



*Office of Evaluation and
Oversight*

Impact Evaluation of a Youth Job Training Program in the Dominican Republic:

Ex-Post Project Evaluation Report of the Labor Training and Modernization Project (DR0134)

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ABSTRACT

The purpose of this report is to assess whether the job training program *Juventud y Empleo* has had positive impacts, i.e. to determine if it has increased the employability of its participants. Additionally, the report also analyzes the implementation of the project *vis-à-vis* its original design.

This is the first and only job training program in Latin America with an experimental evaluation component embedded in its design. The original design of the program considered two services (training and intermediation) to which participants would be randomly assigned, and the purpose of the evaluation was to compare the impact of these services between them and against the alternative of not receiving any service. However, the project had a slow start and some aspects of the design were not feasible given the reality of the country. In spite of this, the experimental evaluation component was maintained in essence for the only service actually provided (training), and the implementation of the random design was done correctly, thus allowing for the first experimental evaluation of a job training program in the region.

The courses consisted of classroom training followed by an internship in a private sector firm. The eligible population was randomly selected to training, and information was gathered 10-14 months after graduation for both trainees and members of the control group. While most of the previous evaluations of similar programs, based on a quasi-experimental design, report positive impacts of training on the probability of having a job and on labor earnings, this evaluation does not find a significant impact on the likelihood of having a job. However, an impact is detected for wages, of 10% on average, and also for the coverage of health insurance, conditional on employment. Both results are, however, only marginally significant.

The results suggest that there is significant heterogeneity of impacts, with male teens being the group that benefits from the program; impacts were not found for women or for young adults. Regional differences also seem to be present. Although small, the impact on wages (if maintained over time) coupled with no discernible employment effect implies that the costs of the program are recovered in two years. We also provide an operational definition for employability as the likelihood of getting a job if unemployed or the likelihood of remaining employed once that status is acquired. From this definition a dynamic random-coefficient logit model was estimated. The results of the model show that there is no significant impact of training on employability.

I. INTRODUCTION

In 1999 the IDB approved a Job Training program for the Dominican Republic that was the unique in the region, for it was designed with an experimental evaluation component. The purpose of this was to learn of the effectiveness of the different components in order to inform policymakers in the country as to which labor market policies worked best in the Dominican Republic.

The overall objective of the program was to increase employment opportunities for the low-income population, by facilitating access to the labor market through training, counseling and modernization of the country's labor regulations. The specific objectives were (i) to increase the employability of the beneficiaries, adapting the training to the labor demands of employers; (ii) to assess the effectiveness of different job and training programs; (iii) to establish an ongoing dialogue on policies to modernize the labor market; and (iv) to strengthen Ministry of Labor (SET, *Secretaría de Estado de Trabajo*) in order to increase the effectiveness of its policies and programs. Although the program was intended to provide intermediation as well as training services and to compare the impacts and cost-efficiency of both services, difficulties in the implementation resulted in the decision by the executing agency to concentrate on training. The program trained about 27,000 young people aged between 16 and 29, presumably from low-income families and without secondary education. This was done in four public calls in which 121 training institutions participated throughout the Dominican Republic.

This document constitutes a comprehensive evaluation of *Juventud y Empleo* (JE), the training program financed by the Bank in the Dominican Republic since 1999. The EPPER presents the basic information about the project: the context under it was developed, the basic design features (inputs, outputs, outcomes) and the underlying model, the evaluability (at design and during the execution of the loan), and the execution efficiency and efficacy (institutions involved, financial resources utilized, execution problems, outputs, outcomes and sustainability). It contributes to enhance the lesson learning of the Bank by taking a detailed look at the achievement of the development objectives of the project, and by answering the traditional evaluative questions, in terms of the impact of training on the employment rates and earnings of participants, using a rigorous identification strategy: JE is the only job training program in the region that was designed with as an experiment in order to allow for an unbiased estimation of the impacts of the program.

Following the introduction, the context in which the program operated is described in section II. Section III presents a theory based evaluation of the project design, analyzing the implicit model behind the program, as well as the logical consistency and empirical evidence supporting such a model. Section IV analyzes the project's evaluability as well as the evaluation strategy followed by OVE. Sections V-VII discuss the findings of the evaluation, for the process, the institutional sustainability and the development outcomes of the project. Finally, Section VIII presents the conclusions and discusses some recommendations that follow from the evaluation.

II. CONTEXT AND PROBLEM TACKLED

A. Rationale for the intervention

Poverty in the DR was (and is) a major challenge, for in 1996, 56% of the population was poor (19% was extremely poor). Given that for the poor the most important asset is their human capital, the efficiency of the labor market (that allows them to benefit from their capital) is of utter relevance. The LD characterizes unemployment: it is at par with regional levels, and most of it is of short duration. Youth unemployment is high, but not particularly so (the ratio of youth-to-total unemployment was 1.72 compared to 1.88 for LAC). Short unemployment spells and the low fraction on long-term unemployed suggest high mobility, but the high non-employment rate suggest frequent transitions from unemployment to inactivity. However, the document also alerts of the existence of high-unemployment groups, such as the youth, particularly women.

Low labor force participation is identified as a major issue, and it is characterized as a problem of the youth, particularly the female uneducated youth. A salient feature of the DR labor market was the high rates of non-employment, particularly for the poor (63% for the lowest quintile versus 40% for the top quintile; also higher for the low-educated than for the better educated), explained by a moderate but concentrated unemployment and by low participation rates. Supply and demand factors are mentioned as determinants for the underutilization of human capital in the economy: low education of the population (particularly the low-income: 60% of the poor did not complete primary education), negative impact of remittances on labor supply, and rigid labor regulations.

From the analysis from the Loan Document, one takes that the problem was not unemployment but rather non-employment, particularly of the poor and of the young uneducated population (specially women). The causes of this problem are identified both from the demand and from the supply, from which the low education (particularly in terms of the needs of the private sector) is the object of this intervention. However, there is no discussion as of why the private sector is not willing or able to provide the basic training that is required and that is the purpose of the program. Finally, the consequences of the problem may be taken to be the perpetuation of poverty, as well as the marginalization of the target population from the mainstream labor markets.

B. Macroeconomic context¹

In the 1990s the Dominican Republic made significant efforts to stabilize the economy, which resulted in high rates of economic growth, which averaged 5.4% in real terms between 1991 and 2003 (3.6% in per capita terms). However, the performance of social indicators during this period was below what one would expect conditional on the macroeconomic performance. After the 1989–1991 recession there were significant cuts in real spending for social services (education and health), which negatively affected social indicators during the 1990s. During the 1990s there was also a change in the sector structure of production, away from sugar and coffee

¹ This and the following sections are based on the background work done by Yuri Soares for the Dominican's Republic Country Program Evaluation, "The IDB and Social Development in the Dominican Republic", mimeo.

towards textile and clothing industries in the free trade zones and services. These events had important impacts on the labor market, for demand shifted between sectors and across regions, the skills demanded were different, and the education of the population did not increase due to the collapse of the educational sector.

This complex situation presented a big challenge for both the country and for the Bank. Although the evidence available at the time of design was ambiguous on the impacts of these type of operations and suggested that active labor market programs, of which job training is one of the most common examples, have had limited success in either producing employment or increasing wages, several programs were implemented in the early and mid 1990s throughout the region. Stemming from the apparently positive experiences in Chile, Argentina and other countries, the basic labor market recipe was prescribed for the Dominican Republic. The Bank's response in this area was to approve a *Labor Training and Modernization* program (DR-0134). The following table shows the basic data for this project

Table A

Project Number	DR 0134
Loan Number	1183/OC-DR
Year Open	1999*
Year Close	2006
IDB Financing (US\$ Millions)	17
Total Cost (US\$ Millions)	19
* The contract was signed on September 1999, approved by Congress on October 2000 and published and enacted on May 2001, date on which the it was legally binding.	

It is also important to contextualize the implementation of the program, for there were delays from approval to the provision of training, which actually began in 2002. On this, Box 1 shows the main findings from the labor market analysis of the IDB-World Bank Poverty Assessment for the country, published in 2006.

Box 1: Labor Markets in the Dominican Republic

Labor markets are essential to get households out of poverty in the medium and long term. Employment and earnings within Dominican urban labor markets have experienced significant changes due to the complex labor market transition resulting from the country's growth strategy, trade reforms, and labor supply dynamics. The analysis unveils the persistence of earnings differentials between formal employees and informal employees that cannot be explained by their individual levels of human capital, characteristics, or their economic activity. On the other hand, earnings differentials between migrants and non-migrants are relatively narrow, given their individual levels of human capital. Both urban-urban migration and rural-urban migration appear effective in enhancing earnings.

Rural labor markets in the Dominican Republic (DR) have been characterized by a shift from farm activities to non-farm activities. Recent estimates suggest that the agricultural expansion in the LAC region might be less pro-poor than the growth of other sectors. Indeed, agricultural development on average helps reduce poverty by raising the incomes of the poor, but these effects tend to be higher for non-farm activities. The analysis finds that rural labor markets in the DR are segmented in two sectors: the more dynamic and better-paid non-farm rural sector and the traditional lower-paid farm sector. It appears that better educated, older and nearer to urban areas workers are the ones working mostly in non-farm activities.

Findings suggest that a strategy to promote poverty reduction and equality should include the following policy objectives: expanding access to job opportunities in growing urban sectors; promoting labor mobility and equal opportunity for men, women, and youth; expanding education completion; promoting increases in productivity for small and micro-businesses; and removing restrictions for moving from farm to non-farm activities.

Specifically, urban labor markets may be characterized as follows:

- Labor supply has been very dynamic in the last decade, reflecting the country's fast demographic transition. The result is a noticeable increase in new participants, specifically women and youth.
- There have been important migration flows between 1997-2004, both domestic and international, towards high growth areas. Most migrants perform well in urban labor markets given their characteristics.
- Employment has shifted from commerce and transportation towards manufacturing in Free Trade Zones (FTZs), construction, and tourism during 1997-2002. After 2003, manufacturing in FTZs experienced a decline and lay-offs.
- Workers —especially the young individuals without any tertiary education, and women— face high levels of unemployment, in spite of changes in average real wages and high rates of growth.
- Average real wages declined significantly during the 2002-2004 economic crisis, and have remained stagnant during the recovery.
- There are large earning differentials by individual characteristics, especially by education levels (completing tertiary) and across economic activity (construction vs. agriculture). There are also large differentials across formal salaried, informal salaried, and self-employed workers.

From World Bank and the Inter-American Development Bank (2005), Chapter 3, "Poverty Assessment for the Dominican Republic: Fostering Pro-Poor Growth".

C. IDB's involvement in the Education Sector

Programs such as *Juventud y Empleo* attempt to improve the chances of labor insertion for a particular set of people that did not acquire the necessary skills in the formal education sector. Hence, this programs are seen as a short-term response, while other policies targeted at the education system aim at providing structural solutions. As reported in the 1991-2003 Country Program Evaluation for the DR (RE-306), the IDB has been the leading international financing institution in the education sector over the past twenty years. The Bank has engaged the country in most of the issues in education, with varied degrees of success, ranging from access and coverage to quality and institutional strengthening. The Bank's scope has progressively expanded from interventions in primary to loans focusing on secondary education and on equity in educational outcomes.

During the 1991-2003 period, the Bank approved four loans in the education sector. The first two, approved in 1991 (DR0122) and in 1995 (DR101) were focused on increasing the enrollment in primary, which was diagnosed (correctly) as being very low, and in improving the quality and efficiency of primary education. The third loan (DR0112) focused on improving secondary education, components including decentralizing some funding functions to local school boards, curriculum reform, studying and implementing changes in student testing, physical investment to reduce over-crowding and night shifts, and teacher certification and training. The last loan (DR0125), approved in 2002, was focused on improving the performance of rural and semi-urban regions, which are characterized by the lowest levels of internal efficiency, and the highest levels of repetition, and overage. In all, during the period under review the Bank invested over 212 million in education-related investment loans, with additional resources supporting technical cooperation and economic and sector work activities.

Hence, from a programmatic perspective, the IDB has had a consistent policy that tries to tackle both the symptoms and the causes for the difficulties that the youth population face in order to have a good start in the labor market.

III. PROGRAM DESIGN: A THEORY BASED EVALUATION

A. Description of program

The overall objective of the program was to increase employment opportunities for the low-income population, by facilitating access to the labor market through training, counseling and modernization of the country's labor regulations. The specific objectives are (i) increase the employability of the beneficiaries, adapting the training to the labor demands of employers; (ii) assess the effectiveness of different job and training programs; (iii) establish an ongoing dialogue on policies to modernize the labor market; and (iv) strengthen Ministry of Labor (SET, *Secretaría de Estado de Trabajo*) in order to increase the effectiveness of its policies and programs.

The original design of the program considered three components:

- a. Training and Counseling
- b. Labor Modernization
- c. Institutional Strengthening

The first component was the core of the program and it will be extensively considered below. Labor modernization had US\$300,000 to hire consulting services to develop, process, and implement new regulations in connection with Articles 465 and 466 of the Labor Code and to conduct studies on the costs of the guarantee of labor credits. The ultimate purpose was to increase the flexibility of the labor market, allowing for its more efficient operation.

The last component included US\$2.2 million for the administration and US\$2.5 million for the institutional strengthening of the SET, traditionally a very weak ministry. Process reengineering, new equipment and training were part of this component.

The first component included three subcomponents:

- a. **Training** (US\$9.7 million) for both predetermined courses in high-demand occupations and also courses that would address specific needs of employers in a demand-driven fashion. Courses would have two phases: classroom training (150-350 hours) and an internship in a private firm (two months with six/eight hour days). Beneficiaries (aimed to be 37,500) should be low-income uneducated, unemployed or underemployed youth. By providing training services (inputs) to the eligible population, trainees would be certified in a relevant occupation (outputs), and that would increase their employment rates (outcomes).
- b. **Job Counseling** (US\$3 million) which would strengthen SET's network services and would provide technical assistance (software development, organizational consulting, training of staff, procurement of work and study materials), aiming at attending 100,000 beneficiaries. These inputs would result in an efficient intermediation service (outputs), that would lead to a more efficient job search process for the beneficiaries (outcomes).

- c. **Evaluation** (US\$1.5 million). The object of the evaluation is to determine the effectiveness of the job training activities in relation to (i) reducing unemployment periods, (ii) increasing the duration of employment, and (iii) increasing the income of the beneficiaries. The counseling activities seek to (i) reduce periods of unemployment and (ii) increase income. The purpose was to measure the impact of each activity and to compare their cost efficiency. For this purpose, the software developed by the program would **randomly** assign beneficiaries to training or counseling, thus allowing for an unbiased estimation of the impacts of these interventions. The most salient feature of the project design was the experimental design embedded for the impact evaluation, with the purpose to generate evidence in order to inform the debate on training and employment policies in the country.

B. The model behind the program

Publicly funded job training is a policy instrument within the Active Labor Market Policies framework. In the literature there are several definitions of Active Labor Market Policies, from “policies aiming at improving the access of unemployed to the labor market and jobs, job-related skills and the functioning of the labor market” (Martin, 2000) to “activities intended to increase the quality of labor supply, to increase labor demand; or to increase the matching of workers and jobs” (Betcherman et. al, 2000). It is possible to identify the central elements as a direct intervention of the government aimed at impacting the functioning of the labor market, centered around two issues: improving the opportunities for the unemployed and improving the skills of the labor force.

Within the set of active labor market policies, training is one of the most common instruments. It has several modalities (training for unemployed, displaced or active workers) and it is used to address various issues. Training programs are intended to impact on labor supply, by providing or updating relevant skills to the population, with the ultimate goal of increasing employment and incomes. In some cases, training is closely linked with intermediations services.

Labor markets have various important failures, which could justify government intervention to increase its efficiency. These failures include imperfect and asymmetric information, the lack of complete contracts (the prohibition of long-term binding contracts in labor relations), and externalities (that arise insofar as training creates knowledge, which may be considered a public good). Additionally, a major political economy rationale for these programs is to create support for economic reform; an added motivation is that of equity concerns.

With this background, the rationale behind job training programs could seem straightforward. Several purposes could be pursued:

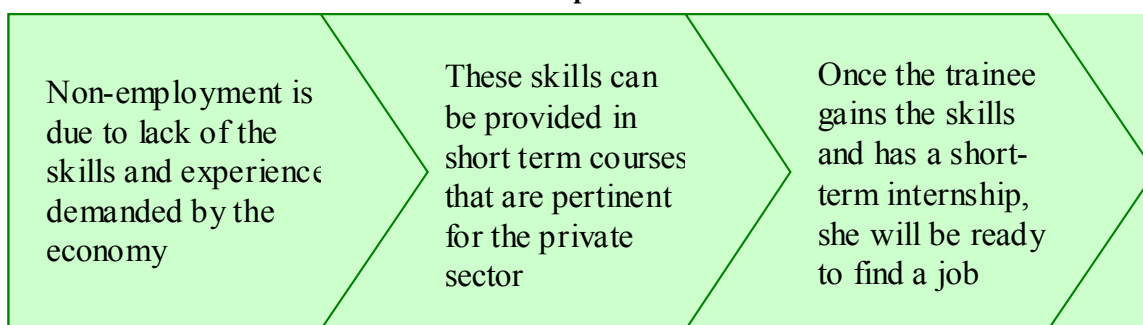
- a. To provide new knowledge or abilities (enhance human capital)
- b. To serve as labor intermediation instrument
- c. To integrate trainees to the social institutions (enhance social capital)

These purposes are not mutually exclusive; training and counseling programs could aim at meeting two or all of the objectives. In any case, the ultimate goal of a training program for the

unemployed or underemployed could be said to insert the trainee in the labor market. The programs usually stress that they do not provide with jobs, but rather with the elements (theoretical training and practical experience) to improve the chances of a successful participation in the labor market; i.e. they promote employability (which, ultimately, should translate into employment).

The underlying assumption is that people are not able to find a job because they lack the skills that are demanded by the productive sector, and/or because they lack relevant labor market experience (this is explicit in Section IV of the loan document). In the case of *Juventud y Empleo* it was argued that two groups of potential workers would see their incentives and perspectives affected as a result of the program: the unemployed and the discouraged workers. The document states that “It is expected that short-term training courses, along with learning basic skills, will contribute to increased productivity among the students and hence to increased wages. The improvement of labor intermediation activities will tend to reduce the cost of job searches. Together, the two actions are expected to result in an increase in anticipated wages, net of search costs” (par 4.6). Also, the young population that dropped the formal schooling system and that had no relevant work experience would have enormous difficulties entering the new, more dynamic and modern labor market. So, if these groups received adequate training in the specific areas that are demanded, their likelihood to insert in the labor market would improve.

Graphic 1



Succinctly, the assumptions behind these programs can be described as follows:

- a. Unemployment (or, in the specific case of the Dominican Republic, non-employment) is due to a lack of the skills demanded by the productive sector (it is mainly a supply problem, the demand issue being addressed by the second component to implement some labor regulations)
- b. The skills needed could be acquired in short-term courses
- c. Courses are relevant and pertinent to local labor markets

The loan document does a serious effort to present evidence for the first assumption, both in the diagnosis and in the benefits section. Perhaps evidence outside from the Dominican Republic could have been provided, but in any case there was enough evidence from a careful analysis of the household surveys to justify the intervention as a solution to the problem of non-employment of the poor.

On the second point, as in most similar programs, it is assumed that this is the case. The program aims at providing training at the semi-skilled level, so it is considered that three months of intensive training in a particular trade or occupation could be enough to acquire the basic necessary skills to perform that occupation. According to the loan document, these include jobs related to farming, restaurants, computers, accounting, electrical work, electronics, mechanics, furniture making, baking, refrigeration, confectionery, welding and sales. Although it is unlikely that people will acquire relevant skills in three months, for some of these occupations three months could provide the basic skills to start a career in that trade. If the primary purpose was to increase the human capital of the trainee, it is uncertain whether three-month part-time courses could reasonably aim at providing with enough skills or techniques to effectively improve the productivity of workers. However, the course was for semi-skilled positions, for which the basic skills could be acquired in a short course. In general, what is stressed is that basic social skills for the labor market can be provided, thus increasing the social capital of participants. Also, the internship experience allows the trainee to have real world contact with the labor market. Besides, participation in the program also constitutes a valuable signal for potential employers, thus helping to reduce information asymmetries in the labor market.

On the other hand, if the stress is around labor intermediation or social capital enhancement, then the training component serves more a function of signaling or of socialization, and the improvements to human capital are not as important. In the Dominican Republic (as it was the case in Chile and Argentina) the purpose of the courses was to attend at-risk populations, in the sense of them being marginalized from the main social institutions. In these programs it is usually argued that even if the economy is able to create jobs these groups could be marginalized due to the uncertainty that employers face when considering whether to hire someone from the target population. In this sense, the program is able to provide a signal (in terms of the trainee being *certified* or *accredited*) in order to correct for asymmetries of information.

Box 2: Demand Driven Models

In the early 1990s an innovative program was implemented in Chile. The “*Chile Joven*” was the first demand-driven model financed by the IDB, and had the following salient features:

- a) Focalization: youth and disadvantaged unemployed population with low chances of inserting into the formal labor market
- b) Training is intended not only to increase the human capital of participants, but mainly to increase their social capital and to increase the employability of participants. c) Training is completed by an internship in a firm. This phase is supposed to allow the participants to gain valuable experience in a formal sector job
- d) The training institutions (TI) have to contact private sector firms to detect the demand, and these firms agree to provide internships to trainees for two to three months
- e) The model is market-oriented for it relies on the market to reveal the demand for training (the participation of the private firms by providing internships is supposed to guarantee the pertinence of the courses) and the provision of courses is determined competitively through the functioning of a market of training institutions.

(For a further discussion, see OVE’s Approach Paper and the Meta-Evaluation –forthcoming in 2006)

The third issue on the relevance and pertinence of training courses is crucial. An important critique to the traditional provision of training by national training institutions is that the content of the courses is driven by the supplier of these courses. Even if efforts are made to periodically consult with the productive sectors what are their training needs, in many cases it was considered

that those big public institutions in charge of the financing, planning and provision of training were not respondent to the needs of the productive sectors, and that they operated inefficiently and had little incentives to improve their performance. The exception to this is Brazilian SENAI, which is managed by the private sector, thus assuring the relevance of its operations.

One of the main innovations from the Chilean experience was the use of market mechanisms to provide the training and to guarantee the relevance of the courses (see Box 2. Demand Driven Models).

To assure that courses were relevant, proposals needed to be presented along with a letter from a private firm stating that the content of the course was agreed with the TI, and that the firm was committed to provide internship opportunities for trainees. This mechanism implies that TI are crucial for the functioning of the demand-driven feature of the program. For this to happen, TI need to be solid institutions capable of developing course contents and of contacting the private sector in order to determine the needs and adjust their courses to the requirement of those demanding training. In Chile this was the case before Chile Joven was implemented (See Box 3. Peculiarities from Chile Joven). The Dominican Republic is probably the country with a closest resemblance to Chile in this aspect, for the national training institution, INFOTEP, already outsourced about 60% of its resources, hiring private training institutions known as *centros colaboradores*, many of which later participated in *Juventud y Empleo*.

Box 3: Peculiarities from Chile Joven

The first demand-driven IDB-financed program was in Chile in 1992. Closely after, the IDB promoted and implemented similar programs in Venezuela (1993), Argentina (1994), Paraguay (1994) and Peru (1996). Chilean inspired programs have also been implemented in Panama (1999), the Dominican Republic (1999), Colombia (2002), Honduras (2004) and Haiti (2005).

There are several peculiarities from Chile that are not present in many other countries, and that should alert on the replication of the Chilean experience without a thorough consideration. Among them:

- a) Existence of a solid regulatory agency for training policies (SENCE, created in 1976)
- b) The separation of financing, design and provision of public sponsored training had been in place for over twenty five years.
- c) The existence of private training institutions in a competitive market used to work closely with the productive sector
- d) A stock problem: it was considered that about 200,000 people were at risk. This group was formed by young people that dropped school due to the crisis from the mid 80s. It was assumed that this problem would not persist, that new pools of at-risk people would not appear
- e) There was a massive effort to solve the stock problem. The dimension of the project was large in order to solve this issue.

In this sense, from a Chilean perspective, the innovation of *Chile Joven* was not the mechanism, but rather that it was one of the first social programs that used the institutional infrastructure created by SENCE in 1976.

(For a further discussion, see OVE's Approach Paper, the EPPER for *Chile Joven* and the Meta-Evaluation – forthcoming in 2006)

Perhaps the most questionable assumption behind the basic model that supports these type of interventions is to suggest that unemployment or non-employment is due (largely) to supply

problems. These models operate under the assumption that job creation is not the main issue. In the face of a poor rate of employment growth, perhaps these programs accept the consensus that a stable macroeconomic and fiscal policy, together with deregulation, free trade promotion and other basic pro-market reforms would be the ideal climate and best policy for job creation.

This, conceivably, is the most important risk of this program: that the economy does not grow fast enough to create the jobs necessary to place the trainees. On this, the LD is silent. The logical framework does not mention as an important assumption to meet the goals of the program that the economy should grow and create jobs in order for the trainees to have a successful insertion to the labor market.

C. Discussion

It is interesting to contrast the model proposed in the loan document with the “conventional” model, and also with the model that was actually implemented.

Not surprisingly given the team that worked on this project,² the program had an important variation with respect to the traditional demand-driven programs. Basically, that there was an important supply-driven component: “courses in the jobs and specialized areas that have been most in demand by the country’s employers in recent years” (paragraph 2.8 in the loan document). The issue here is not a preference for one of these options, but rather that the justification seems to point to the need for demand-driven courses (as it is clear in paragraph 1.17), while the program is proposing a supply driven approach.

This issue takes us to question other core aspects of the program. INFOTEP, the national training institution financed with a 1% payroll tax, legally constituted in 1980 and with the legal mandate of regulating and supervising the training system in the country, is mentioned only once.³ There is an extremely poor characterization of the training market in 1.17 and 1.18. The point here is that the traditional justification for an intervention is not evident, for a private market of training institutions was already working. The issue of it being supply-driven and without solid links with the productive sector could still be valid, but the evidence was not discussed. From the document the problem seems to be, besides the poor performance, the low access of certain groups to the system, basically women and low educated people. Again, this is probably a sufficient justification (at least is the one that was ultimately used) but it needed to be made explicit.

This program is interesting, for it was (relatively) very well executed, maintaining the experimental design to facilitate a rigorous impact evaluation, without any major follow-up from the Bank’s headquarters (none administration missions were done for this project), and departing

² In all the teams led by the team leader of this project it is possible to detect the influence of an education specialist from SDS, who was a sharp critic of the pure demand-driven model arguing that it was a waste of resources to ask training institutions to develop the same courses on each call for courses, that it was better to determine some courses of high demand and call for proposals on those, providing the TI with the materials for this courses. There is no evidence on whether this approach is better than the pure demand-driven system, but in principle this is what the National Training Institutions did. Also, the experiences in Argentina and Paraguay were disastrous when this suggestions were attempted. In the Dominican Republic, as we will see, this approach was not followed.

³ Actually, twice. One in the executive summary and one at the very end of the loan document in the Risks section (paragraph 4.17)

away from the text of the loan document towards the spirit and practice of the pure demand-driven Chilean-type model.

After the program was finally ratified by Congress and enacted in May 2001, in September 2001 a program administrator was hired. Without experience on this topic, this person was quite successful in starting the implementation of the program. At the time, the COF specialist in the DR was someone who had worked in Chile during *Chile Joven*, so he suggested to the EU in the DR to hire those who designed and implemented that program (who latter formed a successful consulting firm that has participated in about a dozen of similar program in the Region). This is how “the Chileans” came to scene, and they re-designed the program on the lines of *Chile Joven*. Hence, the program was purely demand-driven in the sense that the contents of the courses was to be entirely determined by ICAPs and private sector firms.

IV. EVALUABILITY AND OVE EVALUATION STRATEGY

A. Design, indicators and data for an evaluation

This project has high levels of evaluability,⁴ and it can be easily evaluated in its own terms. The goal and purposes of the project, albeit general, are well defined (as shown below in the original logical framework). Indicators are not provided at those levels, but well defined, verifiable and relevant outcome indicators were provided in the results section for the activities related to training and job counseling services.

With reference to the control group (hence, no baseline is necessary for this will be a with/without program comparison, instead of a before/after comparison), training was expected to reduce search time in 20%, to reduce the unemployment rate by 15%, to increase income by 10% and to increase the duration of employment by 15%. Similarly, job counseling was expected to reduce search time in 10%, and to cut the unemployment rate by 5%.

From the vast job training literature one finds that the most common indicators are the employment rate and income. For this program, it is puzzling that a reduction in unemployment was targeted, when the problem detected was non-employment. Also, the selection of job search duration, although also common, is more controversial, for it is not unquestionable that a reduction is welfare improving for the individual, and a practical complexity arises due to the truncation for those that have not yet found a job. In any case, the indicators selected are reasonable and relevant.

For the labor modernization component a simple activity indicator was proposed: whether the regulations and recommendations were proposed. The institutional strengthening component called for a new structure for the SET, the training of personnel and the equipment and functioning of ten regional offices.

Table B: Logical Framework

Narrative Summary (NS)	Verifiable Indicators (VI)	Means of Verification (MV)	Major Assumptions
Results:	(each benchmark in relation to control group)		
1.1. Discouraged or unemployed poor workers trained in areas for which there is private sector demand.	1.1. search time reduced by 20% unemployment rate reduced by 15%, incomes increased 10%, duration of employment 15% greater.	1.1. Longitudinal surveys of each group trained, conducted independently of the executing agency.	
1.2. Discouraged or unemployed poor workers receive labor intermediation services.	1.2. Search time reduced by 10%, unemployment rate reduced by 5%.	1.2. Longitudinal surveys of each group trained, conducted independently of the executing agency.	

⁴ Evaluable projects are defined as those that clearly identified a problem, proposed a logical intervention to address the problem, had adequate indicators to determine progress, and monitored those indicators during project execution to determine whether the anticipated degree of progress was being achieved (4.7 of RE-300). See also RE-275, both available at www.iadb.org/ove

Narrative Summary (NS)	Verifiable Indicators (VI)	Means of Verification (MV)	Major Assumptions
2. Proposals completed for implementation of new regulation of Articles 465 and 466 of the Labor Code.	2. Study conducted to determine benefits and estimate costs of the new system of guarantee of labor credits. Sample contracts designed. Regulations of Articles 465 and 466 and recommendations proposed.	2. Reports submitted by the executing agency.	
3. Enhanced institutional capability of SET in policy development, labor intermediation and training services; improved administration, assessment and supervision of its programs.	3. New SET structure implemented, and its administrative procedures improved and automated. Training of personnel done in accordance with the new operational/administrative structure. Ten regional SET offices functioning and equipped.	3. Reports and evidence generated by the technical executing unit.	

Due to the slow start of the project implementation and to the departures from the original design, the PPMR system reports a reformulation of objectives in October 24, 2003. Basically, the reformulation consisted in recognizing the changes that de facto were taking place. In terms of the evaluability of the project, the outcome indicators were reformulated in two important ways. First, the separate indicators for job training and job counseling were dropped. Given that the intermediation services activities were very slow, this activity was virtually abandoned. Second, two of the goals for the training component were scaled down. The new goals were (compared to the control group): job search reduced by 10% (instead of 20%), unemployment rate 5% less (instead of 10%). Thus, the original goals of the counseling component were applied to job training activities.

The program was extremely successful in gathering the necessary data for the impact evaluation. For all eligible applicants, the ICAP submits an administrative form with the basic data, which was captured and constitutes the baseline. This information is available for all applicants (beneficiaries and controls) for all the cohorts. The program was successful in the most critical aspect from an evaluation perspective: in the implementation of the experimental design. From each ICAP thirty eligible applicants were submitted to the SET, and twenty were randomly selected. Some substitutions were allowed, and there is some evidence that those not selected may have still participated, but overall the process was well done, and the statistical tests done confirm this finding.⁵ Then, for the second cohort a follow-up survey was applied between May and July 2005. Although the design called for three surveys (at six, twelve and eighteen months after graduation) for the second and fourth cohorts, at the end only one survey was applied, at 10-14 months after graduation, for the second cohort. Another survey will be applied in March 2006 to the second cohort. In any case, extremely reliable data is available, which was collected by a very reliable local firm. OVE was fortunate to contact the program coordinator weeks

⁵ For statistical details on this, see the working paper by Card et al (2006).

before the data collection started,⁶ and we agreed to collaborate with the SET in the evaluation of the program.

In short, this program had an simple yet extremely well designed and implemented evaluation component (see Box 4) and the data for the evaluation was collected and available for OVE.

Box 4: The Evaluation Problem and the Use of Social Experiments [From Jeffrey Smith, “A critical survey on empirical methods for evaluating active labor market policies”]

The evaluation problem exists because we only observe persons either in the state of the world where they participate in a program or in the state of the world where they do not, but never both. Solving the evaluation problem requires obtaining credible estimates of the counterfactual outcomes that would have been realized had persons made different program participation choices.

Let Y_1 denote the outcome a person receives if she participates in the program being (this outcome could consist of earnings, employment or any other outcome that a program intends to affect), and let Y_0 denote the same outcome, measured in the same way over the same time period, if she does not participate in the program. As already noted, a person can only participate or not participate, so exactly one of the two potential outcomes is observed for each person. Nonetheless, it makes sense conceptually to associate both possible outcomes with each person, and to think of the difference between the two outcomes for a given person as the impact of the program on that person. Put differently, the impact of a program for a given person consists of the difference it makes to their outcomes. In formal terms, the impact for person i is given by $\Delta_i = Y_{i1} - Y_{i0}$ where Δ_i is the notation for the impact for person i .

Ideally, social experiments take persons who would otherwise participate in a program and randomly assign them to one of two groups. The first group, called the treatment group, receives the program as usual, and the second group, called the control group, is excluded from it. Experimental control groups differ from traditional non-experimental comparison groups composed of naturally occurring non-participants because, up to sampling variation, they have the same distribution of observed and unobserved characteristics as the participants in the experimental treatment group. In a non-experimental evaluation, statistical techniques are used to adjust the outcomes of persons who choose not to participate to “look like” what the participants would have experienced, had they not participated. In contrast, an experiment directly produces the counterfactual of interest by forcing some potential participants not to participate. As a result of random assignment, under certain assumptions a simple comparison of the mean outcomes in the experimental treatment and control groups produces a consistent estimate of the impact of the program on its participants.

Beyond the simple fact that, in the absence of the problems discussed later in this section, social experiments produce consistent estimates of the impact of treatment on the treated, social experiments have several advantages relative to standard non-experimental methods. First, social experiments are simple to explain to policymakers. Most educated persons understand the idea behind random assignment. Second, experiments are less controversial than non-experimental methods. Third, it is hard to cheat on an experiment. that is, if the person, firm or organization conducting the evaluation prefers to find that a program works well or does not work well, relying on an experimental evaluation makes it more difficult for them to generate the impact estimate they want.

[For more technical analysis of the evaluation problem and of the advantages and costs of experimental and quasi-experimental methods, see Heckman and Smith (1995), and Heckman, LaLonde and Smith (1999)]

⁶ While working on the DR CPE, a staff member learned about the experimental design and successful implementation of this project, information that was shared with the Job Training Ex Post team. In April OVE sent a mission to the DR, and it was agreed with the executing unit that OVE would collaborate closely in the evaluation process. Together with a multi-sector specialist from RE2/SO2 and with the advice of Prof. David Card, OVE worked the data and produced the first experimental evaluation of a job training program in Latin America and the Caribbean. Following on the agreement with the executing unit, a member of OVE visited Santo Domingo on February 8, 2006 to publicly present the results to members of the government, ICAPs, INFOTEP and other interested actors in the country.

B. Evaluation strategy

For this project, the evaluation strategy followed by OVE is the evaluation strategy set forth in the loan document, namely to make use of the experimental design (and its successful implementation) and to compare the outcomes for treatment and controls in order to estimate the treatment effect on the treated. This is done for all the population, and also for relevant subgroups based on gender, age, education and region.

Treatment effect evaluations answer the following question. What was the impact of the program (in terms of a predefined indicator) ? In this evaluation this question is answered unequivocally (up to a sampling error, which is not a minor issue) and in an unbiased manner thanks to the experimental approach. However, the evaluation does not and cannot answer the question as of why the measured impact was such. So, if we find a large impact we do not know the reason. Probably in that case it does not matter, for everyone would be happy (although for replication purposes it would help to know which were the crucial aspects that resulted in positive impacts). In the case that the impacts are not as large as one would have forecasted (or expected, simulated, or simply hoped for) then this turns out to be a pressing issue. Why did the program fail to create impacts? Was it a bad design? If such, which steps of the design were erred? The assumptions, the causal links? Where there problems in the implementation? If so, why were they not considered at design? For these questions, the treatment effect evaluation does not have answers. However, given that OVE aims at a comprehensive evaluation and that we have detailed the model in this program and the general model in this type of operations, we hope to be able to provide with some hypothesis to answer some of these very relevant and quite difficult questions. This is largely the purpose of the meta-evaluation of which this study is part of, to provide with additional elements to tackle these inquiries.

The indicators used for the evaluation are drawn from three main sources, which have high degrees of overlap. One is the original loan document and the reformulation of the indicators reported above. The second one is the set of indicators provided by the Chilean consultants that helped in the implementation of the project. Finally, from the vast literature on the evaluation of job training programs in both developed and developing countries, and from conversations and suggestions with the executing unit and local labor market experts in the Dominican Republic OVE selected an additional set of indicators.

Table C

Indicator	Source
Search Time	Loan Document
Unemployment Rate	Loan Document
Income	Loan Document
Duration of Employment	Loan Document
Duration of Unemployment Spells	Chilean Consultants
Share of formal-sector employment	Chilean Consultants
Re-insertion to the schooling system	Chilean Consultants
Occupational Status	Chilean Consultants
Probability of Employment	Chilean Consultants
Hours Worked	OVE
Employer Provided Health Insurance	OVE
Underemployment	OVE
Employability	OVE

For the last indicator, employability, the evaluation by Card et. al. (2006) contributed to the literature by providing the first operational definition for that concept. Using a dynamic random coefficient logit model, employability was defined as the probability of finding a job for the non-employed, and of retaining a job for those employed. Additionally, heterogeneity of impacts was also estimated by the type of course and quality of the ICAPs (besides the common gender, age, education and region estimations).

Prior to presenting the impact evaluation for the project, this document will present two additional and equally important aspects as central aspects of this comprehensive evaluation of the project: a process evaluation and an institutional sustainability analysis.

V. FINDINGS: EFFICIENCY AND EFFICACY, A PROCESS EVALUATION

A. Outputs, activities and financial aspects

The first question analyzed in this section is whether the program delivered the outputs it intended to do so.

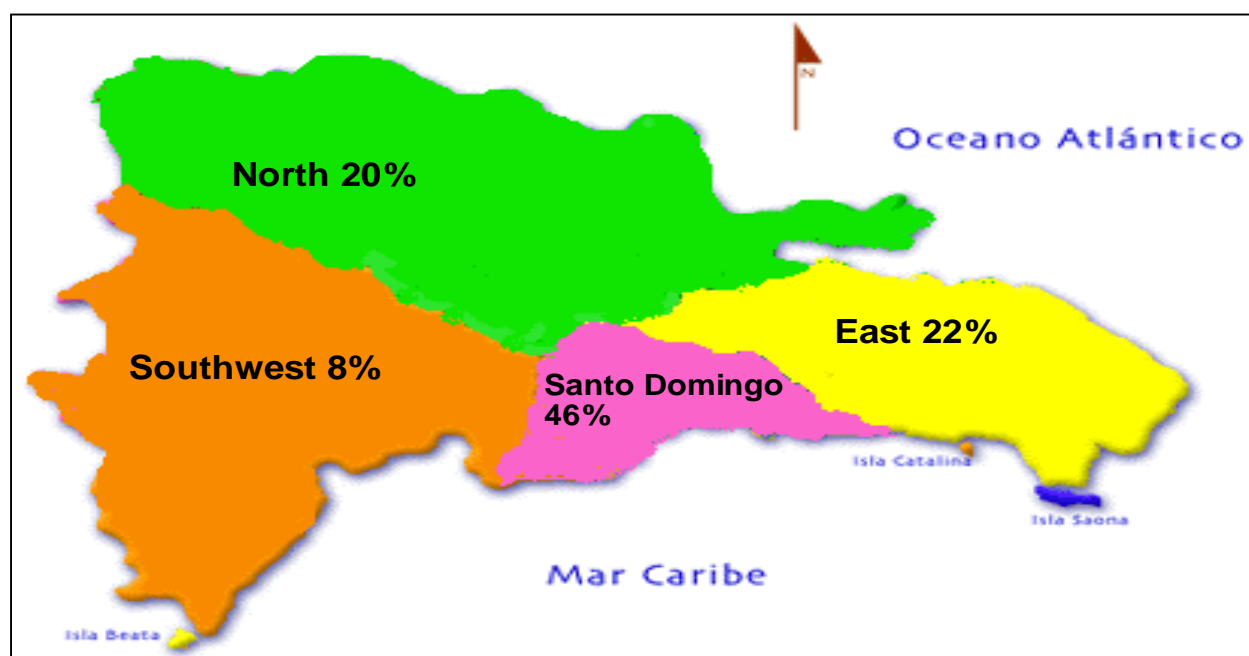
Table D

Components/ Outputs	Indicators	Status up to February 2006
Low-income young people, unemployed, and underemployed trained	30.000 young people trained in 1.500 courses BL: no training before	Approximately 27,000 people have been trained in three calls, with about 1,600 courses
Job counseling	30.000 young people receive job counseling BL: as to October 2003 job counseling has been given to 800 people	The job intermediation system by internet is being developed. There is an agreement with INFOTEP. Job counseling is being provided in small-scale for Santo Domingo. Most activities are aimed at the next program
Labor modernization	A study about the articles in the Código de Trabajo (465 & 466) before Nov. 2005 BL: no study	Study done, no more activities planned.

During the implementation of the program it was evident that the design overestimated the institutional capacity of the SET, and particularly of its General Employment Directorate, to execute the job counseling subcomponent. However, given that activity was in the same component as training courses, resources were easily transferred between these activities.

Training activities were the central and most visible activities of the program. Four cohorts of trainees exist, one pilot project that trained 640 beneficiaries in Santo Domingo, in which 6 ICAPs participated, and three major bids that benefited 5,750, 15,000 and 5,600 people. The target of 30,000 trainees was almost accomplished, the number of trainees being 90% of the goal.

Graphic 2



Although there were no geographical targets, the activity of the program has been distributed nationally, with the shares closely resembling the economic activity: the highest levels are in Santo Domingo and in the eastern region, where tourism is very important. Similarly, the areas closer to Haiti where economic activity is weaker also have lower levels of activity.

The following table shows the basic information about the outputs of the training component:

Table E

Cohort	Trainees	Courses	ICAPs	Cost per student
1 st	660	33	6	USD\$326
2 nd	5,750	268	32	USD\$257
3 rd	15,000	755	45	USD\$484
4 th	5,700	246	53	USD\$261
Total	27,110			

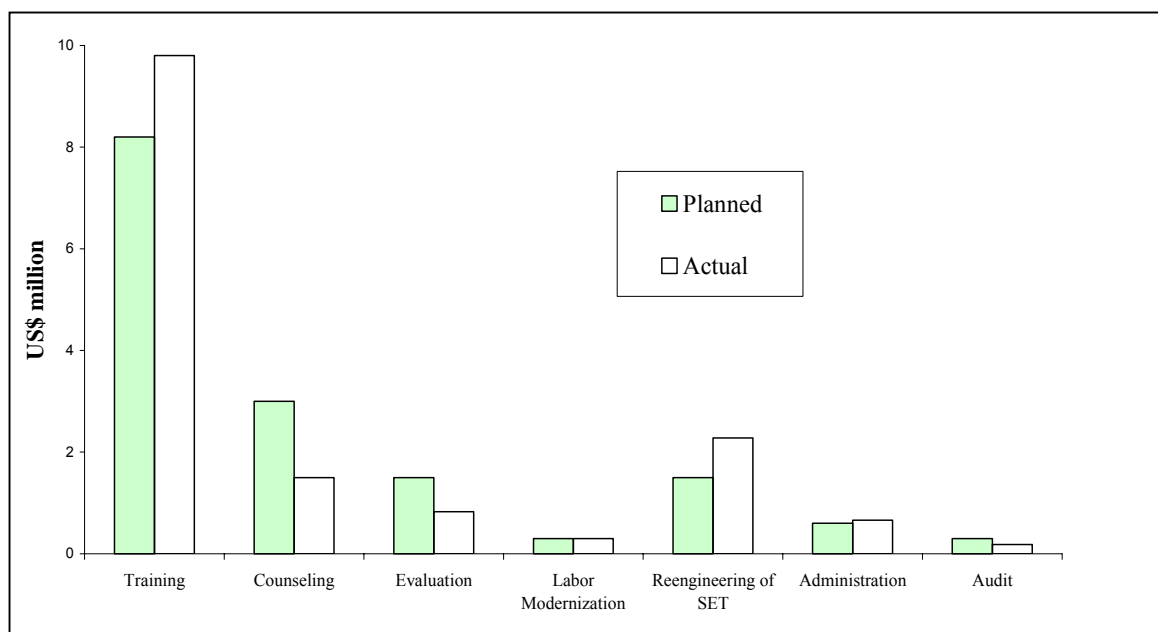
With respect to the counseling activities, these were minor and referred to creating the institutional background for a future intermediation system. A small office is working in the SET headquarters in Santo Domingo, but the large-scale component was never implemented.

The main activities of the institutional strengthening component were a reengineering of the SET, as well as the establishment of a new organizational structure for the SET and the implementation of the Integrated Information Systems Center (*Centro de Servicios Integrados de Información, CSII*). There are no outcome indicators to measure the impact of this component in terms of efficiency or performance of the SET.

The labor modernization component was partially executed: a consultancy was hired and an economic analysis of the implementation of those articles was produced. However, recent

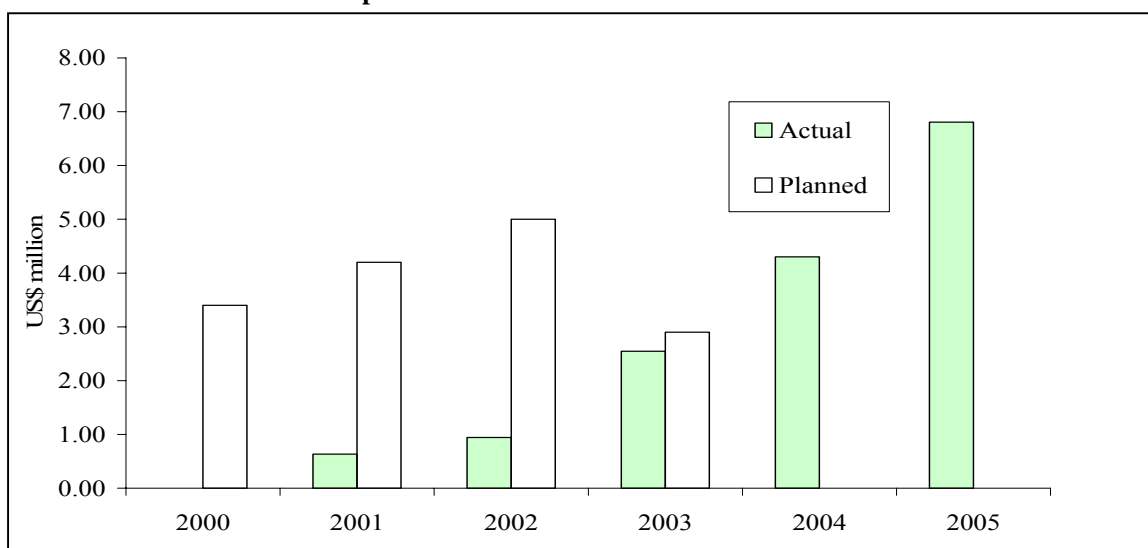
changes in the Social Security regulations have increased payroll costs to employers, resulting in a further consideration of these regulations politically unfeasible. The status is that a proposal will be discussed with relevant parties, but there is no political commitment at this moment.

Graphic 3: Planned and Actual Spending by Component



Finally, the previous and following graphs compare the planned and actual expenditures by component and by year, clearly showing that the project was slow in its execution (which did not merit any mention in the PPMR problem-tracking system) and that important reallocations took place as the actual project differed from the original design. Note that the counseling budget was cut in half, and it was transferred to training and to the reengineering of the SET. Also, the US\$1.5 million for evaluation were reduced to US\$800,000, of which according to the SET only USD\$311,208 were spent.

Graphic 4: Actual and Planned Disbursements



B. Other relevant features from the implementation

There are three noticeable features of the program implementation. First, the continuity of the head of the UTE has been remarkable because it survived two government changes. This is not common in IDB operations, particularly in the labor training programs studied by OVE. This has allowed continuity and accumulation of experience from the staff.

The second salient aspect of the implementation that was not addressed in the loan document is the relationship of “*Juventud y Empleo*” with the national training institute, the INFOTEP (*Instituto Nacional de Formación Técnica Profesional*). INFOTEP is a large national public training institution financed from a 1% payroll tax. Although INFOTEP looks like other similar institutions in the region (SNPP in Paraguay, INAFORP in Panama, SENA in Colombia), it has an important difference: INFOTEP’s main task is not to be the provider of most of the training courses that it sponsors but rather to act as a supervisor and administrator of the national training system. In this role, INFOTEP has developed strong supervision skills, and it also certifies the instructors of private training firms. The UTE strategically and purposefully decided not to confront INFOTEP, but rather to invite INFOTEP to collaborate actively in the program⁷. Specifically, INFOTEP reviews and ranks all the proposals that the UTE receives in the public competitive bids for training courses. With this input, the UTE selects the courses that will receive funding. Before a course may start, INFOTEP inspects the installations and verifies that whatever was stated in the proposal actually exists, and that the conditions for the training modules are present. Then, INFOTEP does regular visits during the course, and it also follows up some beneficiaries in the firms in which they do their internship.

Finally, the training phase includes a module on basic social skills and attitudes for work (called “*formación humana para el trabajo*”), that includes the concepts of self-esteem, self respect, responsibility, honesty and punctuality. This module is very well valued by participants and by the firms that provide the internships. Given the difficult social and economic background of most of the participants, this has allowed them to learn basic social skills. A large portion of the beneficiaries are young females, many of them with children and also without a stable partner. For them, the opportunity of socializing and to create social capital, learning a trade and generating income is significant.

The UTE introduced others important changes during the execution of the program. Given that counseling services were practically abandoned, the process to select beneficiaries was changed. Originally applicants to the SET would be randomly selected towards training or intermediation services. It was assumed that those interested and eligible would approach the SET, where the final selection was going to take place. However, in practice the selection of participants is not the responsibility of the UTE. Rather, the ICAPs are responsible for selecting potential beneficiaries that meet the basic eligibility criteria.⁸ To do this, the ICAPs use several sources, such as “perifoneo” (announcements by vehicle-mounted loudspeaker), radio spots and contacts

⁷ The idea behind was that there is no overlapping between the population served by INFOTEP and that served by the program. INFOTEP serves mainly active workers and those with labor market experience, while “*Juventud y Empleo*” focuses on first-time job seekers with low education and living in poverty. With these considerations, the UTE invited INFOTEP to collaborate in the selection of ICAPs and in the supervision of the quality of the ICAPs work.

⁸ 16 to 29 years old, without high-school degree, unemployed or underemployed, and poor.

with churches and other community groups, among others. In interviews with ICAPs they report that at first it was difficult to reach the target population, but that now the beneficiaries spontaneously show up.

As in all the programs that rely on the ICAPs, the role of these institutions is a serious concern. In the Dominican Republic they are responsible for the pre-selection of participants, of detecting the demand from the business sector through the internships, of designing the courses in agreement with the private sector and of supervising the internship phase. In the meetings we had with some ICAPs, we also detected that they play the role of labor intermediaries, and that some of them even follow up on the employment status of their graduates. We detected the necessity to strengthen these institutions.

VI. FINDINGS: INSTITUTIONAL SUSTAINABILITY

During the Fall of 2004 the OVE team for the Country Program Evaluation for the Dominican Republic visited Santo Domingo, and did an analysis of the project. The main findings are summarized in Box 5 below.

Box 5: Findings from the Country Program Evaluation of the Dominican Republic

The first is the complexity of the experimental design and the difficulty in obtaining buy-in at the secretary level for the design may compromise the evaluation strategy. The complex nature of the evaluation strategy has generated technical issues that may be challenging for the executing agency to overcome. For instance, data collection on beneficiaries was being conducted, at least for the pilot group, by phone interviews, and the type of data collected was not consistent across interviewees. In addition, baseline household information is collected by the individual training institutes, without a supervisory quality control mechanism in place by the program. In addition, concerns have been raised concerning the political sustainability of the program's evaluation strategy, given that the exclusion of beneficiaries is seen as unfair.

In terms of institutional structure, two main problems were identified. The first is with the design of the institutional strengthening and human resource component of the program. One of the program's outputs was the training of the technical staff of the SET, in order to increase measures of internal efficiency. In addition, the program hired people based on objective criteria. However, during the change of government much of this technical staff was replaced. This presents a critical problem, given that the specific training provided has been lost, and a new cohort of entrants must now be retrained. Besides, institutional memory is lost when there is a high rotation of personnel. This can potentially compromise the effectiveness of the entire institutional strengthening component.

The second problem identified concerns the establishment of the program execution outside the SET's bureaucracy. Although this presents undeniable advantages in execution, including a greater stability of employees and a higher quality of staff, it can pose serious problems for the program's sustainability*. It is not clear how the accumulated knowledge of the executing unit will be transferred to the SET, particularly given the high turnover in staff. Furthermore, it is not clear why the program was not created within the infrastructure of the country's formal national training institute, INFOTEP. Given that INFOTEP manages and operates most of the country's existing training programs⁹, it would appear to be at least a candidate for a program partner. Nevertheless, this possibility was not explored during the design phase of the program.

** Even operating outside the government bureaucracy is not necessarily a guarantee of stability. For example, during the mission to the Dominican Republic in October 2004 the program director had been learned through the newspapers that he was being replaced. This decision was overturned because the president did not have the executive faculty to replace him, and the same program coordinator is still in office.*

On the complexity of the experimental design, the coordinator of the UTE agreed that the largest costs were already paid, and that they were sunk costs, in the sense that the future operation of the experimental design would not be as complicated. However, he stressed that it was a straightjacket that delayed the operation of the program. He also suggested that the political and financial costs were too high to be paid by a poor country as the Dominican Republic. On the gathering of the baseline data we confirmed that it is done by the ICAPs and that there is no control from the UTE on this.

⁹ Most of INFOTEP's training is associated with those formally employed. As is the case with other agencies of the type in LAC, it is independently financed based on taxes on income of the formally employed.

On the second point we were surprised by the stability of the key personnel at the UTE, but were also informed that the turnover at the rest of the SET had been large with the change of government.

Finally, although the UTE is indeed a bubble within the SET, we consider that the long term perspectives are not as gloomy. We asked the deputy secretaries of labor and the deputy director of operations at INFOTEP on whether the program could be inserted into the INFOTEP system. The answer was relatively positive, in the sense that if the program is extended for another period (say 3-5 years) this transition could be gradual.¹⁰ It is important to stress that INFOTEP is used to outsourcing its courses, to work as system coordinator and not as the only provider of training. However, we agree that it will be a challenge when the financial sustainability is addressed. The program is spending about US\$3 million a year on training, while the annual budget of INFOTEP is about US\$30 million. With these gross figures, it seems that it may not be an insurmountable difficulty to overcome.

On this issue, the recent experiences in the negotiation and approval of a follow-up operation are worthwhile mentioning. The Board of Executive Directors approved on November 30, 2005 the phase I of the Labor Markets and Social Transfers project (DR-L1006) for US\$10 million. This program has two components, the largest (US\$8.6 million) being for labor markets, both related to the creation and implementation of a labor intermediation system and to the continuation of training activities.

The new operation has a second phase for US\$30 million, and the World Bank is also financing about USD\$20 million for a Youth Development Program that will finance three times as many courses as the IDB for 2007-2010. The point is that now there are large amounts of resources involved, and, nor surprisingly, INFOTEP is increasingly showing interest in the program. The IDB follow-up operation does explicitly recognize the supervisory and regulatory legal duty of INFOTEP, and has direct resources for the institution in the creation and operation of the labor intermediation system. However, during negotiations INFOTEP was pressing hard to get more resources, and although the relationship is still good, further tensions have developed. Interestingly, the program coordinator recognizes that to guarantee sustainability a gradual transition from SET to INFOTEP is inevitable, but that the process should be gradual and simultaneous to a strengthening of the SET, which should be able to oversee and coordinate labor market policies in the country.

¹⁰ During the visit from OVE in April to INFOTEP, the deputy director said that he was surprised from the visit and from the fact the IDB staff were paying attention to INFOTEP and not simply ignoring the institution or, even worse, planning or hoping to close it down. We understand that he was resentful for the lack of consideration of INFOTEP during the planning of the project. During another visit it was clear that the COF specialist had not visited INFOTEP either during the execution of the program, even though INFOTEP is a central actor of the operation.

VII. FINDINGS: DEVELOPMENT OUTCOMES

This section presents the results from the study “Labor Market Impacts of a Youth Training in the Dominican Republic: Evidence from a Randomized Program”, by Card et. Al (2006) where further details on the relevant literature, methods and data can be found. Before doing so, and for the sake of completeness, we present the results for each of the indicators mentioned in section IV.b.

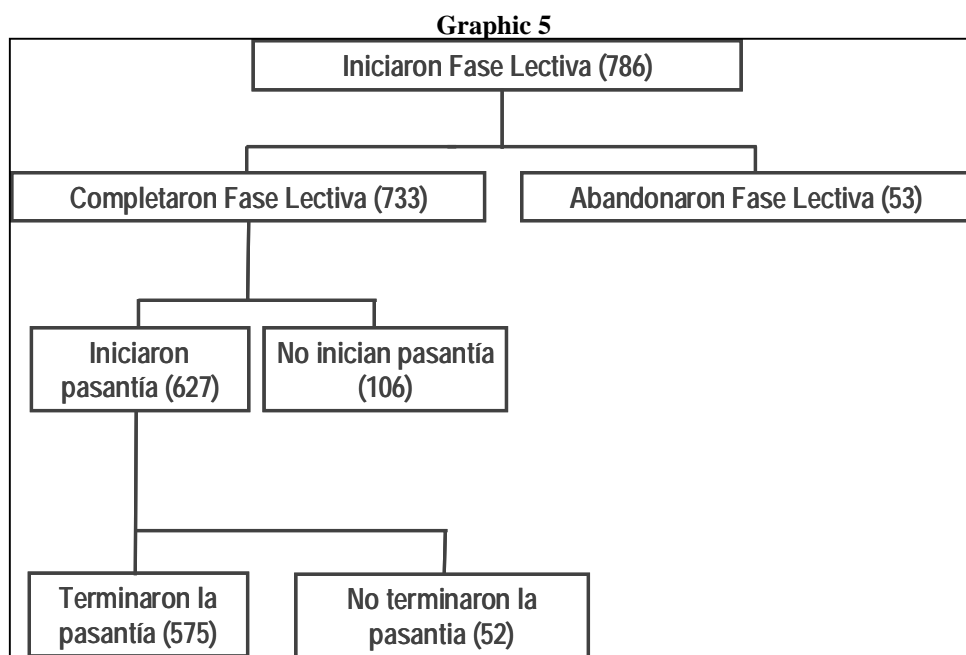
A. Data

1. The evaluation sample

Although baseline information was collected on all applicants to the JE program, follow-up information was only collected for a subsample of the treatment and control groups. This subsample was drawn by stratified sampling (using age, gender, and education classes as strata) from the list of 1,623 controls and 5,757 treatments. The subsample includes 563 controls and 786 treatments.

Originally, the follow-up survey was scheduled to be conducted 6 months after completion of the classroom segment of the training. The actual survey was conducted between May and July of 2005. In the survey, members of the treatment group were asked to provide monthly information on their activities, starting from the month that they completed (or left) their classroom training program. Because of variation in the date of entry into the program, and variation in the duration of classroom training, the number of months of post-classroom training data available for members of the treatment group ranges from 1 to 18, with a median of 13 months.

Information on the treatment group members who completed the follow-up survey enables us to estimate the fractions of the trainees in JE who completed the various phases of treatment. A total of 93.3% of the treatment group completed their classroom training, while 6.7% did not. Of the completers, 84.8% started an internship. Finally, of those who started the internship 92.4% completed it. Thus, the completion rate for the entire classroom and internship program was 74% ($=.933 \times .848 \times .924$), which compares favorably with other training programs. From a gender perspective, the completion rate was 75.5% for men and 73.2% for women (17% of men did not start the internship, while this figure was 22% for women).



An important complication that arises in the post-program survey is that since the control group members did not enter training, they could not be asked about their activities in the time since program completion. Instead, members of the control group were asked to provide a monthly calendar starting from August/September 2004. Thus, for members of the control group, we have access to information on roughly 7-9 months of data over the period from September 2004 to May-July 2005.

For the dynamic analysis described below, we make one further adjustment to the sample. Specifically, to ensure that comparisons of the treatment and control groups were not affected by the fact that some treatments were still in classroom training, for this analysis we limit attention to the subgroup of the treatments in the follow-up survey who had completed their classroom training (or dropped out) by September 2004. Using this criteria we identified a set of 651 members of the treatment group (82.8% of the treatment group included in the evaluation sample). We refer to the sample comprising all 563 controls in the follow-up sample and the 651 treatments in the follow-up sample who completed their classroom training by September 2005 as the “dynamic sample”.

2. Basic sample characteristics and tests for randomness

Table 1 shows some basic characteristics for members of the treatment and control groups, as well as for a similar group in the general population taken from the October 2004 labor force survey. We include information collected in the baseline (eligibility) survey completed by all program applicants (denoted as “baseline” characteristics in the table), as well as information on selected characteristics collected in the follow-up survey.

Looking first at the differences between the treatment and control groups, there appears to be only small and unsystematic differences between the groups. For both groups the mean ages are about 22.3 at baseline, and 22.8 at the follow-up survey. The regional distributions of the

treatments and controls are also similar, as are the fractions who are male, the mean levels of schooling of both parents, the fractions who report receiving remittances (at either baseline or follow-up), the fractions employed at the baseline, the fractions with previous work experience, and average household size. The only notable exception is schooling, where – despite the similarity in years of schooling – the treatment group appears to have a lower fraction of people with primary education and a higher fraction with secondary schooling than the control group. Given the patterns for parental education, and for years of schooling, we suspect that the slight differences in the fractions with primary versus secondary education are accidental, rather than the result of a failure of randomization. Nevertheless, in recognition of this difference, in the comparisons below we present both “unadjusted” comparisons of the mean differences between the two groups, and a reweighted difference, which uses the method described by DiNardo, Fortin, and Lemieux (1996) to “balance” the distribution of the characteristics of the two groups. This is a simple semi-parametric alternative to a regression adjustment. Results from a regression adjusted comparison are quite similar and in the interests of simplicity we report only the unadjusted and reweighted comparisons.

It is also interesting to compare the characteristics of the control and treatment groups to the characteristics of a random sample of people in the October 2004 Labor Force Survey (ENFT) with the same age. Note first that people in the two experimental groups are a little less likely to be male, consistent with the stated objectives of the program. Also, people in the experiment have less educated parents than the comparable population. Most noticeably, people in the experiment have lower employment rates and previous work experience (as measured in the baseline survey), reflecting the eligibility requirements of the program.

A third interesting set of contrasts in Table 1 is between responses to similar questions at the baseline and follow-up surveys. For example, in the baseline survey no one in the treatment or control groups has post secondary education, whereas in the follow-up both groups report a 12% rate of post-secondary education. We suspect that this reflects the eligibility criteria (less than a high school degree) coupled with strategic misreporting in the baseline. A similar story could well explain the much higher fraction of the sample with reported remittances at the follow-up than the baseline.

B. Impacts on suggested indicators

Table F

Indicator	Average Impact	Notes/Observations
Search Time for Current Job	-1.78 months (t= -2.28)	
Unemployment Rate	2.1 % (t= 0.85)	
Income	RD\$483 (t= 2.25)	Zeros for non-employed. Income recoded for outliers.
Duration of Employment	-1.23 months (t= -1.07)	Refers to tenure in current employment.
Duration of Unemployment Spells	-1.79 months (t= -2.15)	Defined at time searching for job for those unemployed
Share of formal-sector employment	2.4 % (t= 0.68)	Based on DR definition, i.e. firm size>5, public sector or employers and self employed in particular areas

Indicator	Average Impact	Notes/Observations
Re-insertion to the schooling system	2.25% (t= 0.67)	% of those not studying at baseline that were studying in follow-up survey
Occupational Status		See table below.
Probability of Employment	1.4% (t= 0.52)	Employment rate at time of survey
Hours Worked *	-0.03 (t= -0.02)	
Employer Provided Health Insurance*	9.6% (t= 1.99)	This results is for men only, for women diff= -2% with t=0.42
Underemployment	- 1.9% (t= -0.62)	Defined as working less than 35hrs and wanting to work more hours
Employability		See section VII.c.5 below.
* Conditional on being employed		

The impacts reported in the table correspond to the simple difference in the indicator between the treatment and the control groups. The second column reports the overall impact (with the t-statistic in parenthesis), while the third columns presents relevant annotations for the indicator. In this subsection we discuss those indicators that will not be considered at length below.

There is a significant impact on two indicators regarding the time spent looking for the current job and the duration of the current unemployment spell for those currently unemployed. There are, however, some conceptual difficulties with those indicators, for the exposure time has been different for both groups, and it is not possible to measure this period for every individual. This difficulty is compounded by truncation and censoring. Besides, the very nature of those indicators is not clear. Spending more time looking for a job could be positive if the individual has a higher reservation wage due to increased productivity or better information about the labor market. Tenure has the same difficulty: perhaps the relevant comparison is between the duration on the first job after taking the course (or not taking it, for the controls). However, this information is not readily available from the survey.

In terms of unemployment and underemployment there are no measurable effects, which will be confirmed in section VII.b below.

Finally, the following table shows the occupational status of treatment and controls, overall and by gender, before and after the program. This information should be analyzed with caution, for the pre-program data is most likely unreliable as applicants had the incentive to lie in order to guarantee eligibility. In any case, it is interesting to present the results (for this was the standard set by the Chilean consultants). It seems that the impact of the program was in switching participants from inactivity (non-employed and non-students) towards unemployment. Note that for any group the margin of error was 4%, so most differences are not statistically significant.

Table G

	TREATMENT n=(786)			CONTROL (n=563)			IMPACT Difference in Differences
	Before	After	Diff	Before	After	Diff	
Did you work last week	2.5%	55.2%	52.7%	2.3%	53.8%	51.5%	1.2%
Did you have a job/occupation last week	3.1%	57.4%	54.3%	3.4%	56.0%	52.6%	1.8%
Employed	3.1%	57.4%	54.3%	3.4%	56.0%	52.6%	1.8%
Unemployed	72.4%	33.5%	-38.9%	78.0%	31.3%	-46.7%	7.8%
Inactive (Studying)	4.3%	2.4%	-1.9%	4.1%	3.7%	-0.4%	-1.6%
Inactive (Not Studying)	20.2%	6.7%	-13.5%	14.6%	9.1%	-5.5%	-8.0%
Females (N=435)				Females (N=322)			
Employed	1.4%	46.4%	45.1%	1.6%	45.0%	43.5%	1.6%
Unemployed	74.0%	40.0%	-34.0%	78.9%	37.0%	-41.9%	7.9%
Inactive (Studying)	3.9%	3.2%	-0.7%	4.4%	3.7%	-0.6%	-0.1%
Inactive (Not Studying)	20.6%	10.3%	-10.3%	15.2%	14.3%	-0.9%	-9.4%
Males (N= 351)				Males (N=241)			
Employed	5.1%	70.9%	65.8%	5.8%	70.5%	64.7%	1.1%
Unemployed	70.4%	25.4%	-45.0%	76.8%	23.7%	-53.1%	8.1%
Inactive (Studying)	4.8%	1.4%	-3.4%	3.7%	3.7%	0.0%	-3.4%
Inactive (Not Studying)	19.7%	2.3%	-17.4%	13.7%	2.1%	-11.6%	-5.8%

C. Results from the Card *et. al.* evaluation

1. Employment

The main purpose of the *JE* program was to increase the chances of obtaining a job for the low-income youth population. Hence, the natural yardstick for assessing the success of the program is a comparison of employment rates of the treatment and control groups, which, given the experimental design, is an unbiased estimate of the average treatment effect. Table 2 reports the employment rates for both groups, as well as the raw and weighted difference. The results clearly show that there is no impact of the program on the employment rate of participants¹¹: at the time of the follow-up survey 57% of treatments were employed versus 56% of controls C. The results from the reweighted comparison are even closer to 0. If we disaggregate the results by gender, age, education and region we find the same results: there is no significant impact of the program on the employment rate of participants. Nevertheless, the point estimates are positive and economically significant for the youngest age group (17-19 years old), and for those in the East and Santo Domingo regions.

While the main focus of the *JE* program is on employment, it is also interesting and important to consider the effects of the program on earnings. To explore these effects, we begin by looking at monthly labor earnings and hours worked per week.¹² Table 3 shows total monthly labor income for the two groups, assigning 0 earnings for non-workers. Members of the treatment group have monthly total labor earnings which are RD\$484 (or 17%) higher than the control group. While this is a large effect, it is imprecisely estimated, reflecting the small samples sizes and the underlying variability in earnings. Examining the various subgroups, the data show that the earnings effects are larger for the youngest age group and for residents of Santo Domingo. Also,

¹¹ The employment rate is computed at the time of the survey (May-July 2005). Even controlling for the month of application and for the month of graduation/separation, there are no significant differences between the employment status of treatments and controls.

¹² Additionally, we also examine whether the quality of the job was different as measured by having health insurance. Those results are discussed in the dynamic analysis is done.

the effect seems to be larger for those with some secondary education (a 21% impact versus a 9% for people with only primary education).

Table 4 shows the impacts on hours worked per week. Consistent with the results on the probability of employment, there do not seem to be large or systematic effects on hours of the overall sample or any subgroup. Interestingly, for many groups the estimated effects of *JE* are negative, though uniformly insignificant.

2. Conditional impacts on workers

Given the negligible impacts on employment and hours per week, but the positive effects on earnings, it is interesting to look at how the *JE* program affected hourly wages. As pointed out in Lee (2005), comparisons of hourly wages in an experimental setting are problematic when the treatment affects the probability of work. In the case of *JE*, however, the program appears to have had no effect on employment, implying that wage comparisons between the groups are potentially valid.¹³ Table 5 presents results for the overall experimental population. The top row simply reproduces the employment impacts from Table 2. The remaining rows show means of income, hours worked, hourly wages, and the probability of health insurance, conditional on working, for the treatment and control groups, as well as the unadjusted and adjusted (reweighed) gaps between them. The *JE* program appears to have had a marginally significant 10% impact on the hourly wages of participants. No significant differences exist either in hours worked per week (conditional on working) or in the probability of obtaining health insurance in the primary job.

Tables 6a and 6b conduct the same exercise for different subgroups. Table 6a shows the unadjusted data, whereas 6b shows results using the reweighing procedure to standardize the characteristics of the treatment group back to those of the controls.¹⁴ Across the various subgroups there is no evidence of an significant effect on hours (conditional on working). Likewise, although most of the point estimates are positive, none of the estimated effects on hourly wages are significant. We conclude that the suggestive positive effects seen on wages seen for the overall sample in Table 5 are relatively evenly distributed across the sample. Unfortunately, given the small sample sizes in the evaluation sample, it is impossible to draw stronger inferences.

3. Quality of the training institutions

Information was obtained on the quality of different ICAP's, as reported through the supervision system implemented by INFOTEP, the national training institute. For each ICAP, we know whether or not it is member of the INFOTEP network, which could represent a minimum standard. Of the 33 ICAP's, 22 were certified by INFOTEP and 11 were not (however, 80% of

¹³ Formally, people who report wages are a selected subset of the population, and if the experiment effects the fraction of workers it may change the relative amount of selectivity bias in the observed wages of the two groups. Lee (2005) presents an informative procedure for bounding the size of any wage effects, when there is a difference in employment rates. When there is no difference in employment, then under the single index assumption used by Lee, simple (unadjusted) comparisons of wages are valid.

¹⁴ Note that the first row of Table 6a corresponds to the third column of Table 5 (raw differences), and the first row of Table 6b corresponds to the last column of Table 5 (reweighted differences).

trainees attended a certified ICAP). Also, for those ICAP's that take part in the network there is a three-grade scale of the quality. Of those certified, 10 received the minimum grade, 6 the medium rating and 3 the maximum rating. (The share of trainees – among those who enrolled with a certified ICAP-- is 37% at ICAP's with low rating, 50% for those with medium rating and 8% for ICAP's with a high rating). We tried to test whether the quality of training was higher at the higher-rated ICAP's, by dividing program enrollees into those who were assigned to ICAP's with different INFOTEP status and rating. (Controls were assigned to the ICAP they would have been trained with, if they had been in the treatment group). These comparisons showed no evidence of a large or systematic “quality effect”.

4. Dynamic employment impacts

So far we have examined the impact of the program at the time of the survey, which took place between May and July 2005. In this section we focus on the dynamics, by looking at the monthly employment outcomes between August 2004 and June 2005. As noted earlier, for this purpose, we limit the sample of treatment group members to those that finished or dropped out of the course on or before August 2004. This creates a “balanced” panel of individuals for which we observe their employment status monthly from August 2004 until June 2005.

Figure 1 shows monthly employment rates for the treatment and control group in each month of this 11-month window, along with the difference in employment rates in each month, and a 95% confidence interval around the difference (using dotted lines). We show data for the overall sample (top left panel) and for some of the key subgroups in the experiment. As suggested by the estimated employment impacts at the time of the follow-up survey (in Table 2), there is no indication of an overall treatment effect, but there is some indication of positive employment effects for the youngest sample members, and for those in the East region.

We also conducted a similar analysis using information on the dynamic path of the likelihood of having employer-provided health insurance. We interpret this variable as a rough indicator of the quality of the job held at a point in time. (Unfortunately, the surveys did not collect monthly wage data). Figure 2 shows the fractions of people in the treatment and control groups with health insurance each month, along with the experimental impact (and a 95% confidence interval). Overall, the treatment group has a higher coverage rate than the controls (20% vs 15%), and the gap is marginally significant over most of the post-training window. However, the difference is present only for men; it is negligible for women. Although the estimates are quite noisy, the effect seems to be concentrated among better-educated sample members (with a secondary education) and among those living in Santo Domingo.

5. A model of impacts on “employability”

Given that job training programs do not guarantee a job to participants, policy analysts sometimes refer to the concept of “employability”. Though it is rarely defined explicitly, the concept could be interpreted in a dynamic setting as the probability that an individual finds a job if unemployed, or the probability that he or she retains a job, if employed. Building on this interpretation, in this section we develop a simple dynamic model of monthly employment outcomes in the *JE* evaluation, to determine whether participating in the program had an impact on either probability.

The model consists of 2 parts: a model for the person's employment status in "month 1" (August 2004), and a simple first-order transition model for subsequent employment outcomes in the next 10 months.¹⁵ In this setting, the *JE* program has two types of potential effects: an effect on employment status in month 1, which could be negative if training takes someone out of the labor force, and an effect on the subsequent transition probabilities.

We fit two versions of the model: one without any covariates and the other including three observed characteristics: a dummy for males, a dummy for ages 20-25, and a dummy for ages 26 and older (with the omitted category being ages 17-19). The parameter estimates are reported in Table 7. Generally speaking the two models lead to very similar parameter estimates, although the addition of the covariates leads to a significant improvement in the likelihood. As expected, males and older participants have higher employment rates.

The key treatment effect parameters are all insignificant, although they are uniformly positive, and suggest a very small positive effects of treatment. The point estimates suggest that the treatment effect is concentrated on the job retention rate, though the statistic is only about 1 in either model. To check the validity of the model, we used it to simulate the employment paths of the treatment and control groups shown in the upper left panel of Figure 1. The model predicts these paths very accurately.

6. Cost-benefit considerations

Even though the evaluation does not find a significant impact on the likelihood of having a job (the impact on employment is negligible), there seems to be an effect on wages, of 10% on average (although the estimates are only marginally significant). Even so, this small impact on wages coupled with no discernible employment effect implies that the costs of the program are recovered in two years. In other words, if the program impacts are maintained for at least two years the program will "pay for itself."¹⁶

7. Discussion

The evaluation provides estimates of impacts across various groups and for different outcomes for the second cohort of trainees of the *JE* program. Overall there is no evidence of employment impacts of the *JE* program. This is a robust finding for all groups and specifications estimated. What these results do not tell us is why these impacts were not found. One possibility is the operational difficulties faced by *JE*. Due to the delays in rolling out *JE*, by the time that the second cohort finished the formal training the firms that had originally agreed to host their internships may have already filled the positions; the trainees were placed in other internships in an *ad hoc* manner¹⁷. Structurally, the program was also not well coordinated with labor

¹⁵ The model builds on the more complicated one presented in Card and Hyslop (2005). Some of the issues in specifying treatment effects in a dynamic setting are described in Ham and Lalonde (1996).

¹⁶ The average impact on monthly income for employed trainees is of US\$38. With zero employment effect and an employment rate of 55%, a discount rate equal to the inflation rate and a cost of \$330 per trainee, this investment would be recovered in two years.

¹⁷ More than 275 training courses were outsourced (benefiting more than 5,500 trainees) in a single bidding process. A sheer volume of proposals was presented by ICAPs, indeed more than what the agencies involved in the evaluation and selection process (Ministry of Labor and INFOTEP) could handle in an expedite manner. As a result, it took in between 10 and 12 months from the time in which ICAPs submitted their proposals to the moment in

demanders. The training was done at ICAPs, and there was little involvement of the private sector in either the definition of curricula or in other aspects of the design of the training program. It is possible that these operational issues impeded an adequate match between the capabilities of trainees with those demanded by potential employers. In this sense, it is interesting that the instrument selected to guarantee a link between ICAPs and the private sector, the letter of intent to provide internships, has been reported not to be effective. This was a conclusion of the Bank's Project Completion Report for a similar program in Argentina, the *Proyecto Joven* (written in 1998): "the letters of intent of the firms willing to take interns proved insufficient as a signal of demand for training and on labor insertion possibilities".¹⁸

A second issue is with respect to the incentive structures of the ICAPs themselves. ICAPs had little incentives to provide content that would in fact increase employment. Their payment was based on trainees placed in an internship and not on trainees who were able to either gain employment in the internship or elsewhere. This, coupled with problems in the supervision of ICAPs by the part of program administrators, could also have contributed to the absence of employment impacts.

A third issue is that of the amount spent per student in *JE*. *JE* is not an intensive program: the average expenditure per student is roughly \$350 dollars. Compared with training programs in industrialized countries this is a very modest amount. It may be unreasonable to expect large employment and earnings impacts from such modest investment.

Although the program will not likely change the amount of spending per student in its second phase, there are plans to restructure the delivery of training. These include both a more efficient and timely execution, as well as plans to increase the private sector's participation in curricula development, course structure, and the placement of trainees¹⁹. They also include the implementation of an incentive structure that would reward ICAPs for trainees who were able to find and retain employment²⁰.

Despite the small sums per student, the evidence suggests that there may be wage and "job quality" impacts—conditional on employment—on certain sub-groups of trainees. In particular for men and for teens the evidence suggests impacts on the scale of 10 percent with respect to

which the first trainees graduated from the classroom training, about 5 or 6 months longer than expected. Because of these delays, by the time trainees graduated, the majority of firms that had offered internships at the beginning of the process were not able to keep their promises. Because of the delays, most of these firms were forced to fill their internships/vacancies with other candidates. As a consequence, ICAPs had to place the majority of their trainees graduating from classroom training in firms others than those contacted by the ICAPs at the training proposal preparation stage.

¹⁸ The PCR stated that "las cartas de intención de empresas dispuestas a recibir pasantes resultaron insuficientes como señal de demanda de capacitación y posibilidades de inserción laboral" as one of the lessons learned from the project.

¹⁹ Aspects of *JE* that are being redesigned include: (i) ICAPs will provide systematic supervision and on the job-training of trainees during the internship phase (4 hours per week); (ii) a new curricula for basic skill training will be developed and applied in classroom training; and (iii) technical/vocational training could be provided by the ICAPs in the firms' installations.

²⁰ ICAPs will be paid an additional "placement bonus" for each trainee who is still employed in the firm offering the internship, three months after the internship has ended. Also, firms will be able to apply for multiple rounds of training courses if and only if they can prove that at least 70% of the trainees graduating from previous internships were offered a job in the firm.

wages, and of 5 percentage points with respect to health insurance coverage. These two impacts, if maintained, would imply that the program would break even in two years.

The finding of impacts are in a way puzzling, given that the literature thus far suggests that these types of programs are most effective among women, and among young adults and not teens. These were precisely the two groups for which the impacts were found. One possibility may be related to the peculiarities of the Caribbean youth labor market, and the Dominican labor market in particular. The evidence we have is either from developed countries, or, in the case of Latin America, from countries such as Chile and Peru, which arguably have labor markets, which respond differently to wage or other incentives than the Caribbean. In any case, this is certainly a topic for further research.

VIII. CONCLUSIONS AND RECOMMENDATIONS

This project has several salient features. First, the original design was based on a serious diagnosis based on empirical evidence on the functioning of the Dominican labor market. Second, and this makes it unique for IDB standards, it had embedded in the design a rigorous evaluation component based on an experimental allocation of benefits, intended to generate evidence to support decision making in this area. The project design also had some drawbacks, as the lack of consideration of INFOTEP and an overly and not supported optimism on the institutional capabilities of the SET.

The implementation of the project is also noteworthy for various reasons. First, it was strikingly different from the design, in that the training followed closely the Chilean demand-driven model, and not so much the supply-driven notions that appear in the loan document. Also, job counseling was downsized due to the lack of implementation capacity. INFOTEP was invited to participate as technical evaluator of proposals, and also as supervisor of the courses. This was a brilliant move in order to have the legal supervisor of the training system on board. Finally, the experimental design was successfully implemented and although not all the planned survey took place (three follow-up surveys were planned for two cohorts, and only one follow-up to one cohort has taken place, and a second follow-up to the same cohort is planned for May 2006), the program generated reliable information about its impacts.

The purpose of the program was to increase employability of trainees. If employability is understood as getting more and better jobs, the results are mixed: there are no measurable impacts of employment, although there is some evidence that trainees do get better jobs (specially men). There is suggestive evidence of important heterogeneity, by gender, by age and also by region. The data does not permit for strong conclusions, for the sample size does not allow to detect small differences in employment. Given the solid experimental design of the program, unique in Latin America and the Caribbean, we were able to tackle the core evaluative questions in the most credible way. A lesson learned from this exercise is that the sample size of the surveys needs to be based on the expected impact, and not on the size of the project. So, even though the program had realistic and modest goals of increasing the employment rate by 5%, the sample size was not based on those criteria. It was determined independently for treatment and controls based on a margin of error for each group, and not for the margin of error of the difference. This concern is particularly relevant to detect differences for sub-groups. In the second follow-up survey to this cohort the sample size was increased based on this finding, and this did not represent a large cost.

Some hypothesis exist as for why the program did not work as well as it was expected, particularly in terms of employment rates. It seems that the link between ICAPs and the private sector was not strong. Entrepreneurs complained that they received calls from ICAPs once trainees graduated, and not at the time of the design of the course. Also, only 20% of interns were hired by the firms in which they received on-the-job training, thus suggesting a weak link between the demand and needs of firms and the internships opportunities. Many of these concerns are being addressed for the next phase of the program. Given that a rigorous evaluation component is maintained for the follow-up operation, we will be able to test whether the

adjustments (both at the design level and on the field) in fact increase the developmental outcomes of the program.

An aspect that needs to be improved is the lack of a proper monitoring system. While the program had done an excellent job in terms of the impact evaluation design, this has not been the case in terms of monitoring. A simple system should be used to gather data about beneficiaries, ICAPs and training firms that could allow a day-to-day assessment of the program. Given that this evaluation is based on the second cohort of trainees, a good monitoring system would allow to compare basic results of each cohort, thus providing suggestive evidence about whether the program is improving or not. Although impact can not be attributed without a control group, information could provide useful elements to continuously improve the implementation and detect trends in the results. An example of this is the surveys applied at graduation ceremonies by the UTE. This effort should be systematized and complemented with additional information and could provide a continuous assessment of the project.

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TABLES AND FIGURES

Table 1: Basic Characteristics of the Sample

	Treatment Group	Control Group	Comparison Group**
<u>Age (in Years):</u>			
At Baseline	22.3	22.3	
At Follow-up	22.8	22.8	22.1
<u>Geographic Distribution:</u>			
East	16.0	13.0	7.1
North	18.8	16.7	32.9
Santo Domingo	44.0	45.3	50.0
Southwest	21.1	25.0	10.1
Percent Male	44.7	42.8	49.0
<u>Parental Education:</u>			
Schooling of Father (years)	6.9	7.2	9.4
Schooling of Mother (years)	7.0	6.9	9.3
<u>Distribution of Completed Education</u>			
<u>At Baseline:</u>			
Years of Schooling	9.3	9.2	
Primary*	30.7	36.9	
Secondary*	69.3	63.1	
<u>At Follow-up:</u>			
Years of Schooling	10.7	10.5	9.6
Primary *	15.5	22.7	37.1
Secondary *	72.1	64.8	45.2
Post-secondary	12.3	12.4	17.7
<u>Receive Remittances:</u>			
At Baseline	3.3	4.1	
At Follow-up	24.7	20.6	8.0
Employed (Baseline)	3.1	3.4	48.9
Previous Work (Baseline)	17.7	15.8	58.8
Household Size	5.0	5.1	4.7
* Denotes statistically significant difference between treatment and control groups in this variable.			
** Based on October 2004 ENFT (Labor Force Survey) for the provinces where the program has been active, for all population ages 16-29.			

Table 2: Employment Status at the Follow-up Survey

Sample:	Treatments	Controls	Raw Difference	Re-weighted Difference
All	57.38% <i>1.77%</i>	55.95% <i>2.09%</i>	1.43% <i>2.74%</i>	0.02% <i>2.74%</i>
Men	70.94% <i>2.43%</i>	70.54% <i>2.94%</i>	0.40% <i>3.81%</i>	-0.77% <i>3.85%</i>
Women	46.44% <i>2.39%</i>	45.03% <i>2.78%</i>	1.41% <i>3.67%</i>	0.28% <i>3.65%</i>
Ages 17 - 19	50.37% <i>4.32%</i>	42.59% <i>4.78%</i>	7.78% <i>6.45%</i>	6.93% <i>6.35%</i>
Ages 20 - 24	59.12% <i>2.37%</i>	57.64% <i>2.92%</i>	1.48% <i>3.75%</i>	-0.10% <i>3.80%</i>
Age 25+	58.26% <i>3.35%</i>	61.68% <i>3.77%</i>	-3.42% <i>5.05%</i>	-4.46% <i>5.00%</i>
Primary Education	56.85% <i>3.20%</i>	57.21% <i>3.44%</i>	-0.37% <i>4.70%</i>	-1.99% <i>4.59%</i>
Secondary Education	57.61% <i>2.12%</i>	55.21% <i>2.64%</i>	2.40% <i>3.38%</i>	1.16% <i>3.43%</i>
EAST	61.90% <i>4.34%</i>	53.42% <i>5.88%</i>	8.48% <i>7.25%</i>	6.95% <i>7.50%</i>
NORTH	60.14% <i>4.04%</i>	67.02% <i>4.88%</i>	-6.89% <i>6.39%</i>	-6.70% <i>6.41%</i>
Santo Domingo	58.67% <i>2.65%</i>	53.33% <i>3.13%</i>	5.34% <i>4.09%</i>	4.13% <i>4.09%</i>
SOUTHWEST	48.80% <i>3.89%</i>	54.61% <i>4.21%</i>	-5.81% <i>5.73%</i>	-7.46% <i>5.60%</i>

Notes: standard errors in italics. In the last column, the mean for the treatment group is a weighted mean, where the weight for a given person is $p/(1-p)$, and p is the estimated probability the person is in the control group, given his/her covariates.

Table 3: Labor Earnings in the Month of the Follow-up Survey

Sample:	Treatments	Controls	Raw Difference	Re-weighted Difference
All	\$3,236 <i>\$146</i>	\$2,752 <i>\$150</i>	\$484 <i>\$215</i>	\$273 <i>\$208</i>
Men	\$4,750 <i>\$251</i>	\$4,107 <i>\$262</i>	\$643 <i>\$373</i>	\$456 <i>\$366</i>
Women	\$2,014 <i>\$146</i>	\$1,739 <i>\$153</i>	\$276 <i>\$215</i>	\$135 <i>\$207</i>
Ages 17 - 19	\$2,680 <i>\$343</i>	\$1,826 <i>\$321</i>	\$854 <i>\$479</i>	\$619 <i>\$444</i>
Ages 20 - 24	\$3,267 <i>\$188</i>	\$2,865 <i>\$209</i>	\$402 <i>\$287</i>	\$228 <i>\$285</i>
Age 25+	\$3,518 <i>\$306</i>	\$3,157 <i>\$284</i>	\$362 <i>\$429</i>	\$128 <i>\$403</i>
Primary Education	\$2,890 <i>\$238</i>	\$2,654 <i>\$250</i>	\$236 <i>\$346</i>	\$21 <i>\$328</i>
Secondary Education	\$3,389 <i>\$183</i>	\$2,810 <i>\$189</i>	\$579 <i>\$273</i>	\$421 <i>\$268</i>
EAST	\$3,181 <i>\$325</i>	\$2,965 <i>\$510</i>	\$216 <i>\$577</i>	\$13 <i>\$617</i>
NORTH	\$3,292 <i>\$327</i>	\$3,727 <i>\$430</i>	-\$436 <i>\$534</i>	-\$510 <i>\$551</i>
Santo Domingo	\$3,687 <i>\$243</i>	\$2,712 <i>\$216</i>	\$975 <i>\$338</i>	\$781 <i>\$320</i>
SOUTHWEST	\$2,287 <i>\$270</i>	\$2,065 <i>\$224</i>	\$223 <i>\$358</i>	\$12 <i>\$326</i>

Notes: standard errors in italics. See note to table 2. The dependent variable is monthly earnings (including 0's for non-earners). The value of earnings is censored at the 99th percentile.

Table 4: Hours of Work Per Week in the Follow-up Survey

Muestra	Treatments	Controls	Raw Difference	Re-weighted Difference
All	23.97 <i>0.94</i>	23.39 <i>1.14</i>	0.58 <i>1.47</i>	-0.73 <i>1.47</i>
Men	32.50 <i>1.46</i>	32.38 <i>1.81</i>	0.12 <i>2.31</i>	-0.99 <i>2.35</i>
Women	17.09 <i>1.13</i>	16.67 <i>1.34</i>	0.42 <i>1.74</i>	-0.54 <i>1.73</i>
Ages 17 - 19	20.53 <i>2.20</i>	21.02 <i>2.85</i>	-0.49 <i>3.54</i>	-1.65 <i>3.49</i>
Ages 20 - 24	24.59 <i>1.26</i>	22.57 <i>1.49</i>	2.02 <i>1.97</i>	0.80 <i>1.98</i>
Age 25+	24.87 <i>1.84</i>	26.34 <i>2.15</i>	-1.47 <i>2.83</i>	-2.77 <i>2.78</i>
Primary Education	24.00 <i>1.69</i>	24.27 <i>2.04</i>	-0.27 <i>2.62</i>	-2.02 <i>2.54</i>
Secondary Education	23.96 <i>1.13</i>	22.88 <i>1.35</i>	1.08 <i>1.78</i>	0.02 <i>1.80</i>
EAST	27.12 <i>2.39</i>	25.60 <i>3.91</i>	1.52 <i>4.33</i>	0.37 <i>4.73</i>
NORTH	22.70 <i>1.94</i>	26.78 <i>2.63</i>	-4.07 <i>3.21</i>	-3.81 <i>3.34</i>
Santo Domingo	25.72 <i>1.51</i>	23.11 <i>1.72</i>	2.61 <i>2.29</i>	1.33 <i>2.26</i>
SOUTHWEST	19.07 <i>1.88</i>	20.50 <i>1.95</i>	-1.44 <i>2.72</i>	-2.95 <i>2.57</i>

Notes: standard errors in italics. See note to table 2. The dependent variable is weekly hours (including 0's for non-workers).

Table 5: Summary of Labor Market Outcomes in the Follow-up Survey

Outcome:	Treatments		Controls		Raw Difference	Re-weighted Difference
Employment Rate	57.38%		55.95%		1.43%	0.02%
	<i>1.77%</i>		<i>2.09%</i>		<i>2.74%</i>	<i>2.74%</i>
Monthly Income (All Jobs)	\$ 5,818	\$	5,289	\$	529	\$ 438
	\$ <i>195</i>	\$	<i>202</i>	\$	<i>288</i>	\$ <i>284</i>
Hours worked per week (All Jobs)	43.43		44.27		-0.84	-1.11
	<i>0.79</i>		<i>0.98</i>		<i>1.25</i>	<i>1.27</i>
Hourly Wage (All Jobs)	\$ 151.19	\$	133.92	\$	17.27	\$ 14.50
	\$ <i>9.91</i>	\$	<i>7.02</i>	\$	<i>13.32</i>	\$ <i>11.84</i>
Health Insurance in Primary Job	38.0%		34.8%		3.1%	2.5%
	<i>2.5%</i>		<i>2.9%</i>		<i>3.9%</i>	<i>3.9%</i>

Notes: standard errors in italics. See note to table 2. The sample for employment includes everyone. The sample for income, hours per week, hourly wage, and health insurance includes those with positive earnings and between 10 and 85 hours per week. The value of earnings is censored at the 99th percentile.

Table 6a: Unadjusted Difference For Selected Indicators

	Employment	Monthly Earnings	Hours per Week	Hourly Wage	Health Insurance
All	1.43% \$	529	-0.84 \$	17.27	3.1%
	<i>2.74% \$</i>	<i>288</i>	<i>1.25 \$</i>	<i>13.32</i>	<i>3.9%</i>
Men	0.40% \$	757	-0.33 \$	23.33	9.3%
	<i>3.81% \$</i>	<i>406</i>	<i>1.58 \$</i>	<i>21.74</i>	<i>5.2%</i>
Women	1.41% \$	177	-1.66 \$	8.07	-5.3%
	<i>3.67% \$</i>	<i>360</i>	<i>1.96 \$</i>	<i>10.35</i>	<i>5.7%</i>
Ages 17 - 19	7.78% \$	1,164	-3.42 \$	33.49	6.9%
	<i>6.45% \$</i>	<i>751</i>	<i>2.70 \$</i>	<i>17.47</i>	<i>9.8%</i>
Ages 20 - 24	1.48% \$	379	0.83 \$	17.05	-0.8%
	<i>3.75% \$</i>	<i>369</i>	<i>1.69 \$</i>	<i>21.08</i>	<i>5.2%</i>
Age 25+	-3.42% \$	552	-2.48 \$	10.27	8.2%
	<i>5.05% \$</i>	<i>577</i>	<i>2.44 \$</i>	<i>19.72</i>	<i>7.0%</i>
Primary Education	-0.37% \$	429	-0.08 \$	12.15	3.4%
	<i>4.70% \$</i>	<i>476</i>	<i>2.32 \$</i>	<i>12.75</i>	<i>6.4%</i>
Secondary Education	2.40% \$	528	-1.24 \$	18.01	2.6%
	<i>3.38% \$</i>	<i>360</i>	<i>1.48 \$</i>	<i>18.99</i>	<i>4.8%</i>
EAST	8.48% \$	-872	-7.08 \$	3.24	-17.6%
	<i>7.25% \$</i>	<i>760</i>	<i>3.70 \$</i>	<i>15.80</i>	<i>10.7%</i>
NORTH	-6.89% \$	-140	-0.21 \$	-10.53	8.1%
	<i>6.39% \$</i>	<i>698</i>	<i>2.68 \$</i>	<i>20.24</i>	<i>8.1%</i>
Santo Domingo	5.34% \$	858	-1.94 \$	38.73	9.5%
	<i>4.09% \$</i>	<i>445</i>	<i>1.87 \$</i>	<i>26.98</i>	<i>5.9%</i>
SOUTHWEST	-5.81% \$	969	3.00 \$	2.43	-2.9%
	<i>5.73% \$</i>	<i>523</i>	<i>2.63 \$</i>	<i>16.73</i>	<i>8.4%</i>

Notes: standard errors in italics. See notes to Table 5.

Table 6b: Reweighted Differences for Selected Indicators

	Employment	Monthly Earnings	Hours per Week	Hourly Wage	Health Insurance
All	0.02% \$	438	-1.11 \$	14.50	2.5%
	<i>2.74%</i> \$	<i>284</i>	<i>1.27</i> \$	<i>11.84</i>	<i>3.9%</i>
Men	-0.77% \$	698	-0.41 \$	20.16	9.3%
	<i>3.85%</i> \$	<i>399</i>	<i>1.62</i> \$	<i>19.09</i>	<i>5.2%</i>
Women	0.28% \$	90	-2.04 \$	6.91	-6.4%
	<i>3.65%</i> \$	<i>359</i>	<i>1.99</i> \$	<i>10.38</i>	<i>5.8%</i>
Ages 17 - 19	6.93% \$	912	-3.79 \$	29.01	7.5%
	<i>6.35%</i> \$	<i>731</i>	<i>2.72</i> \$	<i>17.22</i>	<i>9.5%</i>
Ages 20 - 24	-0.10% \$	342	0.86 \$	13.90	-0.3%
	<i>3.80%</i> \$	<i>367</i>	<i>1.74</i> \$	<i>17.93</i>	<i>5.4%</i>
Age 25+	-4.46% \$	427	-3.14 \$	10.53	4.9%
	<i>5.00%</i> \$	<i>555</i>	<i>2.45</i> \$	<i>20.24</i>	<i>6.9%</i>
Primary Education	-1.99% \$	353	-0.77 \$	12.73	3.2%
	<i>4.59%</i> \$	<i>452</i>	<i>2.28</i> \$	<i>11.73</i>	<i>6.3%</i>
Secondary Education	1.16% \$	500	-1.29 \$	15.98	2.3%
	<i>3.43%</i> \$	<i>362</i>	<i>1.52</i> \$	<i>17.41</i>	<i>4.9%</i>
EAST	6.95% \$	-990	-7.12 \$	0.80	-18.0%
	<i>7.50%</i> \$	<i>827</i>	<i>3.92</i> \$	<i>15.15</i>	<i>11.3%</i>
NORTH	-6.70% \$	-233	0.43 \$	-15.21	8.4%
	<i>6.41%</i> \$	<i>737</i>	<i>2.72</i> \$	<i>21.95</i>	<i>8.2%</i>
Santo Domingo	4.13% \$	803	-2.32 \$	35.73	8.5%
	<i>4.09%</i> \$	<i>414</i>	<i>1.88</i> \$	<i>21.85</i>	<i>5.8%</i>
SOUTHWEST	-7.46% \$	794	2.22 \$	0.10	-4.4%
	<i>5.60%</i> \$	<i>504</i>	<i>2.58</i> \$	<i>16.22</i>	<i>8.2%</i>

Notes: standard errors in italics. See notes to Table 5.

Table 7: Employability Model - Estimated Parameters

	Model 1	Model 2
<i>Employment Model, months 9+</i>		
1. Constant (β_0)	- 2.21 (5.79)	- 2.00 (3.46)
2. Trend (β_1)	0.05 (0.02)	0.06 (0.02)
3. State-dependence (λ)	4.61 (0.15)	4.66 (0.15)
4. Treatment Effect if Not Employed in Previous Period (φ_0)	0.04 (0.09)	0.03 (0.10)
5. Treatment Effect if Employed in Previous Period (φx_1)	0.13 (0.14)	0.13 (0.14)
6. Treatment Effect in Probability of Employment in Month 8 (δ)	0.11 (0.27)	0.07 (0.15)
7. Male Dummy in Employment Model	--	0.72 (0.10)
8. Dummy for Age 20-25 in Employment Model	--	0.40 (0.11)
9. Dummy for Age 26+ in Employment Model	--	0.59 (0.13)
10. Loading Factor For Covariates in Model for Employment in Month 8 (μ)	--	1.31 (0.26)
11. Log Likelihood	- 3690.5	- 3632.4
12. Total Number of Parameters	13	17

Note: Models include point-mass random effects, with three points of support. See text. Standard errors in parentheses.

Figure A: Distribution of Hourly Earnings

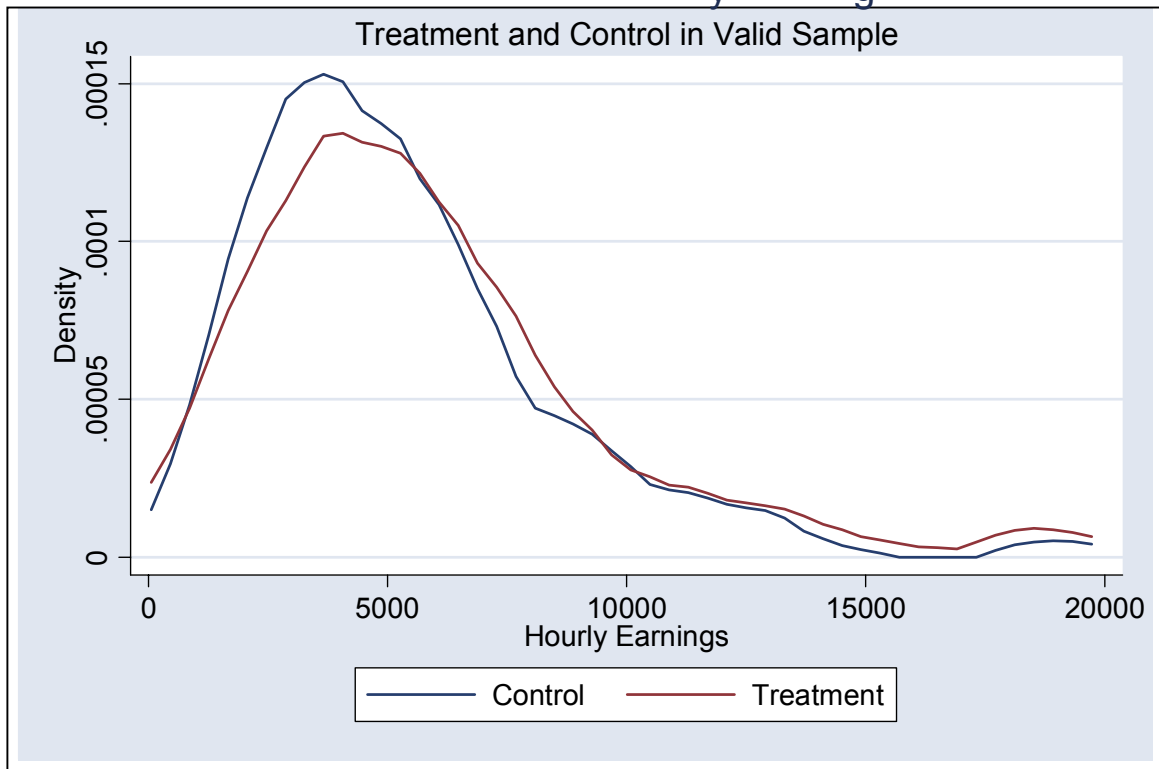
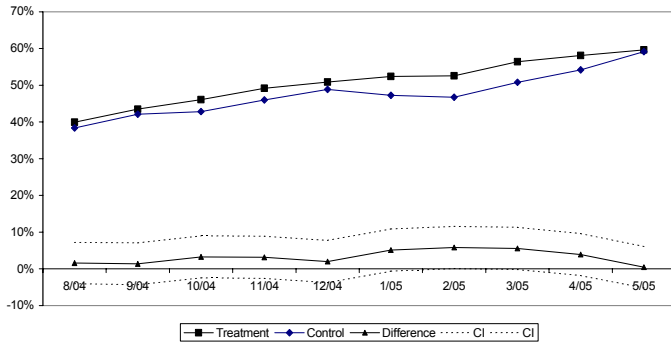
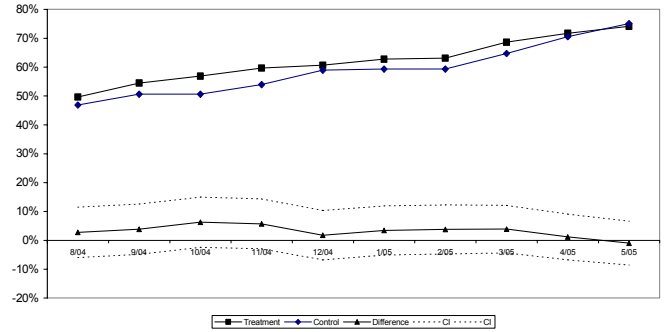


Figure 1. Employment Rates

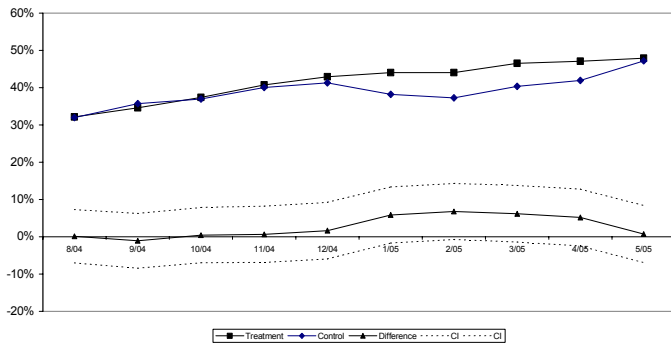
Employment Rate of Treatments and Controls



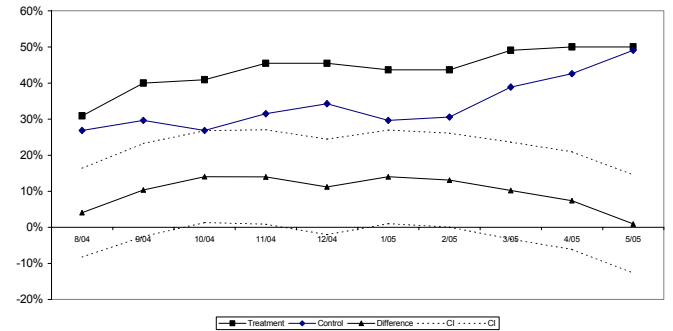
Employment Rate of Treatments and Controls, MEN



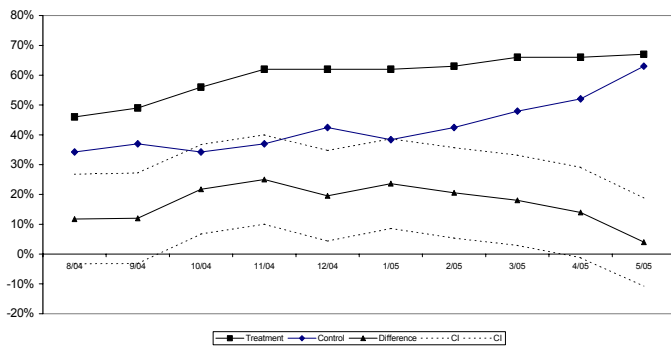
Employment Rate of Treatments and Controls, WOMEN



Employment Rate of Treatments and Controls, aged 17-19



Employment Rate of Treatments and Controls, East



Employment Rate of Treatments and Controls
Santo Domingo

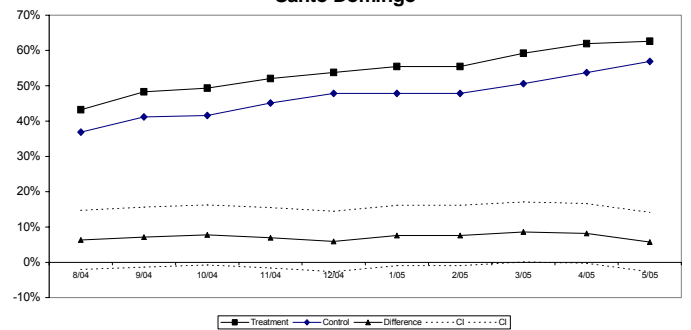
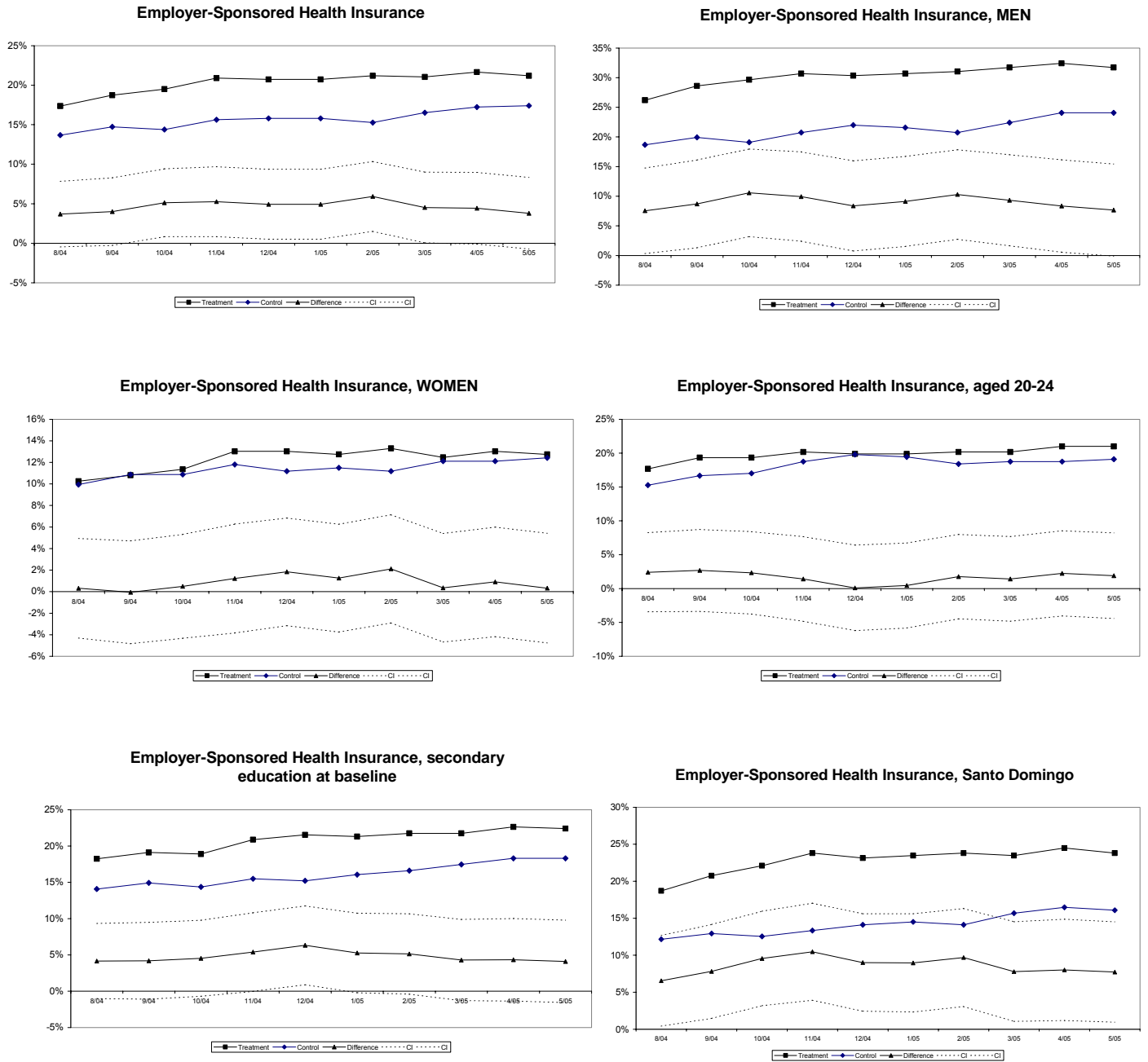


Figure 2. Employer-Provided Health Insurance





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