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The Opportunity Cost of Financing *Progresa-Oportunidades*

RESEARCH PROPOSAL

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Content

Abstract

Despite the fact that Mexico has not only achieved macroeconomic stability but also preserved it after the financial crisis in 1995, it has failed to achieve sustained high economic growth and substantially reduce poverty and inequality. The *Progresa-Oportunidades* conditional cash transfer program, one of the three main pillars of the social development policy in Mexico, has shown to be an insufficient tool for poverty alleviation in the presence of low and uneven economic growth. This research protocol reviews the *state of the art* of pro-poor macroeconomics – focused on tax policy – and it attempts to assess the opportunity cost of financing *Progresa-Oportunidades* in the context of the regional setting of Chiapas. Pro-growth and pro-poor tax structures shall be also explored to finance social policy and to analyze alternative strategies to reduce poverty and enhance rural development and rural growth. Standard economic analysis tools and modeling will be used, specifically in a regional setting (Chiapas) to elaborate public policy recommendations for inclusive growth and poverty reduction in Mexico.

1. Introduction

Macroeconomic stability has been the main goal of the economic policy in Mexico since the structural change took place in the mid 80's towards a market-oriented economy. The economic strategy has been mainly focused on some specific variables such as inflation, exchange rate, interest rates, balance of payments, public finance, international reserves and foreign direct investment, among others. Despite the fact that Mexico has managed to substantially reduce inflation – it felt down from 46% in 1996 to 3% in the first quarter of 2011[1] (see table 1 and figure 1) – and achieve healthy public finance and macroeconomic stability after the financial crisis in 1995, the economic growth has remained low and poverty and inequality, as a consequence, have not been substantially reduced.

A market-led economic strategy and the implementation of reforms based on the so-called *Washington Consensus* (Williamson, 1990) to liberalize and open up the economy after the debt crisis in the 80's, were introduced in Mexico as the panacea to achieve stability, overcome stagnation and grow to reach a higher level of socio-economic development. However, the neoliberal-oriented economic policy has had contrasting results. On the one hand, the theoretical assumption that the free market leads to an efficient allocation of resources in a competitive and Pareto-efficient[2] economy has failed to generate full employment due to imperfect and costly information and incomplete markets (Stiglitz, 1991). The low-level growth and the persistence of unemployment accompanied by a reduced role of the State and the inefficient allocation of capital have not led the Mexican economy to grow and reduce poverty and inequality. On the other hand, however, those reforms successfully achieved the intended goal of domestic financial stability. The latter has proved to be an insufficient achievement in order to face the development challenges such as the low growth-unemployment-poverty trap, regional asymmetries, and socio-economic inequality.

According to the General Law of Social Development, the national social development policy should have as key objective, among others, the promotion of economic development with social meaning to generate and preserve employment, raise the income level and improve its distribution (LGDS, 2004)[3]. However, to achieve this goal there has not been created a multidimensional strategy, conditional cash transfer programs (CCTP), such as *Progresa* and *Oportunidades*, have been the main driver for poverty reduction. The empirical evidence, nevertheless, shows that CCTPs have been an insufficient tool for poverty alleviation in the presence of low and erratic economic growth. Almost half of the total population suffers from poverty – 50.6 million people out of 106.7 million – according to the latest available data (Coneval, 2008). The social development strategy has not achieved to reduce income inequality yet; it is still one of the highest within the OECD countries. Mexico occupies the penultimate position in the OECD income inequality ranking, just before Chile, as it is shown by figure 2.

[1] It is based on preliminary data from the National Institute of Statistics and Geography (INEGI).
[2] No individual can be made better off without making any individual worse off.
[3] It states nothing specific on poverty and inequality reduction as central objectives.

There is a clear need to rethink the strategies of economic growth and poverty and inequality reduction to implement a new alternative with a multidimensional approach, in which inclusive economic growth and its distributional pattern are oriented towards poverty and inequality alleviation. In this respect, this research proposal is aimed at proposing a new conceptual model in which a pro-poor fiscal reform, increased agricultural productivity, rural non-agricultural employment generation, and a labor market reform are interlinked creating a coherent incentive structure and a monetary flow to reduce poverty and inequality. In addition, this document also attempts to propose both, an applied general equilibrium model for fiscal reform analysis and a regional economic model to elaborate public policy recommendations to encourage inclusive economic growth and poverty reduction in Mexico.

2. Statement of the problem

Despite the fact that Mexico has managed to achieve macroeconomic stability after the financial crisis in 1995, the following issues still remain as some of the key obstacles to be overcome with the aim of reaching a higher stage of socio-economic development:

1. Low economic growth
2. Persisting poverty
3. High income inequality
4. Low fiscal revenue
5. Distorted labor markets

2.1. Low economic growth

The structural adjustment of the Mexican economy carried out in the 80s and 90s had the economic objectives of growth, low inflation, stable balance of payments, and income distribution with equity. It was believed that an austerity-oriented strategy in place would lead to achieve these goals (Williamson, 1990), (Williamson, 2003). Therefore, restrictive fiscal and monetary policies were applied along with the privatization of public enterprises. From the fiscal side, public expenditure cuts and elimination of subsidies were at the core of the strategy. On the other hand, from the monetary side, the Central Bank gained autonomy and established as its primary objective to ensure the stability of the purchasing power of the currency leaving out any responsibility to boost economic growth though the monetary channel. These policies of austerity, ceteris paribus, may help explain why the economic growth has been low since public spending cuts discourage the overall growth of the economy (Vickrey, 1996).

Mexico´s economy is characterized by its low growth. The average Gross Domestic Product (GDP) growth rate in the last two decades (1990-2010) was of 2.6% (see table 2), and if one focuses only on the last ten years the average

rate was of 1.9% while other emerging economies such as China and India grew at rates between 9 and 10%. In general, the economic growth trend has been very uneven (see figure 3) with two critical points: one, the financial crisis in 1995 and, second, the international financial crisis in 2009 in which Mexico´s GDP growth rate felt down dramatically. One reason to explain this pattern of growth is the low fiscal revenue-low public investment-low growth trap. The low fiscal revenue has limited the government´s capacity to invest and generate employment with the corresponding effects of positive externalities of the investment channel on the economic agents and sectors.

2.2. Persisting poverty

In Mexico there are two ways to measure poverty, one is the income poverty line[4], and two, the multidimensional approach (Coneval, 2010). In this first case, there are three poverty lines: food poverty, capabilities poverty and patrimony poverty. They are defined as follows:

i) **Food poverty**: incapability to acquire a basic food basket, even if the entire income available to the household were used just to buy said basket goods.

ii) **Capabilities poverty**: insufficiency of the available income to acquire the food basket value and make the necessary expenses in health and education, even if the total household income were devoted solely to these purposes.

iii) **Patrimony poverty**: insufficiency of the available income to acquire the food basket, as well as to make the necesary expenses in health, education, clothing, housing, and transportation, even if the entire household income were used exclusively for the acquisition of these goods and services.

Source: National Council for the Evaluation of Social Development Policy (CONEVAL).

According to the latest available data, there were 19.5 million people in food poverty, 26.8 million people in capabilities poverty and 50.6 million people in patrimony poverty in 2008 (Coneval, 2008). In other words, almost half of the total population[5] is poor (see figure 4). In the same year, the percentages of population living in poverty in urban areas were of 10.6%, 17.2% and 39.8% for food, capabilities and patrimony poverty respectively (see figure 5). In the case of rural areas, the percentages were 31.8%, 39.1% and 60.8% respectively (see figure 6). Poverty is predominantly located in rural areas.

[4] The National Council for the Evaluation of Social Development Policy (Coneval) uses the total current income.
[5] In 2008 the total population was estimated to be around 106.7 million people.

In the second case, the multidimensional poverty approach[6] points out that in 2008 there were 47.2 million people (that is, 44.2% of the total population) in multidimensional poverty[7] of which 36 million (33.7% of the total population) live in moderate multidimensional poverty and 11.2 million (10.5% of the total population) in extreme multidimensional poverty[8] (see table 3 and figure 7) (Coneval, 2010). In addition, 52 million people have an income below the welfare line[9] and 17.6 million people have an income below the minimum welfare line[10] (Coneval, 2010). The multidimensional poverty is mainly located in the central and southern regions of the country, as one can see in map 1. The States[11] with the highest concentration of poor people seem to be Chiapas with 76.7% of its total population in multidimensional poverty – that is, people deprived in at least one dimension (educational deficit; no access to food; no access to health; no access to social security; no access to basic services in the dwelling; lack of quality and spaces in the dwelling; and economic inequality measured by the Gini coefficient) and whose total income is not enough to meet their needs – Guerrero with 68.1%, Puebla with 64%, Oaxaca with 62%, Tlaxcala with 59.7%, Hidalgo with 56.4%, Michoacán with 54.6%, Tabasco with 53.8%, Zacatecaz with 52.2%, San Luis Potosí with 51.1%, and Veracruz with 50.7% (See table 4) (Coneval, 2010). According to the available data, moderate multidimensional poverty seems to be the predominant problem rather than extreme multidimensional poverty, excepting for the cases of Chiapas, Guerrero and Oaxaca where extreme multidimensional poverty remains very high (35.4%, 31.1%, and 27.6% of the population are extreme poor, respectively).

The *Progresa-Oportunidades* program covers nowadays about 5,818,954 households around the country which represents approximately 29 million people (Sedesol, 2011). In total, social programs – social security, social protection, and *Progresa-Oportunidades* – cover around 43 million people. *Progresa-Oportunidades* has a budget that accounts for 1.8% of the total programmable expenditure of the federal government. The social policy has allocated more resources to social protection than social security and public investment in recent years. Levy (2007) has documented that public spending (programmable expenditure) in social protection increased 110%, in social security 21% while in public

[6] The multidimensional poverty approach takes into account the following dimensions: current per capita income, average educational deficit, access to health services, access to social security, quality and space of the dwelling, access to basic services in the dwelling, access to food and degree of social cohesion. A person is in multidimensional poverty if has at least one social deprivation and does not have enough income to meet their needs (Coneval, 2010).

[7] People deprived in at least one of the following areas: education, health, social security, quality of the dwelling, basic services in the dwelling and food (social deprivation) and an income below the welfare line (Coneval, 2010).

[8] A person is in extreme multidimensional poverty if he/she is deprived in three or more dimensions and does not have enough income to acquire a food basket (Coneval, 2010).

[9] The welfare line allows identifying the population that does not have enough resources to acquire the required goods and services to meet its needs (food and non-food) (Coneval, 2010).

[10] The minimum welfare line allows identifying the population that, even using its total income to purchase food, could not acquire the indispensable for an adequate nutrition (Coneval, 2010).

[11] I cite only those States with 50% or more of their total population in multidimensional poverty. There are 7 more States with percentages close to the 50%. See table 4.

investment barely 0.8% between 1998 and 2006. Moreover, the social policy is mainly financed by two sources: oil rents and lower public investment (Levy, 2007). As a result, this has created, on the one hand, a great dependence on oil revenue putting at risk the sustainability and effectiveness of social programs and making the country very vulnerable to shocks in the oil markets. It has also had, on the other hand, social policy seems to have a crowding-out effect on public investment given the low federal fiscal revenue. In the same period, 1998-2006, the average GDP growth rate only grew at 1.8%, hindering the creation of new productive jobs within the formal sector and, in turn, poverty reduction.

This CCTP has been the core instrument to tackle poverty. However, despite all the efforts, poverty is still a persisting challenge to be addressed and in doing so, a comprehensive strategy needs to be implemented. This research proposal questions the opportunity costs of financing such program *versus* boosting agricultural productivity and investing on local markets' development in rural areas, among other pro-poor investment alternatives.

2.3. High income inequality

Inequality in its different forms is very high in Mexico. In this respect, I focus on the income dimension of inequality measured by the Gini coefficient. According to the latest available data on this topic, although inequality seems to have been falling between 2000 and 2008, it remains at high levels (see figure 8). In 2008 the Gini coefficient was as high as 0.48 which reflects a fairly unequal income distribution. Other emerging economies, such as China and India, have a lower Gini coefficient (0.41 and 0.36, respectively) compared to Mexico (World Bank, 2010). Moreover, table 5 shows the current per capita income inequality by deciles of people, from 2000 to 2008. The average current per capita income of the decile X is more than 26 times larger than that of the decile I, which is a clear evidence of the huge income inequality that still persists in Mexico. Moreover, within the OECD countries Mexico occupies almost the last position concerning income inequality levels, just before Chile that is in the last place of the ranking. The average Gini coefficient within the OECD countries is of 0.31 while Mexico's coefficient is of 0.48, far above the mean (see figure 2).

As it is shown by map 2, the income inequality is also, as in the case of poverty, mainly located in the southern region, predominantly in Guerrero, Oaxaca, Chiapas, Tabasco, Campeche, and Quintana Roo. Mexico has 12 States in which the Gini index ranges between 0.50 and 0.56, 9 States between 0.48 and 0.50, and 11 between 0.42 and 0.48 (Coneval, 2010). This shows the great social and regional inequality that exists in the country.

Inequality matters because it reduces welfare. The level of inequality may explain the impact of growth on poverty reduction (Bourguignon, 2003), (Klasen & Misselhorn, 2007). Therefore, it is important to implement a strategy for inclusive economic growth, that is, pro-poor growth accompanied by a pro-poor distributional change to address income and regional inequality so that growth may have a large impact on poverty reduction (Klasen 2009).

2.4. Low fiscal revenue

Another relevant challenge in Mexico is related to the fiscal revenue. According to the latest available data, the total federal government revenue (tax and non-tax) was of 16.92% as a share of GDP in 2009 (SHCP, 2010). In the same year the total tax revenue was of 9.55% as a share of GDP. This low fiscal revenue limits the capacity and potential of the federal government to carry out investment to encourage economic growth, employment generation, and poverty reduction. The lower the revenue is the lower the available resources for investment and transfers to the sub-national governments. This has serious implications on regional and municipal socio-economic development since subnational governments depend significantly on the federal transfers. States own revenue accounts in average for 7% of their total expenditure and federal transfers account for 88% of the total States revenues (Cabrera & Lozano, 2008). This pattern leads to a low-level equilibrium trap in which a small share of the States' income may be used for net and targeted investment (Nelson, 1956) leading to low growth, if any, and low income.

On the one hand, there exists low fiscal revenue at the federal level. But also, on the other hand, there is low fiscal revenue at subnational levels (State and municipal levels) which creates a serious dependency of local governments on federal transfers. Poor States such as Chiapas, Guerrero and Oaxaca have very low own revenues as a share of their total revenues of 6.14%, 4.16%, and 3.43% respectively (Cabrera & Lozano, 2008). As a result, investment in infrastructure and the provision of pro-poor public goods and services in lagging municipalities is scarce, insufficient, and/or deficient.

In the mid-80s was carried out the latest meaningful fiscal reform to introduce the value added tax in the Mexican fiscal system. Since then, there have been a few reforms to increase or reduce some tax rates or create new taxes but there hasn´t been any comprehensive fiscal reform to raise the overall fiscal revenue, solve the evasion and elusion problems, the inefficiency of the collection system, provide an incentive structure to join the formal sector, and eliminate the existing privileges in the special fiscal regimes. Mexico is the 7th largest oil-producing country (according to data available up to 2009), this may help to explain the complacency of the federal government and the lack of sense of urgency from the political parties to debate and reach the necessary consensus to approve a comprehensive fiscal reform.

In the current revenue-sharing system (lump-sum general grants) 20% of the federal revenue is mainly assigned based on the following criteria: population (45%), fiscal effort (45%), and equity (10%). The municipal governments cannot receive less than 20% of the resources transferred to each State (Cabrera & Lozano, 2008). With the aim of reducing regional and municipal socio-economic disparities, the current system of fiscal federalism should be revised to find new alternatives/formulas to distribute resources in such a way that horizontal and vertical disparities may be substantially reduced.

Decentralization with focus on education and health was implemented in Mexico in the 90s. However, fiscal decentralization to empower local governments to increase their own revenues is still a pending issue to be more closely revised. Decentralization in its three dimensions – political, administrative, and fiscal – may lead to poverty reduction (Von Braun & Grote, 2000). A comprehensive pro-poor fiscal reform should be focus on raising the federal fiscal revenue, empowering local governments through fiscal decentralization with the aim of reducing poverty and inequality at the municipal level, and rethinking the fiscal federalism to reform the current revenue-sharing system to include the productivity of capital and poverty levels in the criteria for allocating resources among the States.

2.5. Distorted labor markets

The Mexican labor markets are mainly characterized by high mobility of workers between formal and informal sectors and it occurs permanently regardless if the economy is growing at low or high rates (Levy, 2008). The interaction between social security and social protection distorts labor markets because they provide different benefits at different costs for workers (Levy, 2007). Hence, workers evaluate the aggregated wage they can earn and costs/benefits granted by the social security associated with the formal sector *versus* the aggregated wage they can earn and costs/benefits granted by the social protection in the informal sector. Due to the fact that social security's benefits have a cost for workers (contributions, subtracted from their gross wage) – that is interpret as a tax – plus their low quality and inefficient provision, in a context where social protection is provided at no cost, perverse incentives emerged leading to a reallocation of workers from the formal to the informal sector. In other words, when salaried workers in the formal sector undervalue social security, the total benefits of working within the formal sector are considered to be lower than those in the informal sector, leading workers to move to informality (Levy, 2005) distorting labor markets. As a result, the generation of this incoherent incentive structure leads to (1) lower mean productivity, (2) lower competitiveness in the formal sector, (3) larger informal sector, (4) regular mobility of low-wage workers from formality to informality (and vice versa), and (5) a failure of the social policy on poverty reduction (Levy, 2007). As it is shown by figure 9, the informal sector in Mexico is larger than the formal one, it accounts for 58% of the composition of the labor force while the formal sector represents 38.4% of the labor force.

Another important negative effect of this process is that people in the informal sector do not pay taxes contributing, thus, to the persistence of low fiscal revenue of the federal government hindering, in turn, the provision of public goods and services, and affecting public investment and economic growth. Also, informality makes people more vulnerable to internal or external shocks. Businesses in the informal sector face problems to grow and workers earn less, have an unstable income, and don't have some benefits such as day care, disability insurance, and occupational

hazard insurance (Levy, 2007). If any domestic or external crisis occurs these low-income workers could face problems to meet their needs and/or find another job.

In addition, the unemployment rate has increased in the course of the last ten years. Figure 10 shows the upward trend of the unemployment rate which increased from 2.6% in the second quarter of 2000 to 5.4% in the last quarter of 2010. This increasing trend in the unemployment occurred in the same decade in which the average GDP growth rate was the lowest in the last 20 years.

There is a clear need to carry out a labor market reform in Mexico aimed at creating a coherent incentive structure and institutional setting for, one, minimizing mobility of low and mid-wage workers from formal to informal employment, two, encouraging and facilitating the productive employment generation within the formal sector, and, three, encouraging micro and small enterprises to join and remain in formality.

3. Hypothesis

A coherent incentive structure and a monetary flow for poverty and inequality reduction can be achieved by applying a pro-growth and pro-poor tax structure to finance social policy in a regional setting through an effective allocation of federal transfers or grants.

4. Objectives

This research pursues the following objectives.

4.1. General objective

To assess the opportunity cost of financing *Progresa-Oportunidades* in the context of the regional setting of Chiapas. Pro-growth and pro-poor tax structures shall be also explored to finance social policy and to analyze alternative strategies to reduce poverty and enhance rural development and rural growth. Standard economic analysis tools and modeling will be used, specifically in the regional setting (Chiapas) to elaborate public policy recommendations for inclusive growth and poverty reduction in Mexico.

4.2. Specific objectives

1. To evaluate the opportunity cost of financing *Progresa-Oportunidades* and its implications for rural development and rural economic growth in a regional setting (Chiapas). In this context,

2. Pro-growth and pro-poor tax structures are also assessed by applying standard economic analysis tools and modeling to substantially raise the federal fiscal revenue to finance social policies for poverty and inequality reduction. And,

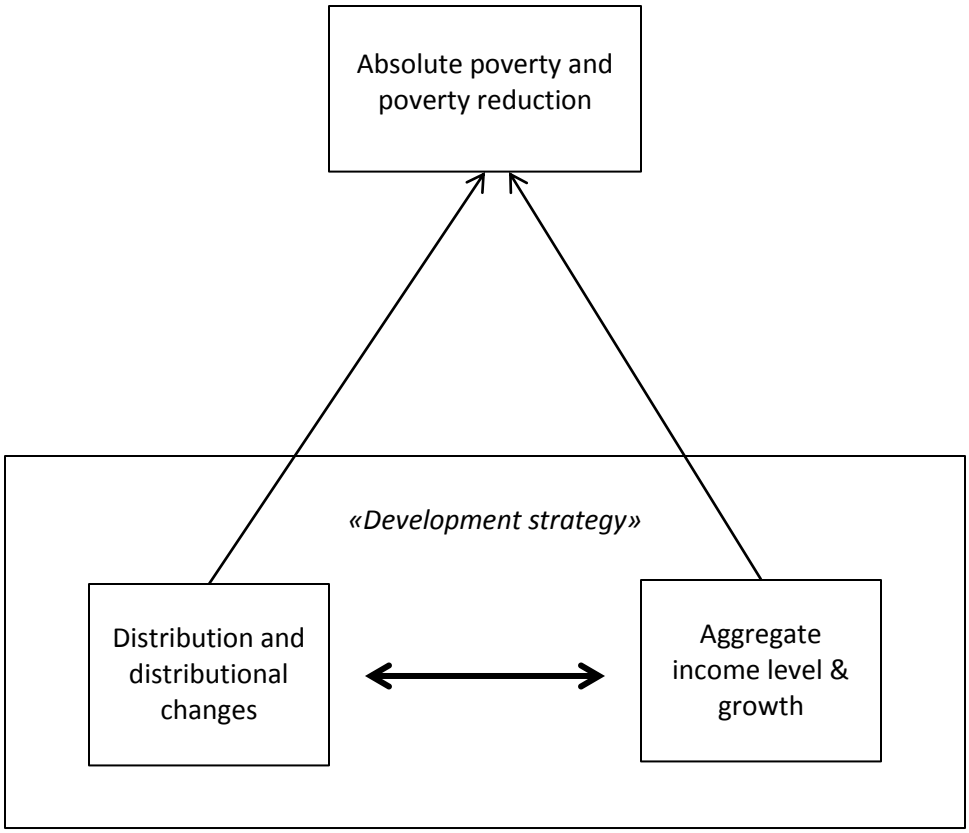
3. To explore policies to improve the federal system of transfers or grants to finance alternative strategies for poverty and inequality reduction in Chiapas.

5. Theoretical framework and Literature Review

This research proposal is inserted in the theoretical framework of Pro-poor Macroeconomics (UNDP, 2008). According to this conceptual tradition the government should play a relevant role to foster inclusive economic growth and poverty reduction. In this respect, some active public policies such as fiscal, monetary, trade and exchange rate policies are important since a market-oriented strategy should not be expected to generate pro-poor growth (UNDP, 2008). Specifically, a comprehensive and progressive fiscal policy to encourage socio-economic development and reduce poverty is required. Thus, public investment is a crucial fiscal instrument for pro-poor growth.

Also, this work believes that the rate of economic growth is a relevant determinant of the rate of absolute poverty reduction (Ravallion, 2004). However, in order to accelerate the process of absolute poverty reduction a strong combination of growth and distribution policies is required (Bourguignon, 2004). In this respect, this work follows the theoretical tradition of the "Poverty-Growth-Inequality Triangle" (Bourguignon, 2004) shown below in figure 11:

Figure 11: The Poverty-Growth-Inequality Triangle



Source: Bourguignon, 2006

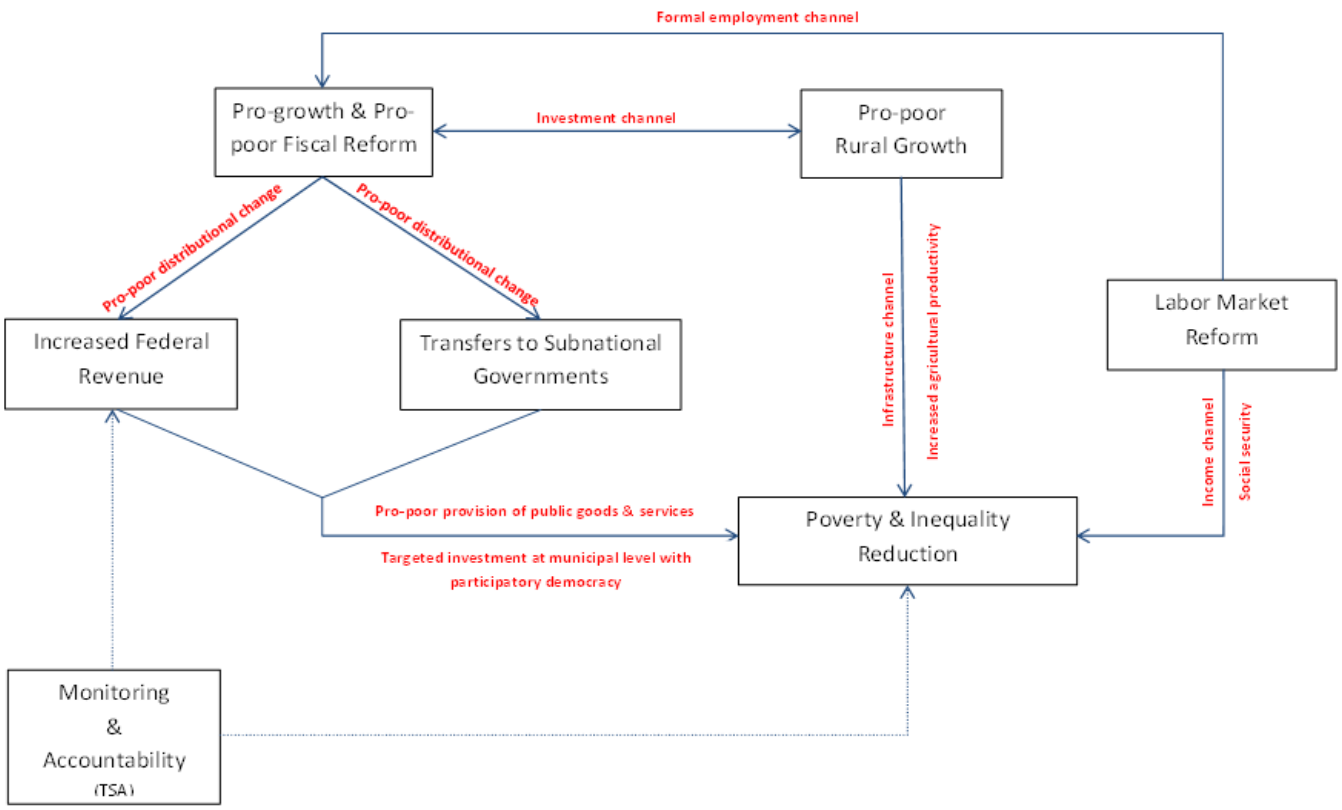
This triangle implies that absolute poverty reduction is determined by the interrelation between the growth of the mean income and changes in the distribution of income. Thus, the main challenge of any development strategy relies on the mechanics of growth and distribution. Hence, a key issue is to generate high overall economic growth from which poor people can clearly benefit by implementing appropriate policies leading to a pro-poor distributional change (Klasen, 2009). Inclusive growth, that is, pro-poor should be accompanied by a pro-poor distributional adjustment with the aim of reducing or alleviating poverty and inequality.

Pro-poor growth has seven main determinants: strong state, improved productivity in agriculture, improved asset base, reduced gender inequality, reduced inequality of disadvantage groups, reduced regional inequality, and political economy (Klasen, 2009). For the purpose of this research reduced regional inequality plays a central role to achieve the general objective. Among the policies to be implemented in order to achieve reduced regional inequality are: infrastructure policies, targeted public investment for lagging regions, support for migration and remittances, safety nets, and pro-poor fiscal reform (Klasen, 2009). Hence, pro-poor fiscal reform is considered as a key policy to achieve pro-poor growth and reduce poverty and inequality.

Inequality matters because it mitigates the impact of growth on poverty reduction. And in the presence of high inequality and high poverty, as it is the case of Mexico, the growth elasticity of poverty reduction is diminished (Ravallion, 2009). Therefore it is also important to carry out some public policies aimed at reducing high inequality. One way to achieve this goal is by investing in poor areas. Rural infrastructure for local market development, pro-poor provision of public goods and services, targeted subsidies for increased agricultural productivity, progressive taxation, and monitoring and accountability of capital allocated in poor areas may lead to attenuate inequality and reduce poverty.

This research protocol is proposing a conceptual model (figure 12) for poverty and inequality reduction in Mexico based on three pillars: a pro-growth and pro-poor fiscal policy, pro-poor rural growth enhanced by increased agricultural productivity and rural non-agricultural employment generation, and a labor market reform. A brief description of the intended goals by each pillar is introduced below.

FIGURE 12: CONCEPTUAL MODEL TO CREATE INCENTIVES FOR POVERTY REDUCTION



Source: Own elaboration

5.1. Pillar (1): Pro-growth and pro-poor fiscal reform

As it was already introduced in the problem statement, Mexico faces serious challenges in public finance. There is an unquestionable need to raise the tax revenue as a share of GDP in order to finance the socioeconomic development of Mexico. Therefore, a comprehensive pro-growth and poor fiscal reform is needed. It covers two main areas: 1) Federal fiscal revenue and spending; 2) Fiscal federalism. In general, it represents a fundamental ingredient of the conceptual model proposed by this research protocol. It is aimed at, first, increasing and improving the federal fiscal revenue in order to have larger available resources to carry out a strong investment policy to encourage overall economic growth, in general, and pro-poor rural growth, in particular; second, revising the current federal system of transfers and the whole system of fiscal federalism in order to tackle vertical disparities by raising the available resources to be allocated as direct transfers among the States and implementing a pro-poor distributional change towards a pro-poor allocation of resources in lagging regions and targeted municipalities. A preliminary introduction of what it is intended on each of the two main areas is provided below.

5.1.1. Area 1: Federal fiscal revenue and spending

Mexico requires a fiscal reform focused on both, revenue and expenditure. In the first case, revenue, a great number of studies have been done in order to analyze the variety of empirical methods – usually criticized because of the lack of theoretical foundation – models (often too abstract), and variables to determine the optimal level of taxation (Tanzi & Zee, 2000). However, there is an inconclusive debate to agree on what is the "optimal" way to determine the optimal level of taxation. It is, precisely, due to the complexity to determine the optimal tax level that it has been suggested that increasing attention should be paid to the tax structure and how revenue is used in order to achieve the pre-defined goals of tax policy in developing countries rather than to the so call "optimal" tax level itself (Tanzi & Zee, 2000). The expenditure side is as important, or perhaps more, as it is the revenue side (Bird, 2007; 2008). Therefore, this research proposal suggest two ways to set the optimal tax level for Mexico: one, by designing a spending needs model which will simultaneously set the revenue needs to be in equilibrium. It will be discussed here later below. Two, set as a revenue objective the target suggested by the UN as the minimum requirement for developing and emerging economies to finance their development process to become, at some point, developed nations. The latter is introduced below.

Mexico would be better off if it is able to **raise its tax revenue** around, at least, 22% as a share of GDP, as recommended by the UN Millennium Report (2005) if any developing and emerging country is willing to become developed (Bird, 2008). It implies that Mexico has to be able to increase its current revenue about, again at least, 12% as a share of GDP. According to the predominant consensus among fiscal experts, to reach this goal, three main alternatives can be identified: raise taxes, expand bases, and improve administration (Bird, 2008). Increasing emphasis

has been placed, however, to lowering tax rates particularly when the income tax is concerned. In this respect, this argument is based on the theoretical foundation that any tax on income or any increase on the income tax rate may affect savings and distort the decision making process to allocate capital in productive activities and/or sectors leading to lower output and welfare (Bird, 2008). Furthermore, raising corporate income taxes, for example, may discourage the pattern of growth and expansion of companies and impose barriers to small and medium enterprises to join the formal sector. There is a tendency to lowering tax rates –mainly in personal and corporate income taxes – rather than raising them, however, it has to be accompanied by broader tax bases if the overall revenue is to be increased.

Due to the current structure of the system, Mexico may start focusing on the two main tax sources of the fiscal system, income and consumption taxes. From the income tax side, one viable alternative for Mexico to raise its tax revenue is a **dual income tax system**. It attempts to improve the personal income tax by combining a progressive tax on labor income and a lower flat tax rate on capital income (Bird & Zolt, 2011). It has been also argued that it may act as a platform to introduce a deeper tax reform. One of the main attributes of this policy is that a tax system may gain flexibility, to face and react to tax competition under liberalized capital markets and an increasingly integrated world economy, without losing progressivity and equity. It implies that countries may be able to compete internationally in order to attract foreign direct investment by applying a competitive flat tax rate on capital income[12] while setting an independent set of progressive rates to tax labor income. An alternative to be considered is the possibility of implementing two different regimes to tax capital income. Thus, a low flat tax rate on capital gains combined with a higher flat tax rate on income whose source comes from ongoing businesses (Bird & Zalt, 2011). Under this scheme Mexico may be able to provide incentives for small and medium enterprises to join the formal sector, thus, reducing the informal economy and broadening the tax base.

Moreover, Mexico has an area of opportunity with respect to the current number of brackets – 8 – in the personal income tax. The empirical evidence on personal income tax reforms suggests that the corresponding revenue can be increased by reducing the degree of rate progressivity, cutting the number of rate brackets, and reducing exemptions and deductions[13] (Tanzi & Zee, 2000) (Bird, 2008). According to Tanzi & Zee (2000; 2001), only a few moderate progressive rates are required for the personal income tax structure. Therefore, a labor income tax in Mexico adjusting the degree of progressivity and the number of brackets may lead to higher revenue.

There is another important topic within the field of the income tax that deserves attention, the rate structure of the marginal income tax. This protocol also proposes an adjustment for Mexico in this respect. Recent literature has

[12] It has been argued that when reducing capital income tax rates with the aim of setting a flat rate to be accompanied by an independent set of progressive labor income tax rates, it is fundamental to simultaneously broadening the capital income tax base (Bird & Zolt, 2011).

[13] It has been argued that the personal income tax deductions can be replaced by tax credits (Tanzi & Zee, 2000). In doing so, equity can still be achieved if the political economy does not allow a reform of the personal income tax structure.

pointed out on the convenience to apply a marginal tax rate at broader levels in order to capture more income to be subject to this tax (Tanzi & Zee, 2000). Furthermore, it has been suggested that the top marginal income rate should not differ significantly from the corporate income tax rate with the aim of avoiding distortions – not only on markets but also on individuals' willingness to work – and disincentives to engage in entrepreneurial activities, hurting economic growth and the process of capital formation (Karabegovic, 2004).

Another area of opportunity in developing and emerging countries is how to tax financial income. It is particularly problematic for these countries to deal with this type of income because of tax administration constraints. Two specific subjects deserve particular attention, interest income and dividends. In the first case, one alternative to capture this income stream into the tax system is by applying a final well-targeted withholding scheme on interest income. Concerning the second case, it has been argued that a good option would be to exempt dividends or to set a low tax rate – at the same level as that of the interest income – to be applied by a final withholding scheme (Tanzi & Zee, 2000).

From the consumption tax side, Mexico may raise its tax revenue by adjusting the current Value-added Tax (VAT) structure and the excise system. On the one hand, VAT multiple rates are costly and complex to administer, this complexity is even greater when an inefficient administrative system is operating (Tanzi & Zee, 2001), (Bird, 2008a; 2008b). This research protocol is proposing two scenarios to be modeled and analyzed in order to determine what the best alternative is to increase the consumption revenue with equity: scenario one, a lower flat VAT rate while broadening the tax base; scenario two, a higher tax – compared to the current rate of 16% - of around 19% with exempting those products contained in the Mexican basic food basket in order to avoid hurting the poor. On the other hand, excises should play a more strategic and selective role in Mexico, that is, an excise system should be narrow and should target a few well-chosen goods whose consumption is likely to produce negative externalities. This system should have as a goal to generate revenue at the lowest possible administrative cost (Tanzi & Zee, 2000). This protocol proposes to search for a viable alternative to narrower and target specific good in the Mexican system.

A complementary alternative to raise the tax revenue is by broadening tax bases. Mexico should design a tax policy based on two elemental principles: symmetry and inclusiveness. The former refers to granting the same treatment to losses and gains – which is currently absent in the Mexican tax system which is mainly characterized by a lot of exemptions and privileges across different sectors of the economy – regardless the income source (Tanzi, 2000). The latter refers to the ability to incorporate – at some point of the income generating process – all types of income flows into the tax system. The absence of these basic principles creates distortions and inequities within the tax system. The elimination of exemptions or deductions (not both), and incentives, is essential in Mexico because they tend to narrow the tax base and have a negative impact on the progressivity of the personal income tax structure (Tanzi, 2000).

Tax administration plays an important role to increase revenue. In this respect the administration system in Mexico is still subject to be improved, there still exist areas of opportunity. There seems to be three essential elements for an effective tax administration: 1) the political will to implement an effective administration of the tax system; 2) a well-defined strategy; 3) adequate resources (Bird, 2007). The political economy is important to achieve an efficient and effective administration because such an improvement has to be based on a political consensus to implement a reform that may touch sensitive political interest or privileges of a predominant elite group. Even the best tax reform may fail to achieve its objectives if the political will is absent. Once the political economy is in favor of a tax administration reform to eradicate all type of privileges – beyond names, friendships, and spurious interest – an effective tax administration can be reached in Mexico by implementing the following steps: have a well-defined strategy; keep it simple; adopt a client-oriented approach to deal with taxpayers; prosecute defaulters; monitor and control corruption; build a list and record of taxpayers; and apply technology for managing purposes (Bird, 2007). As implementation relies on human capacities it is very important to keep the tax administration staff well-trained with firm moral principles and updated about international practices and how use the latest technologies.

As was briefly introduced at the beginning of this section, **expenditure** is an important component of this pro-poor fiscal reform. Expenditure matters and it matters as much, or probably more, as revenue (Bird, 2007). All fiscal attempts to reduce poverty should come from the expenditure side (Bird, 2008). Therefore, a good fiscal policy should not only focus on the revenue side but also on the expenditure one in order to make the necessary investments in lagging sectors and regions to increase productivity, boost economic growth and reduce poverty. Hence, this research proposal suggests that it is relevant for Mexico to focus on how revenue is used[14] and to develop a model of pro-poor public spending to be financed by tax revenue with the aim of achieving the specific goals stated herein. Two well-known examples of how this can be done were developed by Barro (1990) and Turnovsky (1996). Following this tradition, an expenditure model with a dual income tax and a consumption tax will be attempted and analyzed in the course of the research project described throughout this proposal.

Monitoring the use of financial resources is another pending issue in Mexico. It has been shown the importance and convenience for developing and emerging countries to design and implement a **Treasury Single Account** (TSA) (Ahmad, 2011). The main objective of it is to consolidate in a single account all governments' financial resources in order to guarantee transparency and full information concerning the use of the money. Therefore, a TSA seems to be an indispensable item within the Mexican fiscal system. It may, indeed, help reduce corruption practices and set up an accountability system to know the origin and distribution of resources across the three levels of government. With a TSA

[14] Tanzi & Zee (2000; 2001) have argued that it is most importantly for developing and emerging counties to focus on how revenue is used and the tax structure, rather than making unfruitful efforts trying to determine an "optimal" level of taxation since it is unlikely to be ever derived such an optimal level for any country.

information may be generated to know on what has been spent and for what purposes, and to measure results and productivity (Ahmad, 2011).

In sum, taxation matters and it does because although it cannot take the poor out of poverty it can make them poorer (Bird, 2007). It also matters because it is the pathway to strengthen the financial capability of central governments to finance public investment, encourage growth, reduce poverty, and reach a higher stage of socioeconomic development. In this respect, Rebelo and King (1990) have shown that taxation may affect long-term growth and lead to "growth miracles" if it provides the right incentives[15] for human and physical capital formation. The latter is reinforced in open economies with access to capital markets. Hence, it emphasizes the relevance to closely review the tax structure and rates. Moreover, there seems to be a positive correlation between the level economic development and the tax structure (Rebelo, 1993). It has been shown that the fiscal structure not only depends on income and the structure of the economy but also on scale of the economy. Scale is important to be considered when designing the tax structure.

Any tax policy should be designed taking into account some basic and general principles which, when applied correctly, may lead to avoid distortions and inequities: 1) symmetry; 2) inclusiveness; 3) neutrality; 4) equity; 5) simplicity (Tanzi, 2001). In addition, sustainability should also be considered. One ought to question whether the tax structure and its outcomes will be sustainable. Finally, minimizing the costs of taxation and design it according to international norms and practices are other important components of a good tax policy (Tanzi & Zee, 2000).

5.1.2. Area 2: Fiscal federalism

The second main area of the conceptual model is about fiscal federalism. In this respect this research proposal suggests that Mexico needs to revise the current system of fiscal revenue sharing. It consists of two funds, a general sharing fund (GSF) and a municipal development fund (MDF) (Ley de Coordinación Fiscal, 2009). Hence, the general sharing fund is integrated by 20% of the federal fiscal revenue, including revenue from oil extraction and mining. It is distributed according to the following formula:

$$P_{\mathrm{i,\,t}} = P_{\mathrm{i,\,07}} + \Delta FGP_{07,\mathrm{t}}\,(0.6C1_{\mathrm{i,t}} + 0.3C2_{\mathrm{i,t}} + 0.1C3_{\mathrm{i,t}})$$

$$C1_{\mathrm{i,t}} = \frac{\frac{GDP_{\mathrm{i,t\text{-}1}}}{GDP_{\mathrm{i,t\text{-}2}}}\,n_{\mathrm{i}}}{\sum_i \frac{GDP_{\mathrm{i,t\text{-}1}}}{GDP_{\mathrm{i,t\text{-}2}}}\,n_{\mathrm{i}}}$$

[15] If taxation does not provide incentives for the private accumulation of human and physical capital, it may hamper economic growth in closed and open economies (Rebelo & King, 1990).

$C2_{i,t} = \frac{\Delta IE_{i,t} n_i}{\sum_i \Delta IE_{i,t} n_i}$ With $\Delta IE_{i,t} = {}^{1}\!/_{3} \sum_{j=1}^{3} \frac{IE_{i,t-j}}{IE_{i,t-j-1}}$

$$C3_{i,t} = \frac{IE_{i,t-1}\, n_i}{\sum_i IE_{i,t-1}\, n_i}$$

Where:

$C1_{i,t}$, $C2_{i,t}$, and $C3_{i,t}$ are distribution coefficients of GSF from State I in the year in which the calculus is estimated.

$P_{i,t}$ is the revenue sharing for State $_i$ in year $_t$.

Pi,07 is the revenue sharing that the State I received in year 2007.

$\Delta GSF_{07,t}$ is the growth of the GSF between 2007 and year $_t$.

$GDP_{i,t-1}$ is the official Gross Domestic Product of the last year for the State $_i$.

GDPi,t-2 is the official Gross Domestic Product of the previous year defined by the previous variable for the State $_i$.

IEi,t is the information concerning the tax collection and local rights –it includes taxes collected at State and Municipal levels – of the State $_i$ in year $_t$.

$\Delta IE_{i,t}$ is a 3-year mobile average of the tax collection growth rate and local rights from the State $_i$, as referred by the previous variable.

N_i is the last official data on population from the State $_i$.

It is equivalent to population (45%), tax effort in the previous year (45%), and equity (10%).

Once the central government in Mexico has managed to raise their fiscal revenue, another relevant debate is about under what system, criteria, and principles the federal transfers should be assigned to subnational governments. In this respect, Ahmad and Searle (2005; 2006) have described a typology of transfer systems which is composed by the following alternatives: gap-filling transfers, whose main goal is to finance gaps between spending needs and revenues; revenue sharing, which is commonly used to tackle vertical disparities; special purpose grants, with the aim of financing specific projects (close-ended) or the continuity of them (open-ended) and tackle horizontal disparities; and equalization transfers, which may be over revenue capacity, expenditure needs, or based on both – revenue capacity and spending needs.

Some observation can be made from these different types of transfer systems. The gap-filling transfer framework does not provide incentives for subnational governments to raise their own revenue and manage their expenditures. The revenue sharing approach is carried out on the main source of revenue which may lead to greater horizontal disparities. The special purpose grants has been adjusted in developed countries towards a flexible sector conditionality system which grants discretionality to subnational governments on the spending in the specified sector. Nonetheless, it requires the design and implementation of a monitoring system to guarantee transparency and efficiency in the use of resources. Concerning equalization transfers, it has been argued that the type based on revenue

capacities and expenditure needs may be an interesting alternative to be applied in developing countries, because it may encourage efficiency and accountability, however, its sustainability may depend on the available financial resources (Ahmad & Searle, 2005).

Therefore, this research protocol attempts to emphasize the need in Mexico to revise the current revenue sharing system, and explore the degree of feasibility to introduce an equalization system based on revenue and expenditure needs with a results-based budgeting approach – withholding funds upon demonstration of results – focused on **raising the productivity of the allocated capital**. This approach may work effectively for public investment expenditure in a context where horizontal competition for funds is encouraged (Ahmad, 2011). In addition, it suggests the convenience to analyze the viability to design and implement a special purpose grants system for poverty reduction in order to achieve the goals stated herein. As a complementary step, it is suggested that a sectoral conditionality system focused on infrastructure, education, and agriculture be further analyzed to determine its convenience to achieve poverty reduction in Mexico.

5.2. Pillar (2): Pro-poor (rural) growth

Growth is a fundamental precondition for poverty reduction (Ravallion, 2004). Growth matters because it leads to higher income and wealth generation. It can be enhanced by private and public investment. Public investment emerges in the conceptual model described above as the main engine of growth financed by raising the tax revenue in Mexico. Public spending and investment do not imply any type of borrowing to boost growth in this proposal. Moreover, economic growth and saving rates may experience an increase with productive public spending. A challenge, however, is to set up the appropriate institutional, physical, and human resources to make it sustainable. In general, and under certain circumstances, public investment seems to have a positive correlation with the economic growth rate (Barro, 1990). In the endogenous growth literature (Turnovsky, 1996) focused on the role of fiscal policy, it has been shown that an "optimal" fiscal strategy may require a greater role of the consumption tax to finance public expenditure and, in turn, trigger economic growth

Developing countries need to engage in a pro-poor growth process, that is, overall growth from which the poor can benefit (Klasen, 2009). According to the World Bank there are two definitions of pro-poor growth. First, relative definition: pro-poor growth compares changes in the incomes of the poor with respect to changes in the incomes of the non-poor. Second, absolute definition: growth is considered to be pro-poor if and only if poor people benefit in absolute terms. This research protocol uses the absolute definition.

As it has been shown above, Mexico concentrates most poverty in rural areas located in the southern part of the country. Although poverty increased in urban areas because of the last international financial crises, rural areas remain

still as the predominant lagging zones. Therefore, Mexico requires implementing a pro-poor rural growth strategy. Pro-poor rural growth, accompanied by pro-poor distributional policies, is aimed at reducing poverty and inequality through three main channels: investment, increased agricultural productivity, and employment. Enhanced investment in infrastructure in lagging rural areas, and eventually in urban areas as well, to encourage local market development and attract direct private investment.

5.3. Pillar (3): Labor market reform

The third relevant component of the conceptual model is a labor market reform. It is aimed at creating an incentive structure and institutional setting for, one, minimizing mobility of low and mid-wage workers from formal to informal employment, two, encouraging and facilitating the employment generation within the formal sector, and, three, encouraging micro and small enterprises to join formality.

5.4. Logic and functioning of the conceptual model

This conceptual model attempts to create a coherent incentive structure between a comprehensive fiscal strategy, pro-poor rural growth and the labor market for poverty and inequality reduction. Furthermore, it is a monetary flow with increased resources for targeted investment at the municipal level incorporating participatory democracy as a mechanism to include the poor in the design of specific public investment programs. This conceptual model requires two fundamental elements for a successful implementation which also may be seen as limitations, a monitoring and accountability system (a Treasury Single Account) for fiscal administration to guarantee transparency in the use of resources, and the political will to implement a pro-poor strategy to encourage socio-economic development.

It is a non-accelerating inflation strategy. It is focused on the sub-utilized capacity of the fiscal system to generate additional financial resources by planning, designing and executing a comprehensive and pro-poor fiscal reform to raise the aggregate federal tax collection and revise the current system of transfers to subnational governments. Hence, public investment is not financed by either implementing an expansionary monetary policy or increased borrowing; therefore, no crowding out takes place. No spurious and current spending is considered. Increased public financial resources are channeled to benefit the poor through targeted public investment at the local level in infrastructure, provision of public goods and services, increased agricultural productivity, and local market development with its corresponding positive externalities, such as lower transaction costs, for attracting private investment.

6. Research questions

The main research questions to be addressed by this research project are:

1. What is the opportunity cost of financing *Progresa-Oportunidades* and its implication for rural development and rural growth?
2. How to raise the federal fiscal revenue in a sustainable manner by applying a pro-growth and pro-poor tax structure to finance social policy for poverty reduction in a regional setting (Chiapas)?
3. How to achieve an effective allocation of federal transfers or grants in a sustainable manner for poverty and inequality reduction in a regional setting (Chiapas)?

7. Outline of chapters

This research proposal suggests the elaboration of three essays as follows:

1. Assessing the opportunity cost of financing *Progresa-Oportunidades* and its implication for rural development and rural growth: the case of Chiapas.

2. Pro-growth & pro-poor tax structures to finance social policy to reduce poverty and enhance rural development in a regional setting (Chiapas).
   2.1. Assessing federal systems of transfers or grants for poverty and inequality reduction in Chiapas.
   2.2. Evaluation of alternative strategies for poverty and inequality reduction in Chiapas.

3. Policy recommendations for poverty and inequality reduction in Mexico.

8. Definition of terms and concepts

There is a debate on how to define pro-poor growth. According to the World Bank, there are two definitions of pro-poor growth. First, relative definition: pro-poor growth compares changes in the incomes of the poor with respect to changes in the incomes of the non-poor. Second, absolute definition: growth is considered to be pro-poor if and only if poor people benefit in absolute terms. This research protocol uses the absolute definition.

In this research proposal poverty reduction, on the one hand, is addressed in absolute terms. And, on the other hand, inequality is approached from the income dimension.

9. Scope and limitations

The conceptual model that is proposed by this document may face at least two limitations. First, there is a need to incorporate a monitoring and accountability system (a Treasury Single Account) for fiscal administration to guarantee transparency, efficiency, and legality in the use of public resources. Second, a pro-poor strategy requires the political will

to be executed. Hence, the political economy and the distribution of power play an important role in the process to execute this proposal.

10. Methodology

This research protocol shall use:

1. Standard economic analysis tools. And,

2. Modeling

Data collection:

1. Primary data: interviews with chief economic advisors in Chiapas

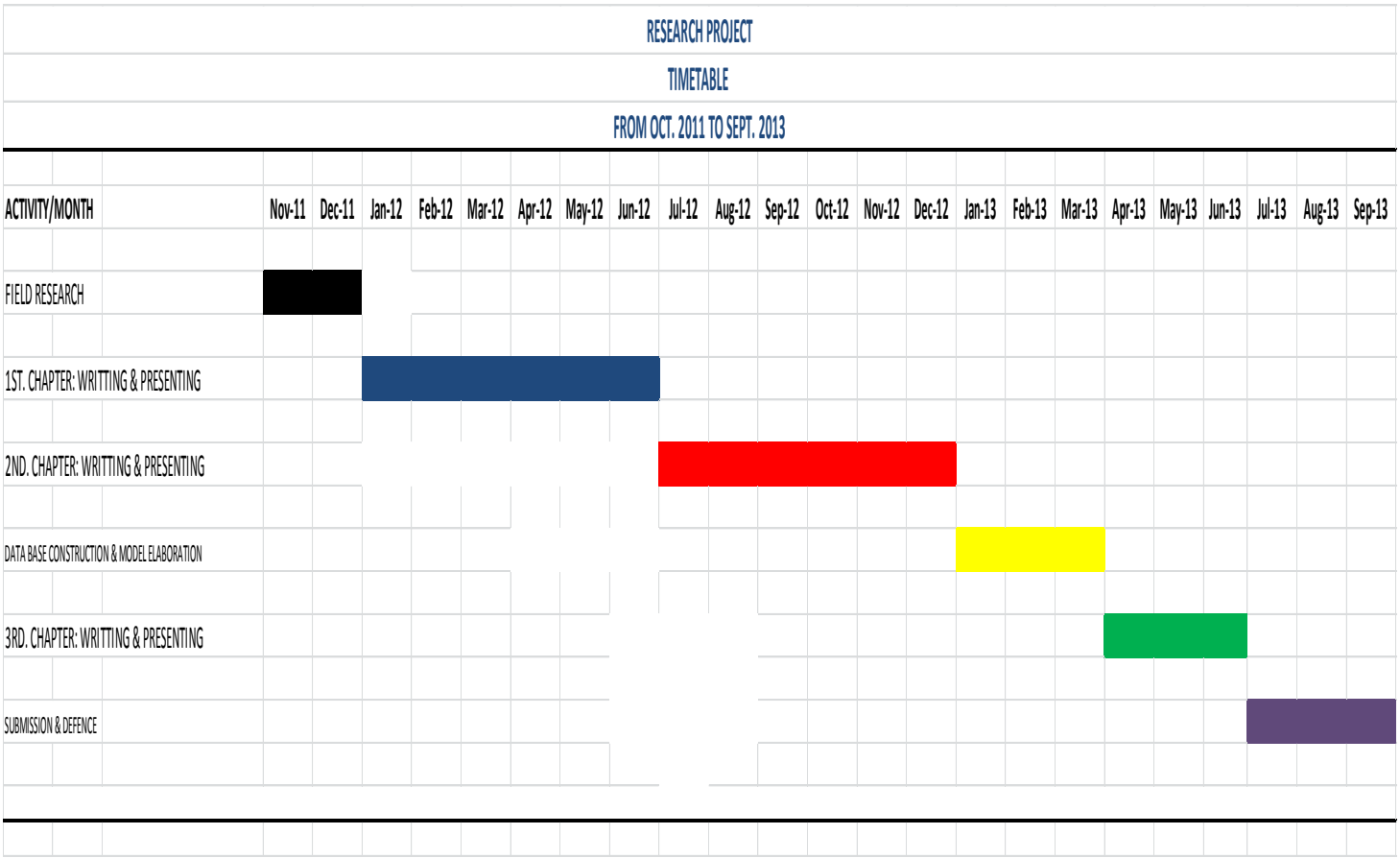
2. Secondary data
   Sources: CONEVAL, INEGI, SHCP, SEDESOL, BANXICO, World Bank, ILO.

11. Budget & schedule

The intended research requires the following preliminary budget:

Name of the student: **José Luis Viveros Añorve/ZEFb**					
2011 FIELD RESEARCH BUDGET					
Covered by:	**DAAD***		**Fiat panis foundation / ZEF**		
Item	**2011**	**2012**		***Total (Euro)***	**Subtotals**
Travel					**4990**
Airflight				1500	
Train, bus				10	
Car, motorbike rents				600	
Fuels for motorbikes				0	
Accommodation at the study sites (Mexico City)				1000	
Hotel accommodation for my field stay (Tuxtla, Chiapas)				1600	
Hotel accommodation for my field stay (San Cristobal, Chiapas)				280	
				0	
Operational costs					**200**
Rent for office (only in exceptional cases)				0	
Internet, telephon, Fax, postage				200	
International shipping of research documents				0	
				0	
Stationery materials					**200**
Paper, toner, ink,				100	
Photocopies				100	
Plotting cost				0	
				0	
				0	
Equipment, supply*					**500**
Small equipment (unit price below 400 €)				0	
Large equipment (unit price above 400 €)				0	
Handtools (shovel, ax, etc.)				0	
Tape recorder, data recorder, recording tapes				0	
Books, legal documents, etc.				400	
Maps, satellite images (historical and planning land use, etc.)				100	
Auger				0	
Fertilizer etc				0	
Survey material & equipment				0	
Map digitization				0	
External hard disc, GPS				0	
				0	
Research seminars					**0**
Travel				0	
Seminars				0	
Accommodation				0	
				0	
				0	
Personnel cost					**1000**
Lab assistant				0	
Interpreter / translator				0	
Field assistants, Labor				1000	
				0	
				0	
				GRAND TOTAL	**6890**

Timetable for the execution of this research project:



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