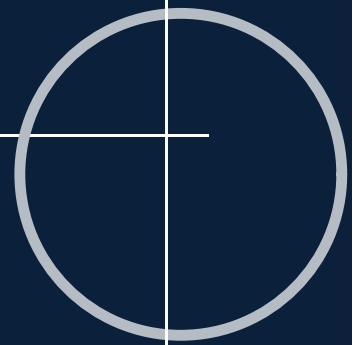


Reaping the Benefits of Work:

A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO



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A RESEARCH PAPER FROM THE CENTER FOR THE NEW ECONOMY



Reaping the Benefits of Work:

A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

Dr. María E. Enchautegui

Associate Professor

Department of Economics

University of Puerto Rico– Río Piedras

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Center for the New Economy
268 Ponce de León Ave., Suite 1003
San Juan, PR 00918
787-622-1120
787-622-1121
www.grupocne.org

Executive Summary

Puerto Rico has to overhaul its anti-poverty strategy, moving away from programs that create dependency towards programs that promote self-sufficiency.

Current government welfare programs are particularly ill-designed for working poor families. Moreover, regressive excise and Social Security taxes are detrimental to low-income families trying to make ends meet.

An Earned Income Tax Credit Program is a promising route towards improving the standard of living of Puerto Rico's low-income working families. Such a program would counteract regressive excise taxes as well as other regimes, such as sales and value added taxes. It would also break with dependency by promoting work. In fact, studies for the United States show that the EITC promotes labor force participation, and that it could be more effective than the minimum wage in reducing poverty.

An EITC for Puerto Rico fits well within various efforts now taking place in the government, including the Special Communities Program, the Workforce Investment Act, Temporary Assistance for Needy Families, and continuing efforts from the Treasury to reduce tax evasion.

Lessons learned from the last 25 years of the EITC program in the U.S. will be a valuable resource for the implementation of the program in Puerto Rico and can serve to address, early on, issues related to misreporting of income or other discrepancies.

Some of the specific findings for Puerto Rico in this study are:

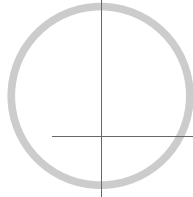
- The credit proposed in this study could increase employment by 20,000 workers and would benefit about 160,000 families and 289,000 children, most of whom are now living in poverty;

Executive Summary (continued)

- Employment outlets for these families could involve large government infrastructure programs such as the proposed Port of the Americas, the revitalization of urban town centers, the proposed Convention Center, and other projects within the Special Communities Program. The tourist and service industries, as well as self-employment, are other employment options for this population. Employment opportunities may be enhanced through training opportunities from the Workforce Investment Act and Welfare Reform programs;
- An EITC for Puerto Rico could lift low-income single mothers with one and two children from poverty and could reduce the poverty gap of married couples with children by at least 5 percent;
- The credit would cost from \$162 million to \$183 million depending on the labor force reaction. A conservative estimate of \$132 million will be returned to working families in the form of refunds.

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Chapter 1.

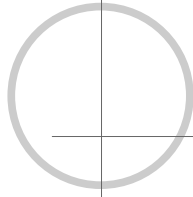
A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

Overview

In Puerto Rico, the labor force participation rate is low and the poverty rate is high. The labor force participation rate has been declining, with only 46 to 48 percent of the population over the age of 16 participating in the labor market. In the last 30 years, the percentage of families under the poverty level determined by the U.S. Census Bureau has been close to 50 percent. The main public policy used to tackle poverty has been a range of government assistance, primarily funded by federal programs. However, this approach has not reduced poverty, but has arguably perpetuated it. Due to the 1996 Personal Responsibility and Work Opportunity Reconciliation Act, eligibility for these programs became more difficult. A five-year life time limit for the Temporary Assistance for Needy Families (TANF) program means that families who have exhausted their limits have to be expelled from the Program. The Nutritional Assistance Program (NAP), the most widespread government aid program in Puerto Rico, is also limiting the number of beneficiaries and requiring work activities from some of its participants. Lastly, low-income working families continue to be left out in the cold by the government with little opportunity to get aid, while having to pay both income and regressive excise taxes. Puerto Rico has to look for diverse alternatives and more creative ways to alleviate poverty, for both non-working and working families.

Recent increases in excise taxes to balance the budget have been a further blow to low-income families. Excise taxes, already above 4 percent, are highly regressive, disproportionately impacting low-income families. Current discussions about tax reform in Puerto Rico have proposed alternate -- but equally regressive -- strategies, such as sale and value added taxes.

One strategy used in the United States to alleviate poverty that is acclaimed by researchers and politicians of different ideologies



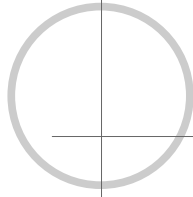
Chapter 1.

A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

A tax credit for low-income families fits well within various programs currently being considered by the government of Puerto Rico and presents an opportunity for linkages between them. An EITC can act as an incentive for low-skilled mothers that are no longer eligible for TANF to enter the labor force

for its effectiveness is the Earned Income Tax Credit (EITC). This credit, applied to federal income taxes, was adopted in 1975 and returned up to \$4,008 in 2001 to qualifying working families. The credit varies according to the size of the family unit and its earned income. The program is known for its ability to improve the living standard of low-income working families and for promoting work among low-income single mothers. Because it is given to working families, the credit is popular among politicians of different ideologies and the general public. Many states have opted to strengthen the program, applying an additional credit equal to a percentage of the federal credit (e.g. 20 percent of the federal credit).

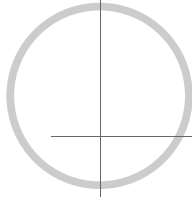
A tax credit for low-income families fits well within various programs currently being considered by the government of Puerto Rico and presents an opportunity for linkages between them. An EITC can act as an incentive for low-skilled mothers that are no longer eligible for TANF to enter the labor force, thereby contributing to the Department of the Family's ongoing efforts in this area. The relationship between these programs is such that, in the United States, the federal government allows states to use money from the TANF grant for Earned Income Tax Credit funding. Such an alternative may be explored to fund the tax credit program if it is enacted in Puerto Rico. A Puerto Rico EITC may also cooperate with the Special Communities Program by making work more attractive and bringing residents of these communities into the workforce. Another program whose labor force goals can capitalize on the EITC is the Workforce Investment Act under the Department of Labor. Finally, the Treasury Department of Puerto Rico has always been concerned with tax evasion and with sequestering the activities of the informal economy. Although there is no reason to believe that these problems are more common in the low-income segment of the population, the EITC could bring some of the informality within the economy into light as it becomes more attractive for low-income families to report earned income.



Chapter 1.

A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

This report evaluates the implementation of an Earned Income Tax Credit program in Puerto Rico, similar in nature, although not in detail, to the existing program in the United States. What is known about the EITC regarding its effects on work is discussed, as well as other related issues concerning tax rates in general and tax evasion. Subsequently, a design for an Earned Income Tax Credit for Puerto Rico is presented. This design is quite conservative in terms of the credit it promises to qualifying families, but relates well to the fiscal situation of Puerto Rico. After developing a design, the impacts of the program on labor force participation and poverty are estimated. Given the tight budget scenario of the government of Puerto Rico, the report analyzes the fiscal impact of such a program, including how much it would cost, how many families and children would benefit, and how much money these families would receive in the form of refunds.



Chapter 2.

A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

Background Statistics and Related Tax Deductions

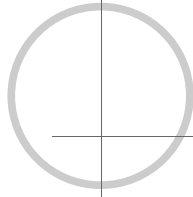
This chapter discusses a few basic facts that can serve as a preamble to the development of the EITC program in Puerto Rico. It focuses on the sector of the population with incomes at or below \$15,000 since this proposed design would allow the EITC to reach a significant segment of the target population.

In 2000, 46.6 percent of the approximately 862,000 tax forms submitted to the Treasury Department corresponded to families with children. These families had, on average, 1.8 children. Families with children that had incomes between \$0 and \$15,000 filed 154,830 forms, or 38 percent of all forms submitted in 2000 from units with children, and contributed \$32 million in taxes. This represents 3 percent of the overall tax collected. As shown by Graph 2.1, tax collections have been stable in the last 12 years, contributing close to \$120 million in 2000.

Graph 2.1 - Trajectory of Determined Tax Collections for Tax-Payers With Incomes Below \$15,000 (1988-2000) (with and without children)



Source: Based on data provided by the Department of the Treasury, Commonwealth of Puerto Rico



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Puerto Rico’s tax structure does not compensate lower income families for the effects of regressive excise taxes and Social Security taxes. Government aid programs penalize low-income working families by making them ineligible for many benefits. The tax code includes various deductions that low-income families may receive, but most benefits of this nature go to the middle class.

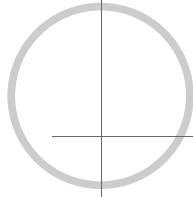
The two principal deductions that alleviate the tax liability of Puerto Rican families are: “itemized deductions” and “additional deductions”. These are described in Table 2.1. Within these, the relevant ones for this analysis are those directed toward families with children and those that promote work.

Among the itemized deductions, those directed toward families with children are: child care expenses, dependent’s education expenses, and interest paid on student loans. This type of deduction has a non-zero minimum so that all families see their tax liability reduced through these deductions. A tax filer living with a spouse has a fixed deduction of \$3,000 and if they do not live together the deduction is \$2,000.

Table 2.1- Deductions Allowed in Puerto Rico’s Internal Revenue Code

ITEMIZED DEDUCTIONS	ADDITIONAL DEDUCTIONS
Home Mortgage Interest	Contributions to Retirement Systems
Automobile License Plates	Contribution to an IRA
Child Care Expenses	Married When both Spouses Work
Rent Paid	Veterans Deductions
Property Tax on Principal Residence	Ordinary and Necessary Expenses
Casualty Loss on Principal Residence	Automobile Loan interest
Medical Expenses	Young People who Work
Charitable Contributions	
Loss of Personal Property	
Windmills Expenses	
Orthopedic Equipment Expenses	
Dependent’s Education Expenses	
Solar Equipment Expenses	
Interest Paid on Student Loans	
Contributions to the Fund for Catastrophic Diseases	

Source: Department of the Treasury , Commonwealth of Puerto Rico



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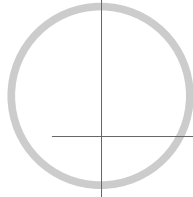
Additional deductions that promote work include: necessary and ordinary expenses to perform an occupation, the deduction for married couples when both spouses work, and the deduction allowed to working youngsters. Along with these two types of deductions, tax payers have two additional types of deductions: \$1,300 per child not in college, and \$1,600 per child in college.¹ There is also a personal tax deduction which varies according to filing status and equals \$3,000 for spouses.

By creating an incentive to join the labor force, the program would complement the Special Communities effort and other initiatives currently pursued by government agencies to discourage over reliance on government aid programs.

These deductions are not directed at low-income families. Many low-income families only have one potential worker. The other, in most cases the mother, often stays at home taking care of the children and hence cannot deduct child care expenses. Additionally, most of these people do not claim ordinary expenses from work.

Lastly, Law 23, passed on April 11 of 2001, changed the tax code by giving a credit to salaried tax payers whose adjusted gross income (AGI) is at or below \$10,000. The credit equals the tax responsibility of the unit, in effect exempting these families from paying taxes. This law is effective for the 2002 tax year and applies to all tax payers with salaried incomes of up to \$10,000. Under this law, a tax filer making \$10,001 is suddenly taxed while with an EITC, there may be a transitional income range. The proposed EITC, for example, would benefit more families because it extends to the \$15,000 income bracket and is directed at tax payers with children. While Law 23 is circumscribed to tax payers with salaried incomes and only covers the tax debt of the family, the EITC covers both salary and self-employment incomes, as well as allows for a refund to be provided to the tax payer after the tax responsibility has been covered.

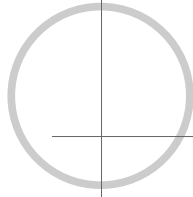
The refund offered by the EITC serves as an incentive for these low-income families to enter the labor market since their salaries (before the refund) would be low relative to the cost of working, which includes the loss of government benefits, FICA taxes and other transaction costs. By creating this incentive to join the labor force,



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the program would complement the Special Communities effort and other initiatives currently pursued by government agencies to discourage over reliance on government aid programs.



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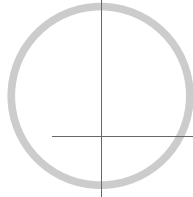
Conceptual and Empirical Framework

3.1 Conceptual Framework

This section discusses the relevant economic concepts in the analysis of the implementation of an EITC in Puerto Rico. It also discusses the empirical literature related to: (1) the EITC and its impacts (2); the impact of tax rates over labor supply, since the EITC can be seen as a negative tax; and (3) the effect of taxes on tax evasion. The chapter starts with a review of the basic economic model and its predictions, culminating with an evaluation of the applicability of study results to the case of Puerto Rico.

Since the EITC is tied to earned income it is expected to affect work. The point of departure in assessing individual reactions to changes in earned income is the basic model of choice. It is assumed that individual's preferences can be represented by a function dependent upon income and leisure, whereby utility will be greater the higher the income and the higher the leisure. Individuals will always select a level of income and a level of leisure that maximizes their utility, given monetary and time constraints. A tax credit such as an EITC increases the amount of money available to individuals, thereby affecting the number of hours each individual will work, as well as their hours of leisure. Intuitively, this problem appears straightforward, but the theory does not generate conclusive results. The effect of taxes on work is ambiguous.

At any given amount of hours worked, the credit increases individual's effective wage. This higher effective wage means that the individual can work fewer hours than he did before the credit and still retain the same income level. This outcome is called the income effect. Another possible reaction is the substitution effect, whereby the higher effective wage also causes the price of leisure to go up. Accordingly,



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individuals will tend to engage in less leisure time and work more hours. The effect of the EITC on work, as well as on the tax base, is therefore ambiguous and depends on whether the negative income effect or the positive substitution effect dominates individuals' reactions to a higher effective wage.

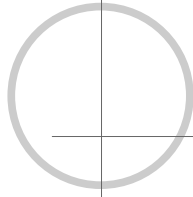
The way the EITC is designed in the United States lets us know at which point the income effect is more prevalent. The EITC reaches a point at which additional income does not generate additional credit. For instance, in 1996, a family of two children reached its maximum credit of \$3,556 with an income of \$8,890 (Meyer, 2002). Between \$8,890 and \$11,610, each additional dollar generates the same EITC. After \$11,610 the credit starts to decline. Therefore, at income levels above \$8,890 the income effect comes into play and may reduce hours of work.

3.2 Empirical Literature

A. Studies on EITC

Most studies about the EITC focus on its impact on work. Studies in the United States find that the credit increases labor force participation among single mothers with low levels of education. Eissa and Liebman (1996) report that the increase in EITC as part of the 1986 Tax Reform caused an increase of 6 percentage points in the labor force participation rate of this group. Meyer (2002) and Meyer and Rosenbaum (2001) also found positive impacts on labor force participation that ranged between 5 and 8 percentage points. Meyer and Rosenbaum report that 60 percent of this increase was due to the EITC. All of these authors find that the EITC effect is focused on bringing more people into the labor force and not on increasing the number of work hours for those who are already working.

Neumark and Wascher (1998) study the poverty effect of the EITC and report that the EITC is more effective than the minimum wage



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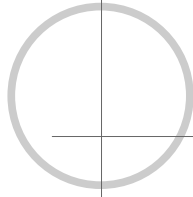
in reducing poverty. Its poverty effects occur primarily because it promotes work among families that were not previously in the work force. According to Berube and Forman (2001) the EITC lifted 4.7 million people in the U.S. out of poverty. This study also details the local effects of the EITC, focusing on Chicago and how the program can be used locally to improve the economic conditions of low-income families.

There is discussion in the literature about fraud by persons not eligible who misreport their income in order to receive the credit. Although over 80 percent of eligible people benefit from the Program, the number of ineligible receiving the credit is high and mainly found among the self-employed (Scholz 1994). Studies by the Internal Revenue Service (2003) and the Government Accounting Office (2001) place the percentage of EITC money going to erroneous claims between 27 and 31 percent (Internal Revenue Service 2003, Government Accounting Office 2001)

Owing to the popularity of the EITC, researchers have evaluated its applicability to other countries, primarily in industrialized nations such as Australia (Ingles 2001), The Netherlands (Au Van Oers 2000) and England (Walker and Wiseman 1997). In analyzing its estimated impact in other countries, the full scheme of social programs needs to be considered. In Australia, for example, the social system is broader than in the U.S., and the fiscal impact of an EITC on this structure is an important consideration.

B. Studies on General Tax Rates

Another relevant issue discussed in the literature is the relationship between tax rates in general and the labor supply. Using data for the United States, Rosen (1976) found that increases in the marginal tax rate reduced labor supply. An increase of 0.1 in the tax rate reduces the number of hours worked by white married women by



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130 to 200 hours per year. A similar result is reported by Leuthold (1978) for black married women. With information from the 1986 U.S. Tax Reform and Census data, Eissa (1995) found an elasticity of 1 for labor force participation by women with respect to wages, net of taxes.

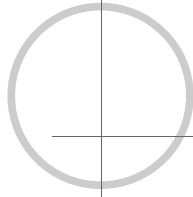
Pencavel (1986), Mroz (1987), Triest (1992) and Heckman (1993) focus on men and report that this group is insensitive to changes in the tax rate. In contrast, as Rosen and Leuthold report, they also found that married women's labor force participation rate and hours worked are affected by such changes.

A study using time series data for New Zealand (Caragata 1998) found that a one percentage point change in the ratio of "all taxes/Gross Domestic Product" reduces labor force participation by 0.43. The author also conducted the analysis for Canada and the United States, reporting elasticities between -.55 and -.87 for Canada, and -.21 and -.28 for the United States.

C. Studies on Tax Evasion

Tax evasion is a phenomenon present in all societies and it is commonly thought to be a serious problem in Puerto Rico. Tax evasion and the EITC are seldom linked but it is thought that the program may reduce tax evasion among low-income families by providing an incentive to enter the tax system. In Puerto Rico, tax evasion was estimated at \$400 million in 1998, excluding unreported incomes generated by illegal activities and legal activities not captured in the national accounts (Toledo and Camacho 2000).

In the United States, the Internal Revenue Service estimated that tax evasion by individuals and corporations cost the Treasury \$85 billion in 1987. A study for the state of Oregon in the 1970's concluded that 25 percent of all the survey participants admitted having practiced tax evasion at some point in time (Chamblis 1978).



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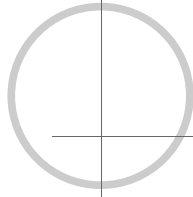
Studies on tax evasion are mainly based on random samples of tax forms from the Internal Revenue Service. Clotfelter (1983) estimated the relationship between tax evasion and the marginal tax rate and found that a positive relationship exists between the two variables, with elasticities between .5 and 3.0 depending on the type of taxpayer. For the United States, Joulfaian and Rider (1996), as well as Slemrod (1985), found that the higher the marginal tax rate the higher the incidence of tax evasion, and similar findings were also reported for Switzerland by Pommerehne and Frey (1992). Research focusing on the 1986 Tax Reform also found that higher marginal tax rates increase tax evasion (Lindsey 1987, Feenberg and Poterba 1993, Feldstein 1991).

Another way in which the marginal tax rate could be associated with tax evasion is through the underground economy. Gutmann (1977) found evidence that higher marginal tax rates increase participation in the informal economy as individuals avoid paying higher taxes.

3.4 Relevancy of the Literature to the Case of Puerto Rico

The concepts and the literature reviewed above give us information about the methodology and the possible effects of the EITC in Puerto Rico. The literature suggests the following: (1) an EITC should increase labor force participation; (2) the lower tax rate implied by the credit also suggests increased work efforts; (3) an EITC may reduce tax evasion.

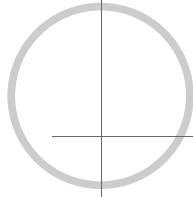
However, some aspects that are relevant to Puerto Rico have not been addressed in the literature. First, the positive effects of an EITC on labor force participation that have been observed occur in an economy at almost full employment. In Puerto Rico, however, high unemployment rates continue to be a problem. Therefore, a study of the implementation of the EITC in Puerto Rico needs to consider that many of the people motivated by the EITC to enter the labor force may



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not find available work. Specific employment and training outlets need to be identified in order to move participants towards employment. Second, it is important to consider that participation in the tax system in the United States is high. In Puerto Rico, however, many people still do not file income taxes. This fact highlights the issue that certain aspects of tax evasion may be more relevant in Puerto Rico than in the United States. Third, implementing an EITC is costly. Rich countries such as the United States are in a better position than countries with very limited resources, like Puerto Rico, to absorb the fiscal impact of an EITC. As mentioned by Ingles (2001), issues regarding fiscal costs have not yet been adequately addressed in the literature. These issues will be considered in our analysis.



Chapter 4.

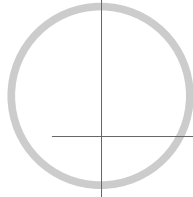
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The Design of an EITC for Puerto Rico

4.1 Basic Principles of the Design

The design of an EITC for Puerto Rico requires that two main decisions be made: selecting the socio-economic characteristics of the families who should get the credit; and establishing the size of the credit that should be given to qualifying families. These decisions should be guided by the fundamental principles of tax theory, which are equity and efficiency. Equity connotes two principles: equal treatment to people with the same socioeconomic characteristics (horizontal equity) and that those with different characteristics should receive different treatment (vertical equity). Efficiency refers to administrative and allocative efficiency, such that the credit should be implemented at a minimum cost and with the minimum of distortions. Vertical equity is implied in the goals of the EITC program since its reach is not universal and is designed to impact the lower income segment of the population. Efficiency is essential in any economy where the program is implemented but it is of greater relevance in stagnated economies like Puerto Rico's where much of the needs of the population go unmet due to a lack of resources. Also, administrative efficiency often comes with learning. When the program is first initiated in a country where no similar initiative existed, as is the case of Puerto Rico, its implementation costs may be higher. These are difficult to tackle since they depend on production functions for which data are rarely available.

Although the principles of equity and efficiency are important and should not be violated, they are too general to help us in the construction of the EITC for Puerto Rico. The objectives of the program, which are to promote labor force participation and help the working poor make ends meet, need to be kept in mind. The variables that help in determining which family units would qualify and how much qualifying families should get are also important. Given that resources are scarce, answers to these two questions are not independent of each other.



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A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

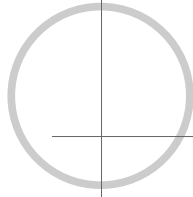
For instance, if the credit is given to a broad group such as “all filing units with incomes below \$20,000”, the size of the credit would necessarily have to be smaller in order for it to be able to absorb the fiscal impact of covering such a large portion of the population.

Economic theory, as discussed in Chapter 3, suggests that money given to individuals, which is tied to earned income, produces two counteracting effects. On the one hand, the additional money given to the individual may lead to additional hours of work in order to get a higher credit. On the other hand, the credit may also discourage work as it means that the same total income (credit income plus work income) could now be obtained with less work. Whether the program promotes or discourages work in the aggregate depends on which effect dominates.

The credit is designed under the assumption that it will first be used to pay any current tax obligation of the filing unit and that the subsequently remaining funds will be refunded to the unit. Some states have designed credits that are used only to cover the state tax obligation of the tax payer. However, residents of these states also have available to them the federal EITC which can be refunded. The most appropriate one for Puerto Rico would be one designed like the federal EITC, by which excess over the tax obligation is refunded to the tax payer.

The design of the credit can be as simple or as complex as desired. Many different types of families could be impacted by an EITC according to the number of children they have, their income, and their marital status. When the tax credit was established in the U.S. in 1975, the credit was the same, 10 percent, for all families with incomes of up to \$8,000 without making any distinctions regarding the number of children. It was not until 1990 that other specifications were added to the program (Ventry 2001).

In a first attempt to design and assess the impact of an EITC in Puerto Rico, it is important, from a methodological point of view, to provide a basic model that maintains the most important elements of



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the design. For instance, the designed credit is for families with children, but does not make any distinctions regarding the number of children. Analysis of data from the Treasury Department and recently released data from the Census suggest that the typical Puerto Rican family has two children. This information is presented in Table 4.1. In 2000, the average number of children per filing units with children was 1.8, and can be rounded up to 2. The 2000 Census of the Population of Puerto Rico, Table DP-1, reports an average household size of 3.4 and also indicates that 45 percent of all households include minors under the age of 18 and an average family size of 2.98. The average number of children in households with children was 1.6, rounded up to 2.

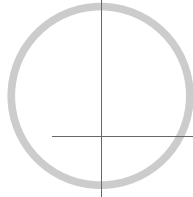
Table 4.1 - Demographic Characteristics of Puerto Rican Families: 2000

% with minors under age 18	44.8
% with children in married couple families	26.7
% with children in single mother families	10.4
% single mothers	21.3
% married couples	54.1
Average household size	3.4
Average family size	2.9
No. Minor children in households	936,719
No. household with minor children	565,692
Average no. of minor children/household	1.6
Percent tax filing units with children	46.6
Average number of children in filing units	1.8

Source: Based on 2000 Census data Table DP-1

Note: In 2000 there were 907,299 filing units, of these 423,593 were units with children. A total of 780,604 children were claimed.

As shown in Table 4.1, female-headship is a reality of the Puerto Rican culture and has a long-standing tradition. Our analysis, however, does not differentiate between single-headed households and households headed by married couples. The guiding rule is the income generated by the unit, not its marital status. On the other hand, as



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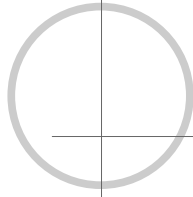
single-headed households usually have a lower income-generating capacity because they only have one potential wage earner, and the credits are relatively larger for lower income units, this type of household stands to benefit more than married couple households in the proposed EITC design. Despite the simplifications in the proposed design, it includes the main elements that should be considered in designing a credit. It is also general enough to be used as a baseline for a broader policy discussion on the implementation of the EITC in Puerto Rico.

To determine who should get the EITC in Puerto Rico the following factors are considered: (1) the design of the credit in the U.S., (2) the annual earnings of a minimum wage worker and the wages of a typical worker, (3) income limits under the Nutritional Assistance Program (PAN), the most widely used government aid program in Puerto Rico, (4) the fiscal reality of the government of Puerto Rico, (5) the minimum income levels required to file income taxes, and (6) the economic characteristics of the family.

To determine the size of the credit, several aspects are considered: (1) how much is paid in excise taxes by the typical family, (2) Social Security taxes, (3) vertical equity, (4) potential income and substitution effects, and (5) the feasibility of the program from the vantage point of the impact on government revenues.

4.2 Limitations of the Design

One limitation faced in the design of an EITC for Puerto Rico is the lack of data on key indicators. There is no yearly data on family income. The most recent data is for the year 2000 from the decennial Census of the population, but detailed information regarding incomes by demographic sectors is not yet available. Consequently, detailed data on the demographic characteristics of the family unit by income level are also lacking. Monthly data collected by the Puerto Rico Department of Labor and Human Resources is not suitable for this



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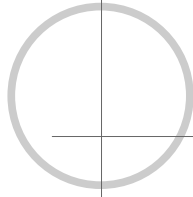
exercise because it does not contain information on annual income and the family unit cannot be accurately constructed from this data. The Treasury Department of Puerto Rico reports information on adjusted gross income for tax payers at the aggregate level, not at the micro-level, and tax payers that do not file are not included in this data set.

Another limitation facing this study is a lack of research that could be used to guide us in the selection of key parameters. For instance, there are virtually no estimates of labor supply elasticities or of the responsiveness of labor supply to changes in tax rates. There is also no information on the interactions between education, or other indicators of income level, and labor supply.

This study is also limited by a lack of research on “social welfare functions” for Puerto Rico. According to Leibman (2001), a fundamental issue in any transfer program is whether it increases the well-being of its recipients enough to outweigh the reduction in well-being inflicted upon the higher-income taxpayers from whom the revenues for the program are raised. Taxes and aid programs in Puerto Rico have not been analyzed from this point of view.

The design of a credit program like the EITC necessarily involves some arbitrariness. For instance, there are no clear-cut rules about how much should be given in credit, or what the eligibility limits should be. The proposed design could be called into question by others imposing their own arbitrariness. This problem is exacerbated in the proposed design because there is no prior history for this type of program in Puerto Rico. However, arbitrariness is reduced by determining benefits and cut-offs that are reasonable and justified by data.

Finally, although economists can provide guidance in the design of an EITC program, in the end this is essentially a political issue, which means that the final program will likely be altered to accommodate political goals. As prior experiences have demonstrated, this is a process over which researchers have little effect.



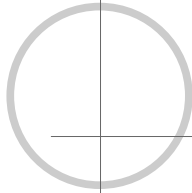
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4.3 Who Should Receive the Credit

The EITC in the US- The purpose of the federal EITC is simple: to help the working poor make ends meet. Despite its straightforward purpose, the design of the federal income tax credit is quite complex. It varies according to the number of dependent children, the marital status of the parents and the earned income of the reporting family unit. At first glance, it seems as if the income limits used to determine the EITC in the United States cannot be applied to Puerto Rico. The US is a much wealthier society, with a per capita income and an average family income over three times those of Puerto Rico. However, a close look at the structure of the federal EITC suggests that some of the US EITC parameters could be applied to Puerto Rico. This is so because the income thresholds of the federal EITC program consider poverty rates, minimum wages, and Social Security taxes, all of which are applicable in Puerto Rico.

As mentioned earlier, in the US, the amount of EITC awarded varies according to the earnings level. For example in 1999, families with two or more qualifying children with incomes between 0 and \$9,500 received an EITC equal to 40 percent of their earned income, up to a maximum of \$3,816.² This is called the phase-in range, meaning that within this income range, higher earnings translate into a higher credit. The amount of \$3,816 represents the maximum credit awarded in the program. Families with earnings above \$9,500 and up to \$12,460 were entitled to the same credit amount of \$3,816. Families with earnings above \$12,460, and up to \$30,510 received some EITC but less than 40 percent. In the “over \$12,460” income range, the higher the earnings, the lower the credit received. This is referred to as the phase-out range, as the credit starts to decline until it disappears. A 21 percent EITC is applied to the earnings in excess of the \$12,460 and this amount is deducted from the maximum credit of \$3,816, established in 1994. The credit reaches zero at incomes above \$30,000.



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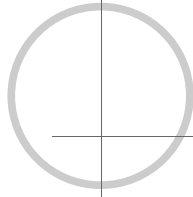
The income threshold up to which the EITC increases (i.e., \$9,500) and the flat income range (up to \$12,460) could be applied to Puerto Rico. However, the phase-out range, also starting at \$12,460, should decline at a faster rate for Puerto Rico than for the U.S. Extending it to \$30,000 would be too broad in order for it to be a realistic policy alternative in Puerto Rico. Although in the United States only 28 percent of all households report incomes below \$25,000, 70 percent of Puerto Rican households reported such incomes in the 2000 Census (see Table 4.2). In other words, if the limits of the phase-out range are not altered, the program would eventually drain the government Treasury. It must be noted that in 2000, families with incomes between \$15,000 and \$30,000 contributed only 18 percent of government tax revenues.³

Table 4.2 - Distribution of Households by Income: 2000

Households	United States	Puerto Rico
	%	%
Less than \$10,000	9.5	37.1
\$10,000 to \$14,999	6.3	14.3
\$15,000 to \$24,999	12.8	18.6
\$25,000 to \$34,999	12.8	11
\$35,000 to \$49,999	16.5	8.9
\$50,000 to \$74,999	19.5	5.7
\$75,000 to \$99,999	10.2	2
\$100,000 to \$149,999	7.7	1.4
\$150,000 to \$199,999	2.2	0.4
\$200,000 or more	2.4	0.6
Median household income (dollars)	\$41,994	\$14,412

Source: Figures from the 2000 Census Table DP-3.

Minimum wage earnings - Another guideline that can be used to determine who should get the credit is the minimum wage. A worker employed 40 hours per week for a whole year (52 weeks) who earns a minimum wage of \$5.15 per hour, earns \$10,712 per year. The mean weekly wages for the average Puerto Rican worker reported in 2000 was \$206 or \$10,712 annually, the same as the minimum wage. Yet \$10,712 hardly makes ends meet.



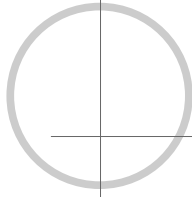
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The minimum wage full-time worker is relevant in the design of the EITC. This type of worker is precisely who should benefit from the EITC. He or she has decided to join the labor force, despite low-earnings, rather than drain government resources by receiving public assistance.

The minimum wage full-time worker is relevant in the design of the EITC. This type of worker is precisely who should benefit from the EITC. He or she has decided to join the labor force, despite low-earnings, rather than drain government resources by receiving public assistance. Despite, the laborer's commitment to the labor force, almost another full-time minimum wage worker would have to be brought in to this family in order to move it above the poverty line. If this head of household is a single mother, she has no chance of living above the poverty line that corresponds to her family unit of over \$14,000.

The poverty level - Puerto Rico's poverty levels are based on federal thresholds. Table 4.3 shows the poverty levels from 1998 to 2001 for different types of families. From the poverty vantage point, the maximum income eligible for an EITC should be the poverty line of the corresponding family. In the case of a married couple and two minor children, this maximum income was \$17,960 in 2001. Setting the maximum income for receiving any kind of EITC at the poverty level makes sense from the point of view of public policy, since it reaffirms the government's pledge to provide living wages to the working poor. However, it may be prohibitive. First, the income limits of the EITC would have to be revised yearly in order to account for the yearly changes in poverty thresholds, such as those shown in Table 4.3. Second, the yearly changes in poverty thresholds and the variations by household type make it difficult to plan for the expenses in an EITC. Third, the program may not be affordable at the newer poverty threshold. Finally, with 46 percent of Puerto Rican families falling under the poverty level, placing the EITC within the poverty threshold may lead to its being completely discarded due to its prohibitive costs.



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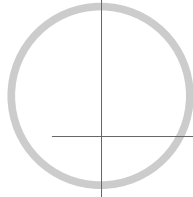
Table 4.3 - Poverty Levels for Selected Families (\$): 1998-2001

Year	Family of 4 (w/ 2 children)	Family of 3 (w/ 2 children)
1998	16,530	13,133
1999	16,895	13,423
2000	17,463	13,874
2001	17,960	14,269

Source: Census Bureau reports from the Current Population Surveys.

Using the limits of the Nutritional Assistance Program - The Nutritional Assistance Program is the most widely used government aid program in Puerto Rico. Its conceptual importance for the design of the EITC program is that it sets a boundary for the opportunity costs of working. The rules for participating in NAP hold that a family of 4 members could receive benefits as long as its monthly income is below \$667 or \$9,300 annually.⁴ Under the current program guidelines, this family could get \$200 monthly or \$2,400 annually in benefits. If income is above \$9,300 this family would lose \$2,400 in aid. To make it profitable for this family to get out of aid -presumably by increasing work- the lost income of \$2,400 should be added to the \$9,300 for this worker to break even. That is, the income limits for the most widely used government aid program in Puerto Rico coincide with the minimum wage worker and with the federal EITC in that \$10,000 is an important threshold in the design of the EITC.

The NAP also gives a range for framing the credit. A head of household with the maximum qualifying NAP income would have to be given an additional \$2,400 to motivate him or her to leave the aid program. Thus, the NAP creates a significant disincentive to earn incomes above \$10,000 to \$11,000. This information suggests the range of \$10,000 to \$11,700 as the income range within which the EITC should be at its maximum. Consequently, an EITC could be used to soften the financial impact that a family undergoes in losing NAP aid.

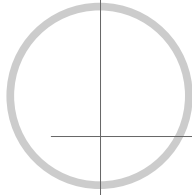


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Minimum income levels required to file taxes - Many families are not required to file income taxes because their incomes are not high enough, therefore, their tax obligations are zero. The tax code distinguishes between single and married filers in determining the minimum income required to file taxes. If single, he or she should file income taxes at an income that is above \$3,300; if married, their income should be above \$6,000. In the design of an EITC for Puerto Rico, the average of the lower income limits required to file taxes -- \$4,650 -- should be taken as the minimum income required to receive the EITC. This cutoff excludes many families whose incomes are very low, but ties the program to its main objective, which is to support working families. The \$4,650 cutoff is equivalent to a requirement of 18 hours of work per week, paid at the minimum wage, which is tantamount to a half-time government job. This type of limit (in terms of hours) is similar to those imposed in the EITC program in Britain but is a departure from the U.S. EITC structure. Imposing this lower income cutoff also increases efficiency by eliminating the need to process very small claims. Efficiency could also increase since the cutoff range would reduce fraudulent returns from people who only engage in sporadic, difficult to track self-employment but desire to receive the credit by misinforming the authorities.

Information from tax forms - The most recent discourse on government expenditure is ambiguous. On one side, some speak about the large deficit and the need to raise taxes in order to reduce it. Recently, taxes on alcoholic beverages, cigarettes, and sport utility vehicles were increased to reduce the deficit. On the other hand, there seems to be as much spending as usual, even even the creation of large new spending programs. No matter which side is taken, what seems to be certain is that a reduction in income taxes does not seem to be in the near future. Therefore, it is important to design a credit that is conservative enough from the point of view of collections in order for it to be politically feasible.



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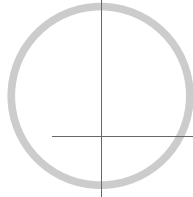
One relevant statistic is the percentage of filing units that are exempted from paying income taxes, presumably because their incomes are too low. Earlier, we mentioned the income limits for filing income taxes, not for paying income taxes. The qualifying exempted families represent families who will receive 100 percent of the credit they are entitled to, since their tax bill is zero. Information about exempted units is provided on Table 4.4. This information was compiled prior to Law-23. From the filing units with children and incomes below the \$8,000 income bracket, over two thirds are exempted. From the \$8,000 to the \$10,000 income group, the percentage exempted drops to 36percent. Above this income, only a small number of families are exempted. This suggests again that the \$10,000 category is a good ceiling for the EITC plateau.

Table 4.4 - Exempted Filing Units: Incomes Below \$17.5K, With Children: 2000

Adjusted Gross Income (\$)	All Units with children	# Exempted	% Exempted
<0	1,806	1,795	0.99
0-2,000	3,061	3,048	1
2,000-3,000	2,581	2,578	1
3,000-4,000	4,044	4,039	1
4,001-5,000	5,123	5,063	0.99
5,001-6,000	6,494	5,923	0.91
6,001-8,000	16,262	11,018	0.68
8,001-10,000	20,782	7,594	0.37
10,001-12,000	48,711	5,865	0.12
12,001-15,000	45,961	1,617	0.04
15,001-17,500*	34,023	374	0.01

Source: Department of the Treasury, Commonwealth of PR

Notes: *The figures for this income bracket are estimated since the reported income bracket is 15,001-20,000. To obtain them we divided by 2 those reported in the 15,001-20,000 income bracket.



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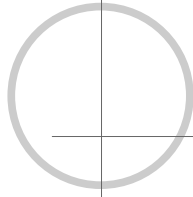
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The profile of income tax payers with children can also be used to determine the maximum income required to receive the credit. Families with children that have incomes of up to \$15,000 paid, in the year 2000, close to \$32 million in income taxes. This represents less than 3 percent of the total income tax collection for that year. Similarly, families with incomes between \$15,000 and \$17.5 thousand added approximately \$25 million to the government treasury. In other words, these families were responsible for 44 percent of the taxes collected among families with incomes below \$17,500. Eighteen percent of the units with incomes of up to \$17.5 thousand were families between the \$15,000 and \$17,500 range. Therefore, adding the \$15,000-\$17,500 category may not be plausible from a policy perspective because 40 percent of the revenues from this income group would be lost and 2 percent of total revenues would be lost.

4.4 How Much Credit Should be Given?

The other aspect to consider in the design is how much credit should be given to eligible filing units. Again, issues of policy feasibility are important, and a conservative design is proposed. The EITC has two immediate effects on government revenues. First, it affects the income tax base, which would be reduced according to the number of units that will begin to receive the credit and that were paying taxes prior to receiving it.⁵ Second, it reduces the average tax rate according to the size of the credit. These two forces combined determine whether the program is feasible from a policy perspective.

In designing how much to give in credit, two factors were considered: the amount paid in consumption taxes and the balance between work incentives and disincentives. In Puerto Rico, all families pay an excise tax for diverse types of consumption goods. These include: adult clothes, shoes, cars, electric appliances, soft drinks, cement, crude petroleum, cigarettes, alcoholic beverages and hotel accommodations. The applicable tax rate is fixed with respect to income level at 5 percent,



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but imported goods pay over 6 percent because their prices increase 1.3 percent upon importation. The rich and the poor all pay at the same tax rate, in violation of the vertical equity principle. An EITC could be seen as a way to give back to low-income families what they have spent on these taxes. For example, if it is found that the average family spends 5 percent in excise taxes, the equivalent of 5 percent could be returned to these families.

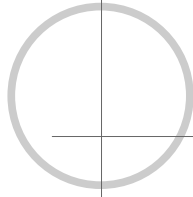
The credit should be designed in a way that ensures a high probability that a significant share of the families that receive government aid will be motivated to enter to the workforce, since increasing labor force participation is one of the goals of the program.

In addition, the credit should be designed in a way that ensures a high probability that a significant share of the families that receive government aid will be motivated to enter to the workforce, since increasing labor force participation is one of the goals of the program.

Based on the average percentage of income paid in excise taxes and FICA taxes, the basic credit is determined to be 11 percent of earned income. These two types of taxes, FICA and excise, are known to be regressive, affecting lower income families more so than higher income families. In addition, the FICA taxes create disincentives to work, especially for very low-income workers.

From the National Income Accounts, the total amount collected by the government in excise taxes is divided by the aggregate personal income. This figure provides an estimate of how big a portion of personal income goes into paying these taxes. The average number for the last three years was 4 percent. However, the most recent tax hike is not factored into these figures although its effect on aggregate spending could be minor. The FICA taxes equal 7.7 percent of earned income. The sum of these two taxes is close to 11.7, which, for simplicity's sake, was rounded down to 11 percent, and gives us a base line from which to start assigning the credit.

A credit higher than 11 percent is proposed for lower-income families. This higher percentage can be justified on several grounds. First, the principle of the decreasing marginal utility of money is often



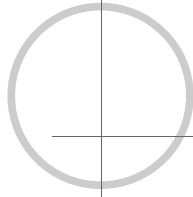
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used in tax analysis to justify higher taxes for higher income families. This principle states that the well-being generated by an additional dollar is higher for low-income families than for high-income families. If followed, this principle also generates vertical equity, referred to in previous sections. Therefore, according to this principle, the percentage for the EITC phase-in should be higher than 11 percent for lower income families. Second, one goal of the credit is to stimulate economic activity among lower income populations. Economic activity may come from self-employment, part-time work, or full-time work, but individuals who may start engaging in paid work need stronger incentives in order to feel compelled to participate. Finally, research suggests that most of the positive impact that the EITC has upon work is concentrated in the lower-income range of the targeted population. This is the group where the largest payoffs from the EITC are concentrated.

The proposed credit is 15 percent for every dollar earned by families with an earned income of \$4,650 and up to \$10,000. The \$4,650 and \$10,000 figures were justified in the previous sections and represent the minimum income levels required to file income taxes and the earnings of a full-time minimum wage worker, respectively. The phase-in range ends at \$10,000 but the amount of the credit would be held up to \$12,000. It was taken to \$12,000 in order to accommodate the costs associated with working (child care, transportation, etc). This analysis suggests that the maximum credit would then be \$1,500 ($.15 * 10,000$).

The phase-out range starts at incomes above \$12,000. At this range the credit starts to decline until it disappears all together. For incomes above \$12,000, the percentage of credit to be applied is the bottom line, identified above as 11 percent (the sum of excise and FICA taxes). However, applying this percentage to incomes above \$12,001 would violate the principle of vertical equity. To introduce more equity in the design, the starting percentage would have to be 11 percent of the earned income, with a percentage that declines as income grows.

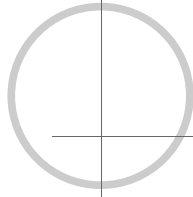


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Starting with an 11 percent in the \$12,001-\$12,500 earnings bracket, the rate is discounted in each additional bracket by 0.15, ending up at 4 percent. The final rate of 4 percent for the highest income range was determined based on the tax rate of excise taxes and the idea that EITC should compensate for this regressive tax. Information about the EITC amount and the different income ranges is presented in Table 4.5. For computational simplicity on the costs side, we assume a fixed credit within each income bracket. For example, a family with children and incomes of \$13,000 would get a credit of \$1,122. A family with the top income of \$15,000 would receive \$586 in EITC. This unit makes \$3,000 over the income where the EITC is at its maximum (\$12,000), but loses \$914 in EITC for making this additional income. This represents an implicit marginal rate of 30 percent. The implicit tax rate for a unit with incomes of \$12,500 is 36 percent. Admittedly, these rates are high and may result in work disincentives in this income range. Although it is difficult to simulate what these work disincentives would be, they will likely be small. In a situation of surplus labor like Puerto Rico's, few workers would risk losing their jobs in order to reduce hours worked. Marginal workers within the family may withdraw in order to stay at \$12,000 of family income and capture the maximum EITC. But at a minimum wage, this marginal worker would only be working, at most, 16 weeks per year, representing a minuscule share of the workforce.⁶

Note that the phase-out range is different from the way it is structured in the US. In the US, to get the maximum credit, top earnings are subtracted from current earnings. A constant percentage rate (21 percent for families with two children in 1999) is applied to this difference, and the credit equals this amount. In our design, we do not take the difference between top earnings and current earnings, nor do we apply a constant rate to determine the credit. Our design is preferable because we have a very small credit phase-out range (\$3,000) while in the US the range may go from 12 to 30 thousand dollars. In addition, a fixed rate for the phase-out, even when calculated over the excess earnings, seems to violate vertical equity.



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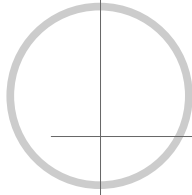
**Table 4.5 - Tax Table for EITC Recipients:
Families With Children**

Gross Adjusted Income		Credit amount
4600-10000	0.15	varies
10000-12000		\$1,500
12001-12500*		\$1,320
12501-13000		\$1,122
13001-13500		\$954
13501-14000		\$811
14001-14500		\$689
14501-15000		\$586

Source: Author's calculations

Notes: *The credit for incomes 12001-12500 was obtained using an 11 percent rate. The credit after that implies rates between 10 and 4 percent for the highest income. Each credit is .85 of the credit of the prior income bracket.

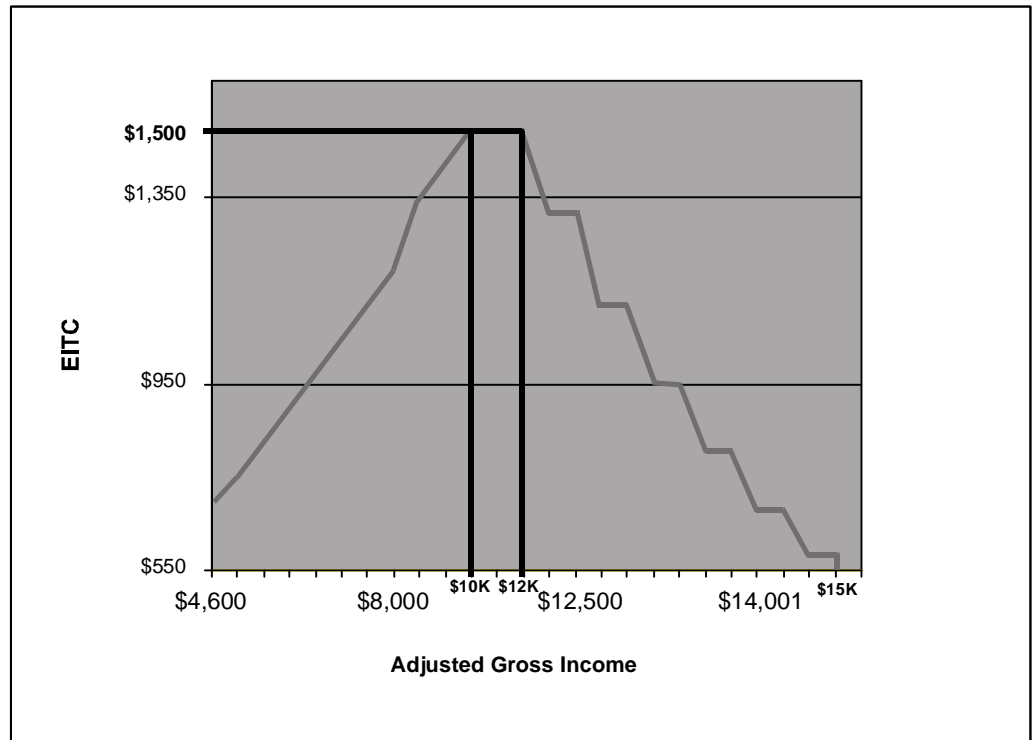
An important issue in the design of the EITC is establishing at what income level it will stop. The EITC was designed to disappear at incomes above \$15,000, as justified above, based on income lost and exempted units. A family with a \$15,000 income would receive a \$586 in credit. The design of the proposed EITC is shown in Figure 4.1.



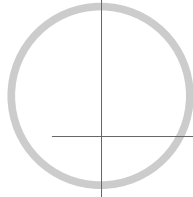
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Graph 4.1- A Design for a Puerto Rico EITC



Source: Based on author's calculations



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Impacts of the EITC on Work, Poverty and Government Revenues

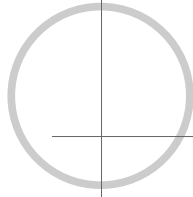
5.1 Introduction

This chapter evaluates the impacts of the implementation of the EITC in Puerto Rico, specifically on work, poverty, and government expenses. These are calculated in the program proposal and design presented in the previous chapter, which applies only to working families with children and with incomes between \$4,650 and \$15,000. A credit of 15 percent is available to families with incomes of up to \$12,000 and after this the percentage of the credit declines to 4 percent at the highest income group.

This evaluation is done with several constraints in mind. First, as it is well discussed in the macro-economic literature, policy changes alter the problem that the economic agents face and the set of resources available to them. Decisions such as work, consumption levels and tax evasion may be affected with the implementation of the EITC program. Current data do not clearly represent how agents would act in the presence of the new policy and these reactions must be considered in order to determine if the benefits to families and the overall economy are worth the investments in such a program. Existing data would support the existing economic structure, and this economic structure, which can be recovered through econometric methods, does not contain information about reactions to an EITC. It is assumed that individuals will react to the program using the existing economic structure. For example, the parameters about work response are based on the way individuals have responded to wage hikes in the past.

5.2 Impacts on Labor Force and Poverty

Since the simulated tax credit is tied to earned income, it should be expected to be an incentive for work. The labor force participation



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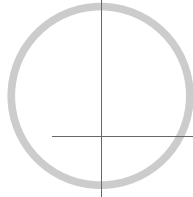
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(LFP) rate refers to the ratio of employed persons, and persons looking for work, to the segment of the population that is 16 years of age and older as follows:

$$\text{LFP} = (\text{Employed} + \text{Looking for work}) / \text{Population} = 16 \text{ years old} \quad (1)$$

We have focused on labor force participation because entering the labor force is the first step towards finding employment. In addition, research reviewed in Chapter 3 showed that most of the impacts of an EITC are on labor force participation and not on hours of work. In Puerto Rico, this indicator is critical because the labor force participation rate has been declining since 1970. In order to promote work, it is essential to bring more people into the labor force.

The EITC can be interpreted as producing an increase in the effective wage. One strategy to simulate the labor force impacts of the EITC is to estimate wage effects in a labor force participation equation. In the designed experiment, which was described in the last chapter, income could increase by 15 percent, without taking taxes into consideration, for families with incomes between \$4,650 and \$12,000, and by 11 to 4 percent, for incomes above \$12,000 and at or below \$15,000. The first step is an estimation of the effect of wages on labor force participation. It is expected that the higher the wage, the higher the labor force participation rate. This is so because the wage represents the cost, or the opportunity cost, of not working; that is, the monetary amount individuals forego by not working. The log form effectively approximates the normal distribution, but the labor force participation equation is estimated as a double-log-form, which is also convenient for interpretation purposes. The coefficient of the logged independent variable reflects the elasticity, or the percentage change in labor force participation, for every one percentage point change in wages. Along with wages, a tax rate variable is included, which is discussed by Toledo (2001). By holding the tax rate constant, one can simulate the negative



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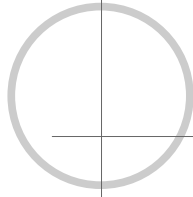
tax of a credit through an increase in wage. The estimated equation is the following:

$$\ln(\text{LFP}) = B_0 + B_1 \ln(\text{SALANUAL}) + B_2 \ln(\text{TAXRATE}) \quad (2)$$

Labor force participation data, for the years 1978 to 2000, were obtained from published documents provided by the Puerto Rico Department of Labor and Human Resources. It refers to overall labor force participation, computed for all individuals over the age of 16. However, the EITC is expected to primarily impact individuals with low skill levels, who are most likely to earn less than \$15,000 in the labor market. The low-skill population can be approximated as those who don't even have a high school diploma. Labor force participation rates for the low-skilled are not published by the Puerto Rico Department of Labor; these are available from the Census of Population for the specific census years. The ratio of labor force participation by workers with less than a high school diploma to the overall labor force participation rate is taken and applied to the yearly data published by the Puerto Rico Department of Labor. The ratio can be calculated for the years 2000 and 1990. Both of these years showed a labor force participation rate ratio of the low-skilled to the overall population of 0.56. Subsequently, the overall participation rate was multiplied by 0.56 to obtain a yearly series of labor force participation rate for low-skilled workers.

Data on annual salaries were obtained from the National Accounts Annual Series on total wage compensation divided by the total number of employed persons. These series are published by the Puerto Rico Planning Board in its annual *Economic Report to the Governor* (wages are measured annually in thousands).

Equation (2) was estimated using an AR(1) procedure that corrects for first order auto-correlation, a problem common in many



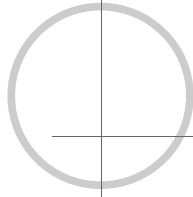
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A 15 percent wage increase in equation (3) translates into an increase in the labor force participation rate of 3.25 percent. This would mean an increase of close to 1 percentage point in the labor force participation rate for families in the \$4,600 to 12,000 income range. Families with incomes above \$12,000 and at or below \$15,000 experience a smaller increase in wages and a smaller increase in their labor force participation rate. These families would experience increases in incomes between 11 and 4 percent. Based on equation (3), an average increase of 6.5 percent in wages would raise labor force participation by 1.43 percent. Using information on the unemployment rate, and population growth rates, the Program's impact on the number of additional persons that will seek employment because of the program can be calculated.

According to the 2000 Census, there were over 648,000 households with incomes between \$0 and \$15,000. Of these, 78 percent were in the \$0 to \$10,000 range. The published Census figures do not detail the \$10 to \$15,000 income range, but it seems reasonable to assume that about 9 percent are in the \$10,000 to \$12,000 income range, for a total of 87 percent in the \$0 to \$12,000 income range. The remaining 13 percent would be in the \$12,000 to \$15,000 income range. Using these income shares, it is estimated that the labor force participation rate would increase by about 3.2 percent.

Growth in the labor force participation rate should be attributed to an increase in the labor force and not to an increase in the population base. That is, when looking at the low-skilled labor participation rate, what is growing is the numerator and not the denominator of equation (1). According to the Census, the number of people age 16 and over with less than a high school diploma declined at an average of 1 percentage point per year between 1990 and 2000. In 1990 there were 1,251,346 individuals in this age group, compared to 1,116,771



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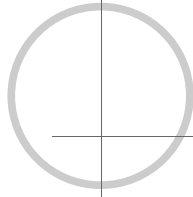
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The EITC program will increase employment by 20,000 workers. Some of these will be working part-time.

by the year 2000. The decline in the low-skilled population could be attributed to: (1) mortality among the older population, since older Puerto Ricans have lower levels of education, (2) gains in educational levels experienced by the younger age group, and (3) selective migration of the less educated. Assuming that (1) this 1 percent decline will hold at least up to the year 2002; (2) that the labor force participation rate will grow by 3.2 percent as predicted by the model; and (3) that the current unemployment rate of 18 percent for the low-skill will hold, the EITC program will increase employment by 20,000 workers. Some of these will be working part-time.

Our discussion in Chapter 2 referred to income effects generated by the EITC. These effects are present if families decide to reduce their hours of work to make their income smaller and be eligible for the program. The simulations performed ignore these effects because they are very small, given that most of the adjustment is created by the decision to work or not to work, and not by changes in the number of working hours. As the number of hours is constrained, the income effects are reduced.

That a narrowly tailored program in Puerto Rico that rewards work instead of leisure can add 20,000 new employees to the economy is quite remarkable. Very few demand driven-employment creation programs announced in Puerto Rico in the last five years could raise employment by as much. The EITC policy is a supply-driven policy, and shows the potential of these types of policies in Puerto Rico. In addition, this is just a short-term effect. In the long run, more workers could be brought into the workforce through the program. Assuming that information about the program flows rapidly, the major effects will likely be felt during the first year of implementation. The impact thereafter, although positive, could be smaller. If there are information



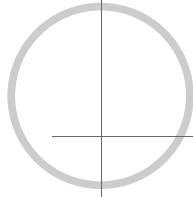
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lags, then the major effect may be felt throughout the second year of the program.

The proposed EITC also has the potential to reverse the long-term declining trend in Puerto Rican labor force participation. There has been a declining tendency in labor force participation, even in periods of relatively strong economic conditions and despite growing levels of education. In other words, stopping or reversing this declining trend seems to have proven quite difficult. Within this context, however, a narrowly tailored income tax credit program that could increase labor force participation and bring 20,000 families into the workforce is an achievable and promising alternative.

The EITC also has a poverty-reduction effect. This impact can be simulated by considering different types of families and their corresponding poverty thresholds, as defined by the U.S. Census Bureau. These thresholds may be insufficient for a family to make ends meet, but represent the most comprehensive and standard guidelines. A family of four with 2 children would need an income of \$17,463 to be considered above the poverty level in 2000. Assuming this family is already working and bringing in \$15,000 in income, it cannot be brought out of poverty by the EITC, since the income cut-off for the program is \$15,000 and the credit for this family is close to \$600. However, the EITC does reduce the poverty gap for this family, placing it 10 percentage points below the poverty gap, instead of 15 percent prior to the program. If the head of the household earns \$12,000, the EITC will reduce the household's poverty gap by 9 percentage points. A family consisting of a single mother with one child will need \$11,869 to move outside the poverty level. If this mother earns \$10,500 and files under the EITC she will get a credit of \$1,500. In this case, the program will place this family above the poverty line. In a similar fashion, a family consisting of a single mother with two children will need \$13,861 to move outside



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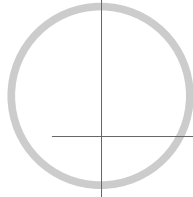
the poverty limit and if she works for \$12,500 she could be placed out of poverty by the EITC.

Detailed information about poverty by income and family demographics required to make an accurate assessment of the poverty impacts of the program is not available, yet this brief analysis of poverty reduction by family income suggests that the EITC could lift many low-income single mothers above the poverty level and reduce the poverty gap of married couples with children by at least 5 percent.

Our program was designed to include self-employment income, and it may be an additional opportunity for many workers who practice a craft or trade and could establish their own business.

5.3 Will These Additional Workers Find Jobs?

The economy of Puerto Rico is known for having double digit unemployment rates. It is worth questioning whether there will be jobs in the economy to absorb the new workers a proposed EITC program would produce. Our simulations are net of unemployment; in other words, we have already assumed that a certain percentage of the new labor force entrants will not find employment. The 20,000 mentioned earlier are those who would be expected to find a job given the unemployment rate of low-skilled workers in the Puerto Rican economy. Already, many low-skilled workers have been pushed into employment by the 1996 Welfare Reform law and changes to the Nutritional Assistance Program. These workers have no other choice but to find a job. Large infrastructure programs such as the Port of the Americas, the reconstruction of the urban centers throughout Puerto Rico's municipalities, the new Convention Center in San Juan, and other projects within the Special Communities Program are potential sources of employment for low-skilled workers from the government sector. The service, construction and tourist sectors may also provide employment opportunities for these workers. Our program was designed to include self-employment income, and it may be an additional opportunity for many workers who practice a craft or trade and could establish their own business.



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Tables on occupational projections up to 2005 produced by the Puerto Rico Department of Labor and Human Resources show that the occupations in most demand will be cashiers and sales persons, two categories of jobs that tend to pay low wages. After these two, and among the top ten, are: cleaning and cooking services, security guards and laborers, especially those related to material movement. These occupations typically draw for workers with low-levels of education.

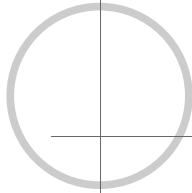
Nonetheless, the potential effects of the EITC on work highlight the importance of coordination between local agencies and programs if the tax credit is enacted. This includes the Department of the Family (in charge of NAP and welfare reform), The Office of Special Communities, and the Department of Labor. Coordination is also needed in order to provide training for potential job seekers. In addition, initiatives developed under the Workforce Investment Act (WIA) will be instrumental for providing training outlets to potential workers under an EITC program.

5.4 Fiscal Impacts of the EITC

This section focuses on the fiscal impacts of the EITC. Our purpose is to identify the number of families that will benefit, how much money these families will receive, and how much the program will cost to the government.

A. Description of the Potential Beneficiaries of the Credit.

The target population in the designed EITC is tax payers with children and with adjusted gross incomes of \$15,000 or less. The figures presented here do not account for the added workers who would be brought into the system by the EITC. This aspect will be addressed later in this chapter. Table 5.1 presents some of the characteristics of the income tax forms for this population in the year 2000. The \$0-\$15,000 income group submitted a total of 143,000 income tax forms, representing 16 percent of all forms filed in the year 2000. Graph 5.1 shows the distribution of the forms by income level. The total income reported by these units was 1.5 billion dollars, meaning that 7 percent

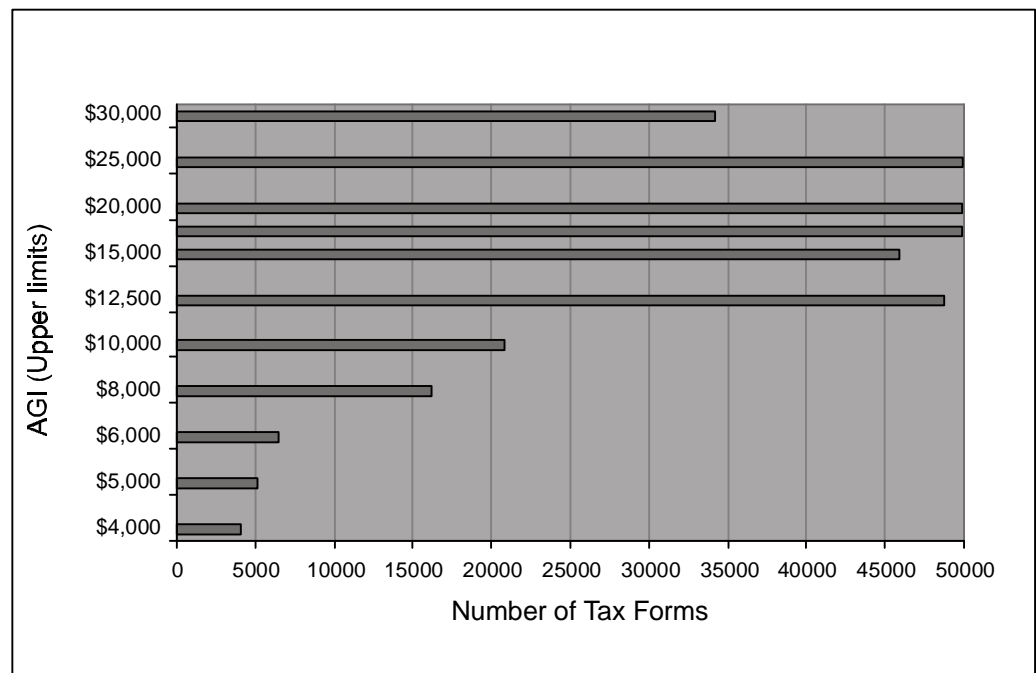


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of all reported adjusted gross income belonged to the \$0-\$15,000 income category. Their tax responsibility amounted to 32 million dollars, or 1.4% of the total tax responsibility for the year 2000.

Graph 5.1 - Distribution of Individual Tax Forms by level of AGI in 2000 (tax filers with children)

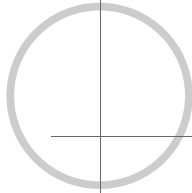


Source: Department of the Treasury, Commonwealth of Puerto Rico

About 253,000 children, most of them living in poverty, would benefit from the credit.

The design of the proposed credit excludes units with incomes below \$4,650. Nevertheless, according to the figures in Table 5.1, a total of 140,000 families with children would benefit from the credit. The net amount of income subject to tax was 34.5 million dollars (see Graph 5.2) or 23 percent of the total AGI. That is, 77 percent of the income in the relevant income range is exempted from paying taxes.

Using data on filed income taxes for the year 2000, these 140,000 families would receive \$162 million in EITC. Using 2000 as the base year, about 253,000 children, most of them living in poverty, would benefit from the credit. The distribution of the credit for the



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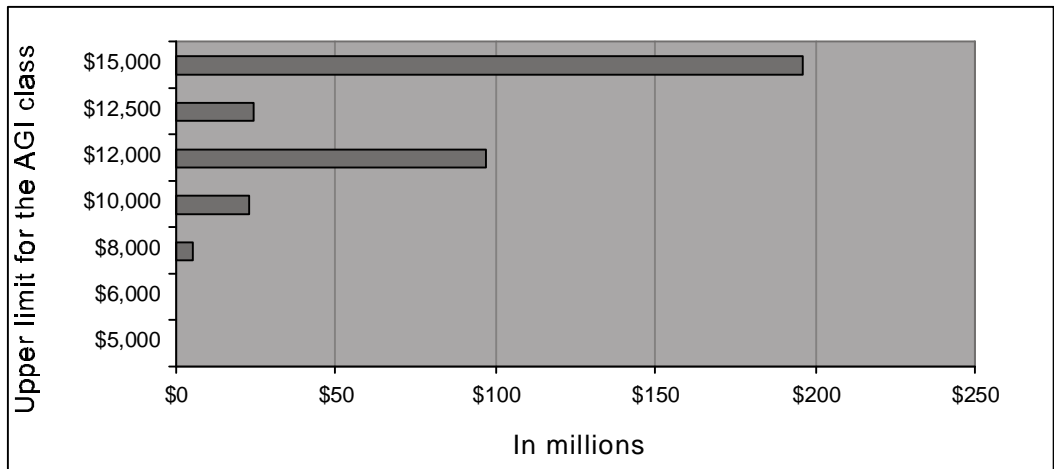
different levels of AGI is on Graph 5.3, while Graph 5.4 represents the percentage distribution of the credit. In terms of percentage, a portion of the credit (36 percent) goes to families with incomes above \$10,000 and below \$12,000; another 26 percent goes to those in the \$12,500 to \$15,000 category.

Table 5.1- Information about Income Tax Forms of Tax Payers with Children (2000)

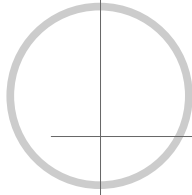
AGI level		Num. Forms	AGI*	AGI* Subject To Tax	TAX Responsibility*
From	Up To				
Neg 0	Zero	1,806	1,000	-	136,045
-	2,000	3,061	3,437,412	-	34,527
2,000	3,000	2,581	6,544,774	-	62,982
3,000	4,000	4,044	14,295,342	1,003	4,262
4,000	5,000	5,123	23,152,065	17,297	17,942
5,000	6,000	6,494	35,800,826	221,581	42,037
6,000	8,000	16,262	114,708,908	5,155,179	457,766
8,000	10,000	20,782	188,007,210	22,856,675	1,975,920
10,000	12,500	48,711	551,419,164	121,225,349	10,827,843
12,500	15,000	45,961	629,339,350	195,939,979	18,705,796
Total		154,830	1,542,427,523	345,416,060	32,027,304

Source: Department of the Treasury, Commonwealth of Puerto Rico

Graph 5.2 - Net Income Subject to Taxes for Different AGI Groups



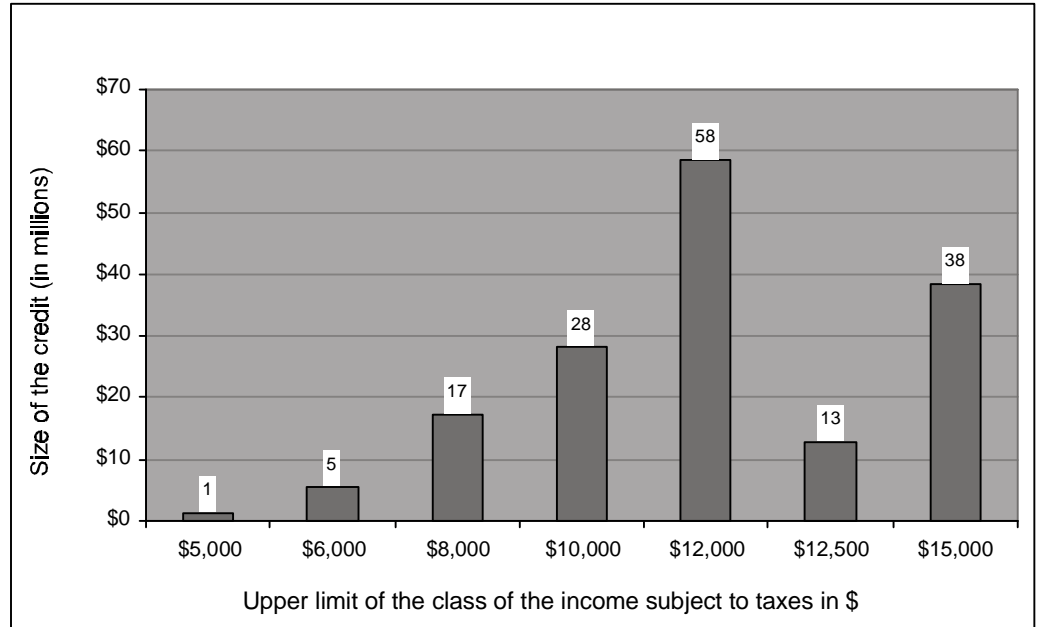
Source: Department of the Treasury, Commonwealth of Puerto Rico



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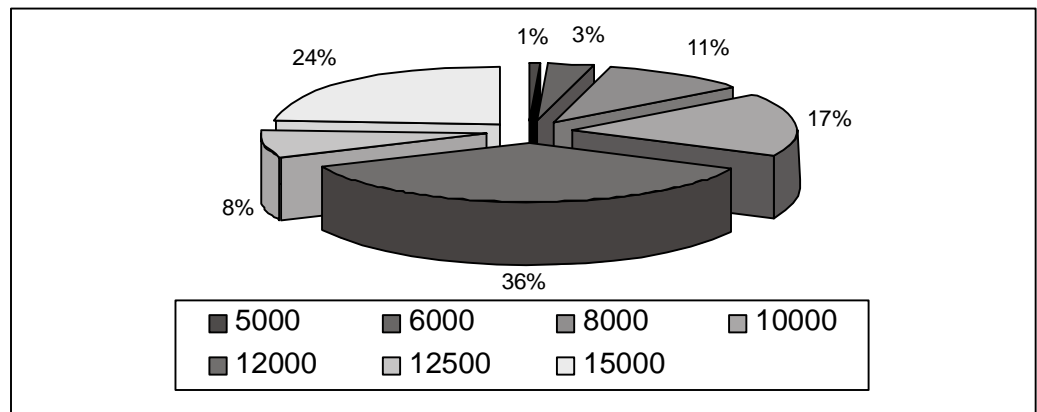
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Graph 5.3 - Distribution of the Credit Among Tax Payers, Year 2000

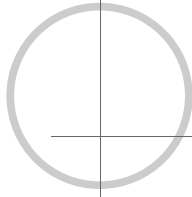


Source: Department of the Treasury, Commonwealth of Puerto Rico

Graph 5.4 - Percentage Distribution of the EITC (dollars by AGI)



Source: Department of the Treasury, Commonwealth of Puerto Rico



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B. The Cost of the Program

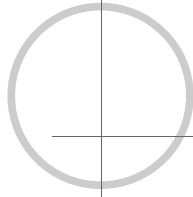
This analysis also uses the tax forms filed in the year 2000 to evaluate the fiscal impact of the Program and considers the following: (1) the deletion of the tax responsibility for units with incomes below \$10,000, since Law-23 exempted this income group from paying taxes from tax year 2002 and onward; (2) that the EITC amount for 2002 is projected; and that (3) the work response of tax payers to the EITC is taken into consideration (Please note that Law-23 exempted only salaried workers and not the self-employed and, for simplicity's sake, it is assumed that all the tax filers in this income range are salaried workers).

In this analysis, the base income range of \$4,650 to \$15,000 was divided into two groups. The first group consists of tax filers who, after undergoing all the deductions, are exempted from paying taxes, and are referred to as the "exempted" units. The second group is made up of tax payers who, after taking all the applicable deductions, have to pay taxes. Table 5.2 summarizes some of the characteristics of the exempted group. In 2000, there were 34,042 tax filing units in this group. These units would have received an EITC totaling about \$38 million and since this group does not pay income taxes, all the credit would be sent to them in the form of checks. The amount of credit per family would fluctuate, but the average check would be for \$1,111.

Table 5.2 - Selected Data Regarding Tax Payers With Children That Would Have Received an EITC in 2000: Exempted From Paying Taxes

Level of AGI From	Level of AGI Up to	Num. of Forms	AGI	EITC	Average EITC
4,600	5,000	2,025	9,146,082	1,371,912	677
5,000	6,000	5,923	32,527,477	4,879,122	824
6,000	8,000	11,018	76,759,648	11,513,947	1,045
8,000	10,000	7,594	67,514,011	10,127,102	1,334
10,000	12,000	4,692	48,722,135	7,038,000	1,500
12,000	12,500	1,173	16,240,712	1,548,360	1,320
12,500	15,000	1,617	21,824,848	1,346,961	833
TOTAL		34,042	272,734,913	37,825,404	1,111

Source: Department of the Treasury, Commonwealth of Puerto Rico



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The number of tax filing units and their AGI is projected in order to estimate the credit for the year 2002 and the number of beneficiaries. This projection was made using a univariate time series analysis. Based on these models, 141,000 families are projected to receive the credit in the year 2002, and their AGI would be \$1,540 million.⁷ The EITC is estimated to be \$163 million, without taking into consideration the work reaction of tax payers to the proposed change. This can be interpreted as a lower limit for the fiscal impact of the program.

In the year 2000, the total amount of EITC would have been \$162 million and 140,000 families with children would have benefited.

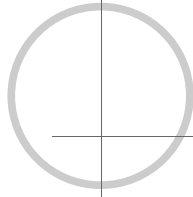
This estimation does not consider the response to the implementation of the program. Individuals can react to the program in two ways: (1) with tax evasion; (2) or with increased work efforts.

Tax evasion occurs if filing units under-report their income with the purpose of receiving the credit. Since the affected group will be low-income families, the effect on tax evasion will be minimal. In terms of an increased work effort, the simulation suggests that about 20,000 workers will join the labor market and find work. This figure is used to construct an upper limit for the fiscal impact of the credit. It assumes that the added families would have an average AGI similar to those reported by tax filling units with children and with incomes between \$4,650 and \$15,000 in the year 2000. The average income

Table 5.3 - Selected Data Regarding Families With Children That Would Have Received an EITC: Non Exempted Forms

Level of From	AGI Up to	NUM. Forms	AGI	Tax Responsibility	Average Tax	EITC	Average EITC	Return	Average Return
4,600	5,000	24	114,541	-	-	17,181.15	716	17,181.15	715.88
5,000	6,000	571	3,273,349	-	-	491,002.35	860	491,002.35	859.9
6,000	8,000	5,244	37,949,260	-	-	5,692,389.00	1,086	5,692,389.00	1,085.51
8,000	10,000	13,188	120,493,199	-	-	18,073,979.85	1,370	18,073,979.85	1,370.49
10,000	12,000	34,277	389,167,325	8,662,325	253	51,415,500	1,500	42,753,175.00	1,247.28
12,000	12,500	8,569	97,288,992	2,165,518	253	11,311,080	1,320	9,145,562.00	1,067.28
12,500	15,000	44,344	607,514,502	18,705,796	422	36,938,552	833	18,232,756.00	411.17
TOTAL		106,217	1,255,801,168	29,533,639	278	123,939,684	1,167	94,406,045	888.8

Source: Treasury Department, Commonwealth of Puerto Rico



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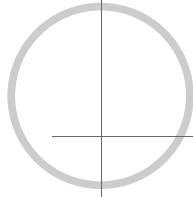
of these families was \$10,900⁸. Therefore, the aggregate AGI for the added families would be \$218 million. The average EITC with respect to the AGI in 2000 is used to estimate how much these families would get in EITC. It equals 0.106, therefore the total amount of EITC for these 20 thousand families is \$23 million.

As this analysis has shown, the fiscal impact of the EITC is between \$163 and \$186 million for 2002. The Program will benefit between 140,000 and 160,000 tax paying families, including close to 253-289,000 children now living in poverty. The lower limit holds if there is no work response to the credit. The upper limit holds if there is such a response.

The fiscal impact of the EITC is between \$163 and \$186 million for 2002. The Program will benefit between 140,000 and 160,000 tax paying families, including close to 253-289,000 children now living in poverty.

There are two additional costs associated with the EITC program. First, the administrative costs associated with the implementation of the program. These costs, according to the Treasury Department of Puerto Rico, would not be that considerable since the EITC would work like any other credit and regular return. Any changes in the technical logistics, such as programming, would be small⁹. A more relevant cost, and one for which there is no information about its magnitude, is the value of resources that have to be assigned to reduce tax evasion in the EITC Program. Given the small amount that would be recovered, it may not be cost-effective to dedicate a large amount of resources to this problem.

One aspect of costs that needs to be examined carefully under a proposed program is erroneous claims. Internal Revenue Service studies, which have reported that almost 30 percent of all money given under the EITC went to erroneous claims, are a precautionary note to the enactment of the EITC in Puerto Rico. Such a high erroneous rate may render the program non-feasible in Puerto Rico considering that there have been concerns expressed with the efficiency of the Treasury Department of Puerto Rico in recent years. Patterns of erroneous claims cannot be assessed with certainty within a hypothetical program.



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The Program may reduce tax evasion in the low and middle income group, since many low-income families that did not file income taxes before may now file in order to get the credit.

C. The EITC and Tax Evasion

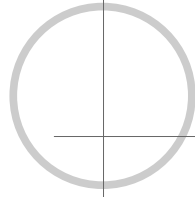
The proposed credit can affect tax evasion. The Program may reduce tax evasion in the low and middle income group, since many low-income families that did not file income taxes before may now file in order to get the credit. If the incomes of these tax filers increase across time, the Treasury already would have information about them, reducing the chances that they could evade paying taxes. Another factor that would tend to reduce tax evasion is that the EITC reduces the tax rate of certain groups of families. The economic literature reviewed in Chapter 3 reiterates that tax rate reductions decreases tax evasion. To explore this issue in the case of Puerto Rico, a lineal regression model was estimated relating tax evasion to the tax rate and AGI. Evasion was measured using the salary component in the income gap, as estimated by Toledo and Camacho (2000). This variable measures the income subject to taxes that is collected in the Personal Income Series of the National Accounts and are not reported to the Treasury Department. The tax evasion was calculated as the tax responsibility over adjusted gross income. The model was estimated in log form. The data are from 1976 to 1998, since these are the years for the existing income gap series.

Results for this estimation are demonstrated by Equation 4. As is evident from the equation, all the included variables are relevant in explaining tax evasion in Puerto Rico according to the *p*-values. The values of the Durbin Watson and Box-Pierce (Q-stat) show that the null hypothesis of autocorrelation up to degree 2 can be rejected. The independent variables explain close to 72 percent of variations in tax evasion in salaries.

$$\ln(\text{WAGEGAP}) = 7.20 + .59 \cdot \ln(\text{Tax rate}) + .18 \cdot \ln(\text{AGI})$$

(.349) (.158) (.026) (4)

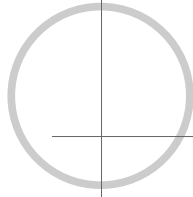
$R^2 = .71$ $N = 23$ $F = 25.22$ $DW = 1.61$ $Q\text{-stat}(2) = 1.02$



Chapter 5.

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As Equation 4 shows, there is a positive relationship between tax rates and the evasion of salaried income, even controlling for the level of income subject to taxes. Accordingly, one would expect for reductions in tax rates, implicit in the EITC design, to produce reductions in tax evasion, especially at the lower end of the income distribution.



Concluding Remarks

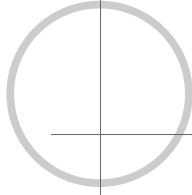
A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

Given Puerto Rico's intractable poverty problem, and its alarmingly low labor force participation, we believe that an Earned Income Tax Credit (EITC) program should be considered as a potential anti-poverty and tax reform public policy in Puerto Rico.

Though the EITC is an innovative program for Puerto Rico, it has over 25 years of success and knowledge from its U.S. experience. This is a program that helps the working poor and provides an incentive to work and to be part of the formal economy, some of the most important challenges for Puerto Rico.

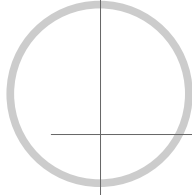
While this is an expensive program, it is no less true that poverty has placed a heavy lag on Puerto Rico's economic development. Thus, the question is not whether we can afford an EITC, but whether we can afford not to have one.

Miguel A. Soto Class
Executive Director, CNE
San Juan, Puerto Rico
October, 2003

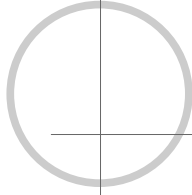


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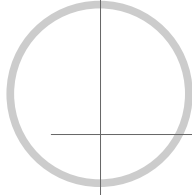
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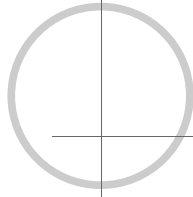
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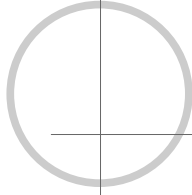
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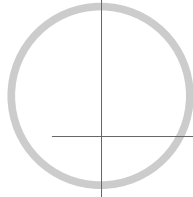
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Endnotes

A TAX CREDIT FOR LOW-INCOME WORKING FAMILIES IN PUERTO RICO

(1) Tax payers may take deductions for other type of dependents such as handicapped children and the elderly.

(2) This information is obtained from Leibman (2001).

(3) In 2002, the government of Puerto Rico collected over \$2.2 billion in personal income taxes; of these \$400,000 was contributed by families with incomes between \$15,000 and \$30,000.

(4) These figures are based on the 1996 income limits.

(5) In the long-run, the credit could increase revenues if there are increases in labor supply and growth in incomes.

(6) The extreme case is a married-couple family with an income of \$15,000, in which one spouse earns \$12,000 and the other spouse (the marginal worker) earns \$3,000. The latter, who at a minimum wage must be working 16 weeks at 35 hours per week, may withdraw to bring the family to \$12,000 and capture the maximum EITC.

(7) The target tax group has not experienced substantial growth in the last years.

(8) This implies that some of the 20,000 families would be working part-time or below minimum wage.

(9) The program can also benefit from the changes imposed with the adoption of Law 23 which implies technical changes in programming that are already in place.