycle improves, giving rise to a potential deficit bias and fiscal sustainability concerns (Baunsgaard and Symansky, 2009).

In addition to discretionary interventions, the role of fiscal policy in macroeconomic management includes the effect of automatic stabilizers. Automatic stabilizers reflect revenue and expenditure items that adjust automatically to cyclical changes in the economy. With large fiscal stabilizers, no political decisions are needed, implementation is timely and gradual, and lags are minimized. This is unique even compared to monetary policy. From a sustainability point of view, automaticity also provides a reversal of any fiscal expansion.²

There is growing consensus that fiscal policy should be primarily left to automatic stabilization (Andersen, 2005). The most recent literature has focused mainly on advanced economies. Automatic stabilizers are quantitatively important in all OECD countries, and several studies have found that automatic stabilizers have contributed to sizable reductions in output volatility. In contrast, the evidence in emerging and developing economies continues to point to substantial output and consumption volatility. For example, Talvi and Végh (2000) document that output in developing countries is twice as volatile as in developed countries, while private consumption is about three times as volatile.

In the LAC region, policy discussions have started to emphasize the importance of automatic stabilizers to diminish the need for discretionary fiscal interventions and reduce output volatility (see, for example, IMF, 2009a). Several countries in the region have achieved more sustainable debt levels and improved their credit ratings over the last few years, and they were able to “afford” countercyclical policies during the recent global crisis, in marked contrast to fiscal policies implemented in previous episodes of stress. Much of the action was discretionary, reflecting the relatively small size of stabilizers estimated for the region.

¹ For instance, Avendaño, Reisen and Santiso (2008) and IMF (2009b) document that fiscal policy has been more neutral over the cycle since 2000.

² Automatic stabilizers still present some pitfalls. For countries with weak fiscal positions, even allowing automatic stabilizers may conflict with financing constraints. If markets focus on the bottom line of the budget, higher deficits during downturns may raise risk premiums and compromise medium-term fiscal sustainability. Even in countries with sound initial fiscal positions, stabilizers may operate more strongly during slowdowns than booms. Large automatic stabilizers may also delay necessary structural adjustment and do not distinguish among the types of shock affecting income.

Automatic stabilizers depend on the size of government and the cyclical responsiveness of specific budget components—i.e., their elasticity with respect to the output gap.³ For the LAC region, common assumptions include:

- On the expenditure side, an elasticity to the economic cycle of zero. This reflects the low coverage of unemployment benefit schemes, which are expenditure programs that would react more strongly to swings in economic activity.⁴
- On the revenue side, a non-commodity revenue elasticity to the economic cycle equal to one, reflecting the predominance of indirect taxes. These estimates generally rely on an aggregate relationship between taxes and output gaps.⁵

Based on these assumptions, and for an average tax rate in the LAC region of about 20 percent, the marginal sensitivity of the fiscal balance to changes in economic activity would be about 0.2—that is, for each percentage point of the output gap, the fiscal balance varies by 0.2 percentage points of GDP. This is less than half the average estimate for the OCED, highlighting the limited role of the tax system in smoothing shocks to economic activity in the LAC region (Martner and Tromben, 2004).

Additional adjustments are necessary in countries that derive substantial revenues from commodities. To estimate the impact of commodity cycles on the fiscal stance, several studies attempt to distinguish between commodity and non-commodity revenues and compute separately the cyclical versus structural components of each revenue source. A critical challenge, however, is the significant estimation uncertainty surrounding commodity prices. For example, Izquierdo and Talvi (2008) and Vladkova and Zettelmeyer (2008) present different conclusions on the structural fiscal stance during 2003-07 in the LAC region mainly due to differences in their assumptions on commodity price changes.⁶ Commodity revenues originate largely from abroad and therefore do not affect the purchasing power of domestic economic agents. Hence, while commodity cycles can impart high volatility to fiscal revenues, they are likely to have limited direct effects on private demand and contribute little to stabilization.

For federal countries, the role of transfers to sub-national governments may deserve particular attention. In many countries in the LAC region, sub-national governments have limited fiscal autonomy and tax bases. Sub-national governments are hence highly dependent on transfers from central governments. Given that transfers are usually set as a fixed proportion of current or ordinary revenues, part of the adjustment to falling revenues during downturns is transferred from the central government level to the sub-national one. This introduces a pro-cyclical bias to the extent that sub-national governments are less likely than the central government to be able to finance

³ See Fedelino, Ivanova and Horton (2009) for alternative macro approaches to estimating automatic stabilizers and cyclically-adjusted fiscal balances.

⁴ Even in Chile, which follows a structural fiscal rule, the adjustments to fiscal indicators related to the cycle are made only on the revenue side, assuming no role for expenditure stabilizers. See Marcel (forthcoming) for details on Chile's fiscal rule.

⁵ Vladkova and Zettelmeyer (2008), Martner (2000) and IMF (2009b). See also Suescún (2008). Daude, Melguizo and Neut (2010) take a more disaggregated approach to estimating different elasticities for consumption, personal income, and social security taxes.

⁶ Villafuerte, López-Murphy and Ossowski (2010) recommend the use of the non-resource primary balance measured in percent of non-resource GDP and adjusted for the influence of the non-resource economic cycle.

ensuing deficits because of legal or market constraints on borrowing. The role of automatic stabilizers may be hampered by this procyclical bias.

II.1.B Objectives

This research project aims to shed light on three aspects of the relationship between fiscal revenues and the economic cycle in selected Latin American and the Caribbean countries: (i) the size of automatic stabilizers on the revenue side and the possibilities for enhancing them; (ii) the impact of the cycle on revenue elasticities and tax compliance; and (iii) the direct and indirect effects of commodity-related revenues.

II.1.C Scope and Methodology

1. *The size of automatic stabilizers on the revenue side and the possibilities for enhancing them*
 - a. What is the size of revenue automatic stabilizers in the LAC region? How do they compare to advanced economies and other emerging market economies?
 - b. How can the effectiveness of revenue automatic stabilizers be enhanced?

As described above, tax systems have a limited role in stabilizing output and consumption in the LAC region. This stems from both the small size of government and the underutilization of direct taxes that exhibit larger output elasticities compared to indirect taxes. Raising tax ratios would then be a straightforward way of enhancing automatic stabilizers, and many countries in the LAC region will indeed need tax reforms aimed at increasing tax intake to meet growing demand for public services.⁷ A further challenge is making automatic stabilizers more effective without raising the size of government. In this respect, a rebalancing towards personal income taxes would reinforce both equity and stabilization objectives.

To tackle these analytical questions, proposals should consider a micro-simulation approach. The existing literature generally focuses on aggregate elasticities to estimate the size of automatic stabilizers.⁸ This abstracts from distributional aspects of income shocks, which are critical to understanding the potential for taxes to act as a stabilizer of private consumption.

The extent to which automatic stabilizers mitigate the impact of income shocks on private consumption depends essentially on two factors (Dolls, Fuest, and Peichl (2009)):

- First, the relationship between gross and disposable income. This is determined by the tax and transfer system. One important component is the progressivity of taxes.
- Second, the relationship between disposable income and private consumption. If the income shock is perceived as transitory (as is the case with economic cycle fluctuations) and

⁷ Buti, Martínez-Mongay, Sekkat and van den Noord (2003) find that there may be a critical level of the tax burden beyond which a reduction in taxation may increase the effectiveness of automatic stabilizers and result in a “double dividend”: gains in efficiency and better automatic stabilizers. Given the low level of taxation in the LAC region, this argument is not likely to apply.

⁸ Daude, Melguizo and Neut (2010) use microeconomic data from household surveys from eight Latin American countries to estimate cyclically-adjusted revenues applying the standardized OECD methodology.

households can borrow, demand will not change and the impact of automatic stabilizers on current demand will be zero. If households are liquidity constrained, current demand depends on disposable income, and automatic stabilizers play a role.

Dolls, Fuest, and Peichl (2009) use micro-simulation models for 19 European countries and the United States. They document considerable heterogeneity in the size of automatic stabilizers. Moreover, the amount of automatic stabilization depends strongly on the type of income shock, and the extent of demand stabilization differs from disposable income stabilization.

A similar analysis for LAC countries, which has not yet been performed, would inform the discussion on both the size and the effectiveness of revenue automatic stabilizers. Proposals should use microeconomic data from household surveys and/or actual tax returns to estimate the size of automatic stabilizers and simulate the payoff from tax reforms that could increase the effectiveness of stabilizers in the presence of different shocks. The studies should include the analysis of the Corporate Income Tax, the Personal Income Tax, the Value Added Tax, other indirect and trade taxes, and Social Security Contributions and other Payroll Taxes or contributions (SSPT). The taxes analyzed would depend on their relative importance in each country and on data availability.

2. The impact of the cycle on revenue elasticities and tax compliance

- a. Do revenue elasticities vary with the stage of the economic cycle?
- b. How does the cycle impact the efficiency of tax collections?

Tax elasticities are usually assumed constant over time although they can be expected to fluctuate over the cycle. For instance, in the short term, shocks to household income may affect the consumption of luxury items more than proportionally, causing an increase in their short-term elasticity, as these items are taxed more heavily than basic consumption goods.⁹

Also, tax evasion may intensify in periods of below-average growth and persist even when growth returns to steady state (see Wolswijk, 2009, for evidence in Europe). Brondolo (2009) also suggests that taxpayer compliance deteriorates during sharp recessions, leading to a loss in revenue beyond the mere impact of the cycle.

These aspects have not been explored in depth for LAC countries. Ignoring these short-term dynamics in elasticities may lead to biased estimates of automatic stabilizers and cyclically-adjusted fiscal balances. In addition, understanding the impact of the cycle on taxpayer compliance and incentives could usefully inform a reform agenda for revenue administrations. Proposals that exploit micro data to address these questions are encouraged. Proposals that utilize macro data will also be given consideration.

3. The direct and indirect effects of commodity-related revenues

- a. Do countries with access to commodity revenue exhibit systematically lower tax efforts?

⁹ Sancak, Velloso and Xing (2010) find that VAT elasticities indeed vary in the short and the long run, and during booms and busts.

- b. How and by how much does the volatility of commodity revenues affect the volatility of non-commodity fiscal revenues?

Commodity revenues may impact both the level and volatility of non-commodity fiscal revenues. For instance, differences in overall tax collection efforts may relate largely to the importance of commodity revenues.¹⁰ In some countries, particularly those that depend heavily on natural resources, volatility in commodity revenues may have a direct impact on fiscal revenues. In other countries, the impact may not be directly on fiscal revenues, particularly if the commodity producers are not state-owned enterprises, but indirectly through the level of economic activities linked to the production of commodities. Proposals may use multiple research methods to address the questions in this area, including cross-country econometric analyses, country-specific simulations, and calibrated models, among others.

II.1.D Budget

Proposals can focus on one particular country and cover several of the issues above, or concentrate on at least one issue and cover more than one country. Proposals should include a detailed background section and literature review, data templates and data dictionary with a preliminary assessment of data availability, and a detailed description of the methodologies and empirical strategies to be used for each section or area that will be covered.

The final number of proposals accepted from each center will depend on the quality and the proposed budget. Each approved proposal will receive financial support from the IDB of up to **US\$35,000**. Proposed budgets will be evaluated taking into account the scope of the work presented in terms of addressing issues (1) to (3) of Section II.1.C above (Scope and Methodology) on the proposed methodology, and on the quality of the data and models to be used. Projects that seek extra funding to complement financing by other institutions are strongly encouraged.

II.2 Fiscal Revenues and Efficiency in LAC Non-Renewable Natural Resource Sectors

II.2.A Background and Justification

The efficient collection of fiscal revenues from the non-renewable natural resource sectors of Latin America and the Caribbean is gaining prominence in the policy debate. While this has always been an important topic, it has become even more critical today given high commodity prices that might persist into the future. In countries where the resource sector is relatively large, the main challenge for governments is determining how to collect rents and develop the sector while at the same time maintaining efficiency and avoiding large distortions in production or investment decisions. This research project will provide a set of studies on different sectors in different countries in the region.

¹⁰ For a panel of 30 hydrocarbon-producing countries around the world, Bornhost, Gupta, and Thornton (2008) document that a 1 percent of GDP increase in hydrocarbon revenue lowers non-hydrocarbon revenues by about 0.2 percent.

The studies will consist of a pertinent descriptive analysis of the sectors chosen, a financial modeling exercise and further analytical work to discern how far the region may be from an efficient frontier and determine relevant policy recommendations to improve efficiency without sacrificing revenues or vice versa.

The source of resource rents

The solution to the problem of the producer of non-renewable natural resources is developed in the seminal work by Hotelling (1931). The producer maximizes a value function (V) with constraints:

$$(1) \max_{\bar{R}, q, T} V = \int_0^T \pi(q) e^{-rt} dt - C(\bar{R}),$$

such that $dR = -q$, $R(0) = \bar{R}$, and $R(T) = 0$, where π represents profits, q the extraction rate, r the discount rate, C the development and exploration costs, and \bar{R} reserves. Finally, $\pi(q) = pq - c(q)$,

The producer chooses the extraction path (q and T) and the amount of reserves that maximizes the profit function, subject to the constraint, which implies that the total amount extracted should be equal to the reserves at the beginning of exploitation.

In the oil, gas and mining industries, rents may be very significant indeed. In particular, rents arise when the exploited reservoirs are infra-marginal in the global context. In other words, there are reservoirs and mineral deposits where natural conditions are such that production costs of those reserves lie well below current world prices. Rents also arise because countries with larger and less costly reserves restrict access to them; this is particularly true in the case of oil. Therefore, in both cases V would be positive.

Since the government is the owner of the resource in most legal systems, the government's problem is to try to capture the value V . The first-best solution is an auction of the field or right to extract the mineral for a signing bonus (which would be the only payment received by the government). However, several issues make this solution unfeasible. Governments cannot commit to not changing taxes in the future or to not expropriating any private firm that provides the winning bid. Hence private firms will not wish to bid the full value. Moreover, auctions may not be feasible owing to liquidity or collateral constraints.

There is also an issue of risk aversion. If there is uncertainty, auctioning all rights at the beginning gives the Government a known amount and places all the uncertainty on the part of the firm.

However, the firm may charge for this, and hence the amount that the Government receives will be reduced. If the resource is not large compared to total Government revenues, and the correlation between the risk entailed and the risk in other Government revenues is low, then placing all the risk on the firm may not be efficient. The optimal contract would likely be one that shares risk.

Also, all the information on the resource may not be known. Indeed, information may be revealed according to the actions of the firm that is chosen to exploit the resource, and there is often an information asymmetry between the firm and the Government. The optimal contract may also then need to trade off efficiency given the information known today and the extent of information to be revealed tomorrow.

The challenges of rent collection

The above considerations imply that the structure of contracts to exploit oil and mineral reserves and taxation is not straightforward. The most common alternatives to the signing bonus reviewed above are royalties, income taxes and resource rent taxes. However, the design of these instruments presents many theoretical and practical challenges.

Efficiency

The use of taxes to collect rents is a departure from the traditional literature/model of taxation. The traditional models of taxation set as a problem the minimization of distortions given certain resource requirements by the government. In this case, the challenge is how to maximize tax collection.

Taxes, however, generate distortions. In equation (1), two margins could be distorted: an extraction margin, which is the difference between the price and the extraction cost, and the development margin, which is the difference between the net income from extraction and the development cost. Royalties affect both production and development margins, while income tax affects the development margin alone.

An alternative means of collecting rents is “Resource Rent Taxes.” This type of tax is equivalent to a rate of return regulation. If the return on a project reaches certain thresholds, a higher tax rate is applied to the project’s profits. However, as has been studied in the industrial organization literature,¹¹ this type of regulation provides incentives to overinvestment and gold-plating.¹²

¹¹ See the classic work of Train (1983).

¹² See Zhang (1997) for an analysis of the United Kingdom’s system.

An additional issue with taxes, as an instrument of rent collection, is that in order to capture “rent” marginal rates reach relatively high values. As widely documented in the public finance literature, higher marginal rates usually lead to greater distortions. In the case of the resource sector, these distortions could lead to lower-than-optimal investment and production from a welfare point of view.

Finally, if tax systems attempt to take into account all of the issues reviewed briefly above, they would become highly complex and difficult, as well as costly to manage and enforce. There is then likely to be a trade-off between a complex system, which in theory might get closer to the first best, and a simpler system that is easier to manage and enforce.

Sources of Uncertainty

- 1) **Specificity:** A further salient feature of the resource sector is investment specificity. Investments in an oil or gas field, or in a significant mine, tend to be large, specific and sunk. The return on the asset outside the firm is different than that inside the firm. As in any industry with these characteristics, this condition generates incentives to lower taxes to attract investment and then expropriate investments once they are made. Therefore, a challenge in the design of the tax schemes is determining how to reduce those incentives.
- 2) **Maturity:** In addition to concerns with specificity, the resource sector is characterized by the extremely long maturity of the investment. As discussed in relation to auctions, these two features generate problems of long-term commitment. Of course, this is compounded by the issues of specificity. Therefore, one of the main challenges in the taxation of natural resources is determining how to generate a stable system.
- 3) **External sources of volatility:** Finally, in a sector with problems of specificity and long term maturity, there are many external sources of significant uncertainty. Oil and mineral prices may be extremely volatile given potential supply disruptions and large demand shocks, especially when stocks are depleted. Supply responses may take many years, as they are dependent on large and lumpy investments, while demand elasticities tend to be low. Moreover, for individual projects, there may be large geological uncertainty, even after a field or mine is producing. Lastly, given the long term maturity, institutions could change, thus affecting the rules of operation for the sector. In this context, the option to wait to invest may have a positive value. Tax regimes could affect the value of this option.

Recommendations from the literature

In recent decades, countries have developed successful paradigms for the taxation of oil and minerals (and non-renewable natural resources in general). Those countries have been successful in taxing and developing the sector efficiently, as the rate of the flow (production) from the stock (reserves) seems to have been “rational.” Investment in extraction technology has kept up with

technological development, and reserves were not depleted in only one generation. Also, exploration continued and new reserves were discovered. On the other hand, many countries have failed and changed schemes over time. Those countries may have depleted their resources too soon and/or undertaken little new exploration.

In this regard, there has been an important amount of recent literature reviewing the theoretical issues on resource taxation as well as presenting case studies.¹³ Most of the recent literature has focused on the issues of specificity and long-term commitments and has been linked to political economy issues as well. Most recommendations arising from the literature involve contract design and arbitration procedures. Additionally, with regards to uncertainty, the standard approach has been to use contingent rates that are set ex ante.

In terms of the efficiency issues, the recommendations are less evident. In general, the literature recognizes that there are mixed systems with income tax, royalties and contingent rates. Furthermore, it has been accepted that multiple instruments might be needed. In addition, progressivity is also acknowledged and recommended. However, there are caveats, because progressivity means that the government shares risks, which could generate problems in downturns.

In spite of the recent interest on the issue and the relevance of the sector to Latin America, there has been little work on how “aligned” the region’s current tax systems are with the recommendations of the literature. There has likewise been little work done on effects of region’s taxation regimes, especially in terms of their efficiency. Some valuable work has been done, however, on the institutional aspects of the sector and their political economy implications.¹⁴

II.2.B Objectives

The main objective of this project will be to assess the impact of fiscal revenue collection from oil, gas and mineral on the development and exploitation of these sectors in the region. The current tax regimes and other forms of state intervention in those sectors will be described in detail. In addition, using financial modeling and other analytical techniques, changes in regimes will be analyzed, and the various trade-offs between efficiency and fiscal revenue generation will be investigated. Individual studies will present the specifics of resource taxation for a set of sectors (oil, gas and/or mining) in a country or across a group of countries. Each study will arrive at conclusions and recommendations to improve efficiency without sacrificing fiscal revenues (or vice versa).

II.2.C Scope and Methodology

We will consider proposals covering at a minimum one mineral sector in one country, but preferably two or three sectors in one country, or alternatively one sector in two or more countries. It is possible but less likely that a study will be chosen that would cover several sectors in several

¹³ Daniels et al. (2010), Hogan and Sturzenegger (2010), Otto et al. (2006).

¹⁴ Campodonico (2004), Manzano and Monaldi (2008), Espinasa (2008). Also, Hogan and Sturzenegger (2010) present the cases of Bolivia, Argentina and Venezuela.

countries, as several teams will be working on this project. The idea is that each sector-country combination would cover a set of basic information and basic financial modeling, but that then each team would develop further pieces of analytical work in an area of relevance to the sectors/countries chosen.

Each case study should include the following:

- A descriptive analysis of the sector-country chosen. This will provide a summary of the historical development of the sector and of the relevant geological or other considerations relevant to the development of the sector.
- A section describing the current ways in which the state intervenes in the sector. This should include a description of the form of taxation and the ways in which any royalties are levied on the activities of private firms in the sector and in all types of activities in the sector. This section should also include a description of any equity the public sector holds in any companies operating in the sector and how the state exerts control over those companies, as well as the relationship between any publicly held companies (or private companies with significant equity stakes) and the private sector companies operating in the sector. This section should also describe how tax or other arrangements have changed in recent years and the main motivations for those changes.
- A description of the main ways in which the authorities make information publicly available on sector activities including production levels, costs, revenues, investments and, especially, information regarding the public revenues earned from the sector and how they are used in the public budget.
- A brief description of the governance of companies controlled by the state or with a significant state equity share. This would include a description of the composition of the Board of the company, how the President or CEO and directors or other officials are chosen, and a brief summary of the information statements and financial statements that are made public by the company.
- A brief description of other factors that may affect tax or governance decisions and outcomes including the legal environment, the tax culture and enforcement actions, transfer pricing or other international tax issues.
- A basic financial model for the sector in each country to be analyzed. The financial model will include the basic cost and revenue parameters of the sector and details of the mechanisms used by the state to capture rents through taxation and royalties and/or the profitability of any state companies in the sector. In some cases not all of the relevant information will be available and certain assumptions may have to be made; in all cases where information is supplied confidentially, that confidentiality will be respected. Weight will be given to those proposals where the financial model is applied to:

- model the impact of tax changes on tax revenues taking into account any changes in activity in the sector
 - compare main outcome variables with and without specific changes and hence discuss the impact of changes in the regime on revenues and investment
 - estimate efficiency (dead weight) losses under different schemes
 - discuss how the results of the model are affected by the institutions of the country. In countries where the Government owns the enterprises in charge of oil extraction, discuss the role of taxes and profits in the composition of fiscal revenue and its behavior. Similarly, in countries where the public sector owns the most important enterprise but still grants concessions to the private sector, discuss the role of taxes and profits, especially taxes on public enterprises and taxes on private firms in the composition of fiscal revenue and their effect on fiscal revenue
 - discuss how the models incorporate significant risks, including price volatility. Are there any hedging mechanisms and, if so, how are they related to tax policy? Do tax policies and fiscal incentives help overcome risks?
 - model counterfactuals of alternative schemes.
- At least one further piece of analytical work relevant to the sector and country chosen. There are several alternatives that would satisfy this requirement. Although teams are free to make their own suggestions, we offer the following ideas:
 - a model that incorporates reaction functions of private sector agents based on taxation or other decisions of Government; such a model would need calibration based on either the estimation of pertinent elasticities or using analysis already conducted in the country or in other similar environments. See, for example, the work of Deacon (1993)
 - a model that incorporates some of the reasons described above regarding why a first-best option may not be achieved and the relevant trade-offs, and which can be used to estimate a distance from an efficient frontier through simulation or other techniques. The reasons why a first best cannot be achieved may be related to specificity of investment, time commitment problems, risk, imperfect information or a combination of these factors. A framework for this type of analysis is presented in Hogan (2010)
 - a model of a state-controlled company taking into consideration the governance (agency) or transparency issues discussed above and that company's interactions with private companies, illustrating the potential costs versus the potential benefits of state control to maximize welfare, such as a lower cost of capital and a social

objective function rather than profit maximization. The model should be calibrated to the country concerned and the aim should be to elicit policy recommendations that keep the company under state control. See McPherson (2010)

- an option pricing or optimal stopping type model of investment in the sector in order to shed light on issues regarding the optimal development of the sector given problems such as uncertainty, asymmetric information and learning. See Lund (1992).
- Recommendations for policy actions to improve the fiscal revenue-efficiency trade-off in each sector-country combination that is analyzed.

II.2.D Budget

Each sector-country combination fulfilling the minimum requirements described above and selected for funding will receive **US\$10,000**. Each proposal may include up to three sector-country combinations. Proposed budgets will be evaluated taking into account the scope of work proposed. Projects that seek extra funding to complement financing by other institutions are strongly encouraged.

II.3 Potential and Challenges of Property and Land Taxation in LAC

II.3.A Background and Justification

Rapid urbanization and the decentralization process in Latin America and the Caribbean (LAC) have conferred greater responsibility on local governments to meet increasing demand for public goods and services in urban centers. These developments take place within a larger context of significantly increasing world urbanization over the last 60 years. The percentage of the total global population living in urban areas rose from 29% in 1950 to 51% in 2010. This increase in urbanization has manifested itself with a high degree of asymmetry. Whereas urbanization in developed countries reached almost 75% in 2010, that in developing countries rose only to 45%. One exception among the latter group is LAC, where the average level of urbanization is close to 80%. According to United Nations (2008) projections, the urbanization process will intensify in coming decades; by 2050 average world urbanization will reach 69%, with the rate in LAC growing to 89%.

In the last two decades, decentralization processes in the region have transferred power from central to subnational governments. According to De La Cruz, Pineda and Poschl (2010), subnational governments undertook about 33% of total public expenditure in LAC during the 2000s. In the majority of countries in LAC, municipal governments are now in charge of providing most local services. Most municipalities, however, are dependent on transfers from national governments; they do not adequately exploit their own sources of revenue and consequently lack resources for investment. The average degree of local government dependency on federal government transfers in Latin America and the Caribbean has reached 59%, though this value varies according to fiscal

bases of subnational governments. Given local governments' importance in providing a wide range of services, the improvement of the quality of life of most people in LAC is tightly linked to the consolidation of local governments' fiscal situation and the strengthening of their institutions.

There are profound asymmetries in the managerial capacity of local governments throughout the region. On the one hand, there are large metropolises with relatively well-developed institutions, and on the other hand, there are small and intermediate-sized cities with poor performance. In the vast majority of cases, urban tax bases in the region are weak and underexploited, which limits governments' ability to generate the resources needed to meet the new challenges of urbanization on their own. Municipal governments' low income levels make them excessively dependent on transfers from federal governments (vertical imbalances), and there are also sizable differences between cities with higher and lower levels of economic activity (horizontal imbalances).

Theoretical and empirical considerations suggest that a good local tax should consist mainly of a relatively immobile tax base in order to avoid distortions and the risk of an adverse spillover on other jurisdictions (Bahl and Linn 1998). In light of this, taxation on property and land has been identified as the most appropriate source of revenue for local governments. One of the most used ways to tax property and land is the well-known property tax, which is the main tax revenue at the local level around the world, in both federal and unitary countries.

Due to relatively low tax collection rates in LAC, the property tax is still seen as having potential for increasing revenue of local governments. According to Sepúlveda and Martínez-Vázquez (2009), property tax collection represented about 0.37% of GDP in LAC during the 2000s. In contrast, this rate was 0.60% in developing countries, 0.68% in transition countries, and 2.12% in OECD countries. Therefore, some authors have argued that sound fiscal management on this front, with a marginal increase of approximately 1.0% of GDP, could open some fiscal space to meet increased demand for resources at the local level. Nonetheless, some scholars have questioned the ability of local governments to increase their resources with their current tax base. In particular, it is argued that the property tax has high administrative costs and is largely constrained by political factors, hampering the collection of new revenue in the short term. This might lead to the need to establish new categories of taxes or different ways to tax property at the local level that are more elastic and dynamic than current means.

Bird (2000) also considers that the current state of property taxes and land in most countries leaves much to be desired. In Argentina, for instance, Bird noted that effective rates of collection were very low due to an undervaluation of land. In addition, the tax structure was extremely complicated, economically perverse and basically impossible to enforce. Improvements in the administrative process, however, could significantly increase revenues from property taxes. This area is where proper local fiscal management could play an important role in creating sub-national fiscal space. For Colombia, Iregui et al. (2003) concluded that municipalities had significant property tax potential, and realizing that potential would not necessarily require the introduction of major legislative adjustments on the base and tax rates. The authors argue that municipal collection levels could be increased if local authorities implemented measures to reduce the tariff gap, adjusted nominal rates and conducted regular cadastral updates. In Brazil, De Cesare (2008) found a severe reduction in property tax potential in cities with more than 100 thousand inhabitants. On average, this tax represented only 0.43% of GDP in these cities, and less than 3% of these municipalities were able to raise more than 1% of GDP. This author concluded that, depending on tax policy, informality seems

to explain the fall in the revenue potential of the property tax, and it may be affecting the quantity and quality of urban services provided by local authorities.

There is a significant body of literature on property taxation around the world and in LAC.¹⁵ However, there is a dearth of empirical analyses that assess the implementation and performance of property and land taxation in the particular context of LAC. The characteristics of LAC countries (i.e., informal settlements and informal labor markets, high concentration of land ownership, segmentation in access to basic services, high unemployment and crime, and limited local institutional and governance capacity) could play an important role in shaping the revenue potential of property and land taxation in the region. An in-depth analysis of these issues in the region would identify the reasons behind the relatively poor performance of property tax in LAC and would provide critical information for prioritizing alternative actions of property and land taxation to improve local revenue generation. This study will have important policy implications for defining instruments to generate local revenues in LAC.

II.3.B Objectives

The objective of this project is to explore ways to maximize revenues from property and land taxation in LAC. One of the main issues facing local governments in LAC is to find ways to increase tax revenues in coming years to meet increasing citizen demand for public goods. Since property and land taxation has been identified as the main source of revenues for local government, this project is oriented toward investigating ways to overcome LAC's constraints on reaching property and land tax potential. In particular, the project's goals are to: (i) estimate the potential of the property tax in LAC under diverse scenarios; (ii) identify the main constraints to the traditional property tax as a source of local revenue in LAC; (iii) determine key policy, institutional or technical actions that can be implemented to achieve the real potential of property taxation in LAC; and (iv) evaluate alternatives to property and land taxation in order to identify suitable revenue-generating instruments for local governments in LAC.

This project is fundamentally policy oriented. Its main contribution would be the identification of policy recommendations that could help to make the most of property and land taxation in LAC. While the main focus of this project is revenue productivity, other important issues often analyzed in optimal taxation—such as equity, efficiency and administrative simplicity—would be examined as they affect the revenue performance of the property tax.

II.3.C Scope and Methodology

Research proposals should use multiple research methods to address the research questions, including econometric analyses, qualitative case studies based on common interview protocols, and survey research, among others. While authors are expected to propose methods to address the research question, the final approach will be defined upon agreement between the IDB team and the research centers. Each country case study should analyze the following issues:

¹⁵ Some recent works are Bird and Slack (2003), Sepúlveda and Martínez-Vázquez (2009), Bahl, Martínez-Vázquez and Youngman (2008, 2010), and Smolka and De Cesare (2010).

The Revenue Potential of the Property Tax in LAC

The purpose of this section is to estimate the revenue potential of the property tax under several different scenarios, as follows:

- Projection 1: Expected property tax collection if all formal urban properties currently registered in the cadastral system paid their tax obligations and the cadastral assessments were up-to-date.
- Projection 2: Expected property tax collection if all formal urban properties currently not registered were included in the cadastral system and the valuation assessments were updated.
- Projection 3: Expected property tax collection if all informal urban properties were registered in an updated cadastral system.
- Projection 4: Expected property tax collection if all urban and rural properties were registered in the cadastral system and paid their tax obligations.

Econometric models of property tax collection should be developed and estimated in order to properly control for numerous factors that could influence revenue performance under the scenarios described above. While statistical representativeness may be difficult to assure, the selection of cities must be based on explicit criteria, including data availability. The projections are accumulative so that Projection 2 must build upon Projection 1 and so on.

Sections a through e described below examine the contextual constraints to the traditional property tax model in LAC. The studies should provide empirical evidence of the factors and dynamics that limit the revenue potential of property and land taxation in each country.

a. National and subnational institutions and rules governing property taxation

The purpose of this study is to analyze the institutional constraints at both national and subnational levels that shape the collection performance of property tax. Some of the issues to be addressed are whether or not: (i) subnational authorities set the tax base and the tax rate; (ii) subnational governments' institutions and governance have the capacity to effectively administer property taxation (collection, enforcement, valuation and tax base updating, etc.); and (iii) there exists the technological capacity to support the property registry and cadastral systems. This section should propose an empirical approach to identify the main institutional factors affecting property tax collection in each country. The sample must take into account heterogeneity within and use these differences, for example, as identification strategies to assess the impact that particular institutions/rules have on the revenue productivity of the property tax. The study must include feasible policy recommendations that can be implemented to overcome the main institutional constraints on property tax potential.

b. Land tenancy, property rights and informal settlements

One reflection of the urban planning problems in LAC is the proliferation of informal neighborhoods in the region's cities. Approximately 27% of the region's urban population lives in informal

settlements. This indicator, though, is highly variable from country to country. Brazil and Mexico, which together account for 54% of LAC's urban population, are home to 48% of the region's residents who live in informal settlements: 45 million in Brazil and 12 million in Mexico. Informality in LAC is a harsh reality that affects the application of the traditional property tax, as its underlying model assumes clear property rights and formal settlements. Given this situation, this section aims at explaining how and to what extent problems in land tenancy, property rights and informal settlements affect revenue collection from property and land taxation in LAC.

Empirical work should provide quantitative evidence on the impact of informality on revenue collection. A useful empirical strategy can be found in a recent study by De Cesare and Smolka (2010), which uses survey data collected in 1998 at the city level in Brazil and a simple regression model to assess the impact of informality (measured as the occurrence of slums and as the inclusion of informal property in the cadastre) on property tax collection per capita. Also, the model controls for average income per capita, population size, and several dummy variables capturing local government urban policies. While valuable, this analysis is limited by the quality of the survey data and by the measurement of informality (occurrence rather than size of informality in sample cities). Thus, proposals are expected to offer improvements in data collection methods, the measurement of informality and econometric models for estimating informality. The proposed study should also aim to explore and identify practices that have successfully been managed to overcome these constraints in the region and/or elsewhere. Projection 3 included in the potential scenarios should be used as an input to this exercise.

C. The political economy of the property tax

The objective of this section is to examine the nature and process of political economy factors and assess the impact they have on property tax revenue productivity in LAC. Several political and bureaucratic dynamics pervade property taxation. The most prominent are the relationship between local service delivery and tax compliance by citizens and the bad fiscal incentives created by intergovernmental fiscal transfers. Other factors include the politics of tax exemptions, valuation assessments and cadastral updating; yardstick competition and local elections; and factor mobility and tax competition.

Based on the analysis of trends observed in the country, the study must identify and provide empirical evidence on the extent to which political economy restrictions inhibit the maximization of property tax revenue in the region and suggest policy alternatives to overcome them. While some are focused on various local taxes other than the property tax or general local taxation, the following empirical studies on other countries may be useful: for tax compliance, Fjeldstad and Semboja (2001) and Fjeldstad (2001) in Tanzania, and Fjeldstad (2004 and 2005) in South Africa; and for intergovernmental transfers, Iregui et al. (2003) and Chaparro et al. (2005) in Colombia. Also useful are the studies developed under the sponsorship of the IDB following the methodology of assessment of policymaking processes (IDB 2006).

d. Case studies on property tax: successful and unsuccessful experiences in LAC

The purpose of the case studies is to generate an in-depth understanding of the contextual factors that matter for property tax revenue performance in LAC. More specifically, the qualitative inquiry should shed light on how the local context within which property taxation is implemented determines the relative success or failure of subnational governments in improving property tax collection.

The case studies should examine institutional and governance structures underlying property taxation and the incentives that influence the behavior of key actors at the local level in the selected cases. While the range of factors to be explored is large and determined by a review of the literature, the following issues are expected to be included in the inquiry: accountability mechanisms and relationships, rent-seeking activities, local government technical, financial and governance capacities, and citizen engagement in political decision-making processes, among other issues. While the primary focus of the analysis is the local level, country-level political and bureaucratic dynamics and relationships across levels of governments should also be considered.

The studies proposed should use rigorous qualitative research methods to address the study question. Researchers are expected to use methodologies similar to the Embedded Case Study and a “two-tail design,” selecting cases (municipalities) deliberately from two extremes (one good and one poor performer in each country), seeking confirming and disconfirming evidence. The proposal must explain the sampling strategy and the selection criteria used to select the cases, which must consider at least two municipalities with similar conditions within a country but different performance.

e. Property tax challenges and alternatives

This final section seeks to devise ways to improve the revenue productivity of property and land taxation in each country. Based on empirical evidence collected around the world, the goal is to identify a combination of orthodox and heterodox measures that deal better with the factors shaping property and land revenue performance in the particular context of the country. On the one hand, the research paper should identify, assess and propose improvements to the traditional property tax model. Innovative tools to improve tax collection, valuation assessment, and enforcement, as tried out in similar contexts, for instance, could provide interesting insights into how to improve revenue performance as expected. On the other hand, the study should identify and analyze feasible alternative models of property and land taxation that could be more effective in the presence of high informality (tenancy, property rights and settlements) and weak local institutions in the region.

II.3.d Budget

The IDB will contribute up to **US \$ 25,000** for each country study.

II.4 Environmental Taxes in LAC: Potential and Distributive Consequences

II.4.A Background and Justification

The economics literature has since Pigou (1920) recognized that externalities can be “corrected” by imposing a tax on the polluter, such that the polluter will reduce the amount of emissions generated and therefore internalize the externality it generates on the agent facing it. Since then many economists have advocated the uses of taxes to restrict pollution and reduce environmental damages.

The idea of taxing pollution has also been attractive since it would be taxing “bads” instead of “goods,” therefore allowing a reduction in the inefficiencies that arise from normal taxation. Moreover, advocates also mention the “polluter pays” principle in terms of paying for the use of scarce resources such as clean air or water in the case of air and water pollution. Thus taxing “bads” puts a price on pollution and thus generates the correct market signals for undertaking activities that generate pollution. The theory of environmental taxation has been summarized in several valuable surveys. Baumol and Oates (1988) present the main model and develop the ideas surrounding environmental taxation. These ideas are extended by Cropper and Oates (1992), who summarize the knowledge of environmental economics up to that time. More recent work by Revesz and Stavins (2007) on environmental law and policy and Stavins (2007) on environmental economics brings the knowledge up to date. The main results summarized in these works are that taxes can be an efficient mechanism to control pollution as presented by Pigou (1920). For this to be the case, however, a number of non-trivial assumptions are required, and when these assumptions do not hold, taxes may be an inefficient way of attempting to solve an environmental problem. As such they could also be used to replace other inefficient taxes.

Environmental taxes also have a great potential for generating new streams of revenue. The OECD environmental instruments database presents data on environmentally related taxes for OECD countries. Measured against GDP, the revenues from environmentally related taxes come to an average of 2-2.5% of GDP, but the differences among countries are enormous. Whereas tax revenues in the Nordic countries (e.g., Finland, Norway, Denmark) and in Turkey reach up to 3% of their GDP, in Chile, Mexico, Canada and the United States the comparable figure is only 1% or even less. The arithmetic average (of revenues in per cent of total tax revenues) of all OECD countries varies between 6-7%. The collected amount varies not only depending on the country but also on the tax base. The OECD database includes 375 environmentally related taxes in its member countries (not including fees and charges). These can be further divided corresponding to the tax base: 40% (150 taxes) out of 375 taxes is levied on energy products followed by 33% levied on transport/motor vehicles. Taxes on waste (either product related or disposal) constitute the third biggest tax position (in terms of *number* of taxes, not amount collected). Nonetheless, there are several changes since then, especially concerning the variety and total number of levied taxes. Fuel taxes comprise a broader range of different fuel bases like biodiesel or LPG which were of less importance 15 years ago. In the field of waste taxes, a notable widening in tax bases can be observed; in particular, since

1995 increasing environmental consciousness and a growing interest in green behavior have been accompanied by the introduction of taxes on different types of (hazardous) recyclable packages.

Acquatella and Barcena (2005) summarize the state of the art in terms of green tax reform in LAC, and two striking observations arise from their work. First, there is very little knowledge of the potential revenue from green taxes in LAC, and second, there is a lack of hard data regarding current taxes collected. The book only looks at three case studies for Brazil, Colombia and Costa Rica and focuses only on certain fiscal instruments with environmental impacts. It also deals with the process of undertaking a green tax reform. Some evidence from developed countries is presented, in which a gradual approach is recommended, but no formal model of how to undertake a green tax reform is presented.

Data on the actual environmental effectiveness of these taxes are lacking for several reasons. First, most of the studies and collected statistics refer to developments and experiences that are too recent to allow assessments of their long-term effects. Second, as taxes always interact with other economic instruments it is hard to isolate the marginal effect of an environmentally related tax. The overall result is the fact that environmentally related taxes do cause a change in demand behavior depending on the elasticity of the product. For instance, the main revenue source—energy—displays rather inelastic demand in the short term; nevertheless, its elasticity of roughly -0.13 to -0.26 causes a certain reduction in energy demand. In the long run the outcome is even higher (OECD 2000). Depending on the estimation method the outcomes vary significantly in the case of gasoline.¹⁶ The short-term elasticity lies between -0.15 to -1.07. While these analyses do assure a certain behavioral change in demand, they are not precise enough to predict with accuracy the outcomes of any tax.

Some studies in OECD member countries have come up with concrete measured results in terms of consumer behavior, pollution, and other variables:

- The CO₂ tax in Denmark caused an emission reduction of 6% within nine years (from 1988) according to the Nordic Council of Ministers (2002) while the economy grew by 20%. Another emission related tax in Sweden, the charge for NO_x emissions in combustion plants, can also be considered successful. The levied revenues are repaid to the firms depending on their energy efficiency. The high tax rates and the incentive to become more energy efficient resulted in a 50% NO_x emission reduction since 1990. However, possible negative side effects should also be considered; as in the case of Sweden, the emission of other pollutants which were not levied by the tax, increased.
- The green tax reform in Germany also seems to have certain environmental impact. The result was a general energy reduction and a measurable CO₂ emission reduction by 2-3% compared to the status quo without tax reform.

¹⁶ Dynamic and static estimation methods are both used for elasticity measurements depending on whether it is necessary to present changes over a certain time period or an undefined time horizon. The outcomes vary significantly.

- Bruvoll and Larson (2004) examined the environmental impact of carbon taxes in Norway using an applied general equilibrium simulation. Interestingly, they showed a general CO₂ emission reduction of 14% from 1990 to 1999, but only 2% was due to the carbon tax. The 14% CO₂/GDP emission reduction was predominately explained by lower energy intensity and a different energy mix.
- Ireland introduced a tax on plastic bags in 2002 which had an outstanding impact: plastic bag consumption was reduced by 90% inter alia owing to this tax. As the introduction of recyclable bags is also a current issue in the United States and elsewhere, further investigation or comparative studies could be interesting (OECD 2006).

As mentioned above, not all taxes have the desired positive environmental impacts, and some even work negatively. To compare reliable data and statistics on tax impacts, it is necessary to look at each tax individually incorporating different measure methods, tax exemptions and comparative values.

In summary there are several areas of research for LAC countries that deserve a closer look. First, as mentioned above the potential for green tax revenue in LAC should be quantifiable in terms of its total potential, and by instrument, both in the short term (static effect) and the medium term (dynamic effect). Second, on this basis a potential for double dividend analysis could be performed for each country, given that this is an empirical issue.¹⁷ In both these exercises winner and losers can be identified, and a political feasibility analysis could be also undertaken. Third, the newest available data on tax revenues according to the tax base date back to 1995. The OECD dataset shows the general revenue division between transport, waste and energy-related taxes has not greatly changed much. As a result of a growing environmental awareness and newly emerging technologies, however, there is a greater variety of tax bases, especially concerning waste-related or fuel taxes. An analysis of the introduction of new taxes (e.g., on recyclable packages) in terms of their effectiveness and their contribution to total environmentally related tax revenues would be welcomed.

II.4.B Objectives

The general objective of this project will be to increase knowledge on environmental taxation in the LAC region. In particular, studies are expected to address one or more of the following questions.

1. What is the potential of environmental taxes as a source of revenue for LAC countries?
 - a. How much do they collect or could they collect?

¹⁷ The double dividend hypothesis basically states that a green tax reform, if accompanied by the reduction of other distortionary taxation, may be achieved at a near zero social cost for the economy. Goulder (1994) summarizes the basic concept: eliminating or reducing the inefficient tax increases economic activity and thus the effect of an environmental tax on economic welfare may be positive, thus providing a double dividend. The first dividend is improved environmental quality, and the second is higher economic activity. In any case, the literature seems to suggest that this is an empirical rather than a theoretical question, and therefore potential for double dividends may vary from country to country and from reform to reform.

- b. If a new proposal is analyzed, how would it affect revenue streams from other taxes?
2. What are the economic and environmental impacts of (existing and/or potential) environmentally related taxes in LAC?
 - a. What are the economic impacts for different sectors/consumers and in the aggregate?
 - b. What are the environmental impacts at the local and national level?
 - c. Is there the potential for emission leakage or for an increase of other pollutants?
 - d. Are there cross-boundary effects (such as pollution into other countries)?
 - e. In terms of revenue, how much do the taxes collect?
 - f. From an administrative perspective, how costly is it to collect these taxes?
3. What type of environmental tax reforms could be introduced to increase social welfare?
 - a. Is there a clear environmental tax reform that produces a double dividend in the country?
 - b. If so, what is the main obstacle to implement such a reform?
 - c. Political economy issues are generally a problem in any tax reform. Which special interest group(s) are likely to be net losers in this exercise, and what could be done to reduce losses?

We welcome proposals to assess current tax structures as well as proposals for new taxation. Experimental, quasi-experimental or lab-experiment methods are acceptable. We are also open to proposals using econometric analysis, CGE models, or case studies. However, we strongly encourage teams to propose novel ideas that have not yet gained much attention in LAC countries. Proposals that cover more than one country will be preferred over single-country studies.

II.4.C Scope and Methodology

Proposals should provide information on how the following background information will be gathered, as well as the sources of information that will be used to address these issues:

1. Review and description of environmental (or environmentally related) taxes currently in effect in the country or countries.
2. Review and description of the environmental situation and a summary of the main environmental laws/regulations in place or under consideration.
3. Contextualization of the current situation in light of international experience with environmental tax reform.

The research proposal must clearly state the questions to be addressed. It must also explain in detail why these research questions are of interest for the country and more generally for the LAC region, whether in terms of new knowledge or replicability. The proposal should also discuss the limitations of the analysis and define the scope of work, whether focusing on one country or several countries, and the topics it will investigate.

Each research proposal should outline in detail the methodologies and databases it proposes to utilize in analyzing the questions above. The soundness of the proposed methods of analysis will be an important criterion guiding the selection of the proposals for the project. In general, the case studies will be expected to include simulations of the revenue impact of alternative reform.

The research project must discuss its major findings and address potential issues with regard to future implementation of similar proposals if analyzing a past event or implementation issues that may arise from carrying out a tax reform. Moreover, the project must address issues of replicability at least within the country or countries studies, as well as shed light on issues that may arise when similar proposals are implemented elsewhere. The proposal should anticipate areas in which this issue calls for particular attention.

II.4.D Budget

The IDB will contribute up to **US\$25,000** for each study, depending on the scope of the work proposed. As mentioned earlier, we strongly encourage researchers to present proposals covering more than one country. Projects that cover one topic in several countries are preferred over single-country studies covering several topics.

III. Selection Criteria

Research institutions only may present proposals. *Proposals may be accepted fully or partially* by sub-projects. The final number of proposals accepted will depend on the quality and the proposed budget of the proposals received. As mentioned before, proposed budgets will be evaluated taking into account the scope of work proposed. Project proposals that seek extra funding to complement financing by other institutions are strongly encouraged.

For each sub-project, proposals should include a detailed background section and literature review, data templates (in Excel format) to be used in the study, with a preliminary assessment of data availability, and a detailed description of the methodologies and empirical strategies to be used. The bibliography of this call for proposals lists several references for the empirical strategies used in the literature.

All papers and reports produced under this Research Network Project will be considered background material for the flagship report of the IDB Development in the Americas, tentatively titled **“The Future of Taxation in Latin America”** due for publication 2012. Final papers will be considered for dissemination as IDB working papers and may be included in one of the books or special journal issues on taxation in LAC to be published with the support of the IDB. For studies with only IDB funding, other forms of dissemination or publication should be explicitly approved by the coordinators until the journal issue option has been fully defined. Proposals may include suggestions for further dissemination of the final version of the paper and its policy implications.

IV. Proposal Submission

Research institutions interested in submitting a proposal should pre-register before **May 16, 2010** by [clicking here](#). If unable to pre-register before the due date for proposals, please send an email to red@iadb.org. **Proposals are due Wednesday, June 15, 2011.**

Proposals should be submitted using the [Web Submission Form](#). Please note that there are two options within the submission form: one for institutions and another for teams of individual researchers. **Please make sure to choose the institutional form.**

The following information will be required for submitting your proposal:

- The proposal with all the technical aspects involved in the development of the study, based on the Terms of Reference outlined in this Call for Proposals.
- A budget indicating the time and resources that will be used within the context of the research work plan *for each sub-project*. **The proposal and corresponding budget must be sent in separate files.** The budget proposed should disaggregate items financed by the IDB contribution and those financed by the research institution. The budget should distinguish among amounts assigned to professional honoraria, “overhead” and other major categories of research expenditures.
- The name and Curricula vitae (three pages maximum per researcher) of the research leader and other researchers involved. The research team should demonstrate its ability to meet the objectives of the project, including relevant experience. Please note that subsequent substitutions for researchers originally specified in the proposal may be made with prior approval from the project coordinators, but the research leader (of each sub-project) should lead the entire project until its full completion.
- Institutions must provide the name and contact information of its legal representative, with authority to sign contracts with the IDB, if selected to conduct the study.

Note: ALL proposals and research papers should be submitted in English.

V. Coordination and Schedule

The project will be administered by the Research Department (RES), in close coordination with the Institutional Capacity and Finance Sector (ICF) of the IDB. The Advisory Committee members are Eduardo Lora (IDB), Vicente Fretes (IDB), Teresa Ter-Minassian (IDB) and Mario Marcel (OECD).

IDB Technical Coordinators are:

- **Understanding the Cyclical Behavior of Fiscal Revenues**
Ana Corbacho & Gustavo García
- **Fiscal Revenues and Efficiency in LAC Non-Renewable Natural Resource Sectors**
Andrew Powell & Osmel Manzano
- **Potential and Challenges of the Property and Land Tax in LAC**
Jaime Bonet & Rafael de la Cruz
- **Environmental Taxes in LAC**
Sebastián Miller

The tentative schedule of activities is as follows:

- **May 16, 2011:** Due date for **pre-registration**
- **June 15, 2011:** Due date for **receiving proposals**
- **June 22, 2011:** **Announcement of selected research proposals.**
- **August 1-3, 2011:** **First Discussion Seminar** in Washington, DC, to discuss methodologies, data availability and strategies.
- **September 30:** **Discussion of a preliminary report** with a commented index of the research paper via videoconference.
- **October 21, 2011:** Due date for receiving a **first draft** of research papers.
- **November 30, 2011:** Deadline for **final version** of the research papers, including a summary that discusses policy lessons, and the datasets utilized by the study.
- **December 28, 2011:** Deadline for receiving an edited version of the research papers, following the Bank's Publications Protocol, for publication as a Working Paper.

VI. Financial Aspects

The budget for each of the sub-projects is specified in Section II. Regarding the payments, the schedule will be as follows:

- 30 percent within 30 days of signing the formal agreement between the IDB and the respective research center.
- 35 percent within 30 days of presenting and approving the first draft of the research paper.
- 35 percent upon approval by the Bank of the final research paper and upon delivery of the datasets and "do files" utilized by the study to the IDB.

VII. Bibliography

VII.1 Understanding the Cyclical Behavior of Fiscal Revenues

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