

# ***Financial Services for the Poor: Welfare, Savings and Consumption***

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## **Abstract**

We study the effects of providing households of low socioeconomic levels with banking accounts, by exploiting the change of the payment system of a large welfare program from cash to bank deposits accessible with a debit card. Intra-period consumption smoothing, improved savings, the reduction in time and travel costs, the migration in stores from the informal to the formal economy (where debit cards can be used), and the satisfaction of the beneficiaries with the payment transfer itself are explored. We find significant gains in terms of reduction in transactions costs, no financial illiteracy barriers, and a significant migration into the formal economy, but mild changes in savings behavior.

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## I. Introduction

The participation of the poor in financial services in Latin America and the Caribbean has been quite limited, with access restricted to credit as well as savings instruments. In a region renowned for volatile macroeconomic conditions, natural disasters and political turmoil, families and individuals regularly face fluctuations in income. (Rodrik 2001, Auffret 2003). Though there is solid evidence that the poor save “in bricks” by marginal investments in home construction, these funds are not sufficiently liquid to respond rapidly to consumption needs. Programs and policies which help poor families smooth their consumption in the face of idiosyncratic or aggregate shocks warrant careful consideration.

In recent years countries have begun to shift to providing social service subsidies in the form of electronic transfers rather than cash. Argentina is among the expanding group of countries in Latin America moving to this methodology. The two programs regarded as groundbreaking in terms of establishing the conditional cash transfer approach – *Bolsa Escola* in Brazil and *Progresas* in Mexico were also earlier experimenters in electronic distribution of benefits.<sup>1</sup> More recently, the *Plan Jefes y Jefas* program in Argentina transferred beneficiaries from cash to banking accounts (accessed through magnetic cards) in the largest public bank, *Banco Nación*, in 2004-05.

The shift to electronic payments typically is motivated by the aim to achieve greater transparency in executing payments. However the new approach to payment may provide other benefits as well. First and foremost, the electronic account may provide the poor a technology that allows improved smoothing of consumption between payments. By varying the access times to meet user demand rather than administrative office hours, the electronic deposit may provide for time savings by beneficiaries as well as reducing access from individuals, professional or street criminals, seeking access to funds.<sup>2</sup> The ATM cards may also improve access to stores in which electronic payment receives purchasing advantages.

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<sup>1</sup> In Brazil the cash transfer program *Bolsa Escola* moved to electronic payments in 2001, while in Mexico the program *Oportunidades* (formerly *Progresas*) added this option in 2003. For a description of additional experiences see Duryea and Schargrodsky (2006).

<sup>2</sup> In most programs the long lines are associated with the payment schedules, with beneficiaries facing long waits on the first days during or after the payment.

While many programs have changed their payment systems from cash to electronic methods, rigorous evaluations of the impact on users have not been conducted. This study will examine whether the electronic payment of benefits (and the associated ATM card) provides:

- 1) a smoother pattern of monthly consumption<sup>3</sup>
- 2) time savings for beneficiaries
- 3) improved access to formal financial services (higher savings or higher share of accounts)
- 4) lower incidence of (*attempts*) bureaucratic and/or street crime
- 5) better access of the poor to purchases in stores in the formal economy, and away from informal establishments.

The patterns of consumption and time use will also be considered, specifically whether the ATM card improves consumption smoothing over the period between payments and whether time saved (or lost) is used for work or leisure.

#### *Problems with savings*

In recent years a groundswell of attention has been focused on the problems associated with limited access to credit markets in Latin America, with the focus on labor productivity and the generation of employment. The low participation in formal savings programs is also noteworthy but far less studied. Tejerina and Westley (2007) estimate that only 10% poor households in Latin America and the Caribbean have savings accounts.<sup>4</sup> Common barriers to banking for the poor include requirements of minimum deposits, identification documents and a lack of knowledge or trust of banking institutions.<sup>5</sup> Savings play a major role in insuring consumption (Deaton, 1992). The lack of appropriate savings tools impedes households from self-insuring consumption against shocks (Morduch, 1999). Though there is solid evidence that the poor save “in bricks” by marginal investments home

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<sup>3</sup> On the weak consumption smoothing under cash welfare programs in the US, see Stephens 2003.

<sup>4</sup> Their estimate is based on household survey data and is weighted by the population of the sample of 12 countries.

<sup>5</sup> Low penetration of banks is often a problem in poor neighborhoods which may be addressed by availability of ATMs.

construction, these funds are not sufficiently liquid to respond rapidly. Empirically, Gertler and Gruber (2001) show that Indonesian families with more assets are better able to insure consumption against health shocks, while Gertler, Levine and Moretti (2001) show the effect of microfinance programs. Jalan and Ravallion (1999) find that wealthier Chinese households are better able to insure consumption against income shocks. Sales of livestock have also been shown to help consumption insurance in India (Rosenzweig and Wolpin, 1993), and West Africa (Fafchamps, Udry, and Czukas, 1998).

Maintaining cash in a wallet or under a mattress may be difficult because of intra-household allocation conflicts, self-commitment difficulties, or high exposure to theft. Surveys as well as anecdotal reports of high volumes of alcohol expenditures on paydays are documented in historical documents in the US and UK, and present modern program design concerns for social program planners throughout most developing countries. (Stephens 2006, Progres evaluation). Through a series of randomized field trials, Duflo, Kremer, and Robinson find that poor farmers in Kenya recognize the value of commitment devices which facilitate the purchase of fertilizer.<sup>6</sup> Stephens finds that spending increases significantly on the day of the month that social security checks are received in the United States and paychecks received in the UK (Stephens, 2003). Huffman and Barenstein (2004) find that expenditures in the UK the poor tending to smooth expenditures more with credit cards than with cash.

The belief that the exclusion from the banking sector imposes significant welfare costs on the poor, has led some governments to foster the penetration of banking services among the poor in low income countries (Besley, 1995). In 2001 Mexico launched a \$150 million program to expand banking institutions in rural areas (Taber, 2004). Burgess, Pande and Wong (2005) show poverty-reduction effects of pro-poor banking expansions in India. An immediate question is whether the payment of welfare programs through banking accounts allows beneficiaries to smooth consumption.

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<sup>6</sup> Farmers anticipate the demand for fertilizer but purchase less without commitment devices. The original paper and results are described in Duflo 2005 (original mimeo unavailable).

Conditional cash transfer programs have traditionally provided subsidies to a mother in the household, with this program feature heavily influenced by the research on intrahousehold resource allocation (Strauss and Thomas, 1995). For example the CCT programs in Brazil, Colombia, Ecuador, and Nicaragua have provided the subsidy to women, typically the mother of young children in the household. Qualitative research has examined the associated burdens and possible unintended consequences of women's participation in CCT programs (Adato et. al. 2000, Adato and Roopnaraine, 2004). A related question must be therefore how the time-burdens as well as control of the money is modified when the distribution method moves from cash in a program office to a financial account. There may also be a shift in the dynamics between the local program officers and program beneficiaries when the financial transactions are moved from the administrative offices to direct deposits in debit accounts.

We take a detailed look to these issues studying the transition from cash to ATM-card in the *Jefes y Jefas* program in Argentina. Section II describes the transition from cash to banking accounts in the *Jefes y Jefas* program in Argentina. Section III presents our data. The econometric methods are discussed in Section IV, while the results are reported in Section V. Section VI concludes.

## **II. The Transfer of Payments from Cash to Banking Deposits**

The *Plan Jefes de Hogar (Jefes Program)* in Argentina was introduced at the midst of the economic and social crisis in May 2002. It currently covers about 1,500,000 household heads (out of about 10,000,000 households in the country) and provides each household head with \$150 (about US\$ 48) per month.<sup>7</sup> To be eligible to participate in the program the household head had to be unemployed and have a child younger than 18 (or a disabled child) living in the household or being pregnant.

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<sup>7</sup> For requirements and further details, visit: [www.trabajo.gov.ar/programas/sociales/jefes/requisitos.htm](http://www.trabajo.gov.ar/programas/sociales/jefes/requisitos.htm). In practice, some households could be receiving more than one subsidy.

A World Bank evaluation of the *Jefes Program* found important errors of inclusion in targeting. Approximately 30% of ineligible adults were receiving *Jefes* benefits even though they did not satisfy the eligibility criteria (Ravallion and Galasso, 2003). In particular, many *Jefes* beneficiaries are not unemployed and, indeed, they report labor income in surveys. The study did find that the program was well-targeted to the poor with over 90% of participants with incomes below the poverty line. The evaluation results provided additional motivation for shifting towards a program that has stronger targeting and monitoring systems. The IDB has recently provided funding for a modified version of the program, the *Plan Familias*, which addresses many of these concerns. However rather than examining the relative advantages and disadvantages of the *Jefes Program* and the new program, this analysis focuses on the impact of the change in the distribution of benefits in the *Jefes Program*.

The payment of the subsidy was originally made in cash at a bank or public facility. According to the last digit of their national ID, each beneficiary had to go to a particular location in a particular day (during the last ten working days of each month) to receive the payment.

Starting in June 2004 and finishing in September 2005, the system of payment was moved from cash to an electronic banking system. The amount of the subsidy was not change at this time, only its form of payment. Each recipient was provided a free deposit account at the public national bank (Banco de la Nación Argentina) and provided a debit card. The debit card can be used to extract money at ATMs or to directly make payments at stores. The use of the debit cards for direct purchases in Argentina enjoys a reduction of 15% in the total price paid (the Value Added Tax is reduced from 21% to 6%, with the tax rebate being deposited back into the banking account), providing a potentially powerful incentive for the use of debit cards in formal establishments. This tax benefit applies to any debit card (not only to *Jefes Program* beneficiaries).

The transfer from the cash payment to the deposit account payment was implemented gradually across different provinces between June 2004 and September 2005 according to a

pre-determined schedule of 11 stages. In most cases, all the beneficiaries in each province were transferred at once, although in certain provinces some areas were transferred in different periods. Table 1 presents the areas and the number of beneficiaries transferred at each stage. The reason for distributing the transfer over time was to smooth the resources (in particular, personnel) of the *Labor Ministry*, the *Social Welfare Ministry* and the *Banco Nacion* that were necessary for the transition. As it can be seen, the number of beneficiaries transferred in each stage was relatively constant (with perhaps a smaller number for the first two stages when there was less experience).

**Table 1. Schedule of Transfers of *Plan Jefes* Payments from Cash to Banking Deposit**

STAGE	DATE	NUMBER of BENEFICIARIES	PROVINCE
1	06-2004	90259	Buenos Aires (part of Gran Buenos Aires and other areas of the province) Santa Fe (city of Rosario)
2	08-2004	101889	Buenos Aires (part of Gran Buenos Aires and other areas of the province) Santa Fe (city of Santa Fe) San Juan Tierra del Fuego Santa Cruz
3	10-2004	143839	Buenos Aires (part of Gran Buenos Aires and other areas of the province) Chubut Misiones Chaco ( <b>city of Resistencia</b> )
4	11-2004	135841	Buenos Aires (part of Gran Buenos Aires and other areas of the province) Cordoba (city of Cordoba) Salta
5	02-2005	140481	Buenos Aires (part of Gran Buenos Aires and other areas of the province)
6	03-2005	164171	Buenos Aires (La Plata, Mar del Plata and other areas of the province) Ciudad de Buenos Aires
7	04-2005	191782	Buenos Aires (Bahia Blanca and other areas of the province) Jujuy La Pampa Neuquen Rio Negro Santa Fe (northern areas of the province)
8	05-2005	129154	Buenos Aires (part of Gran Buenos Aires and other areas of the province) Catamarca Mendoza Formosa
9	06-2005	137089	Buenos Aires (part of Gran Buenos Aires and other areas of the province) Santa Fe (southern areas of the province) San Luis Cordoba (rest of the province)

10	08-2005	126933	Chaco (rest of the province) La Rioja Tucuman
11	09-2005	121624	<b>Corrientes</b> Entre Rios Santiago del Estero

In each location, the transfer was announced to the beneficiaries one month in advance. On the indicated day (again, divided in ten groups according to the last digit of their ID's), the beneficiaries had to, for the last time, go to the payment place to receive the magnetic cards. In that location, college students hired by the government went to the ATM's with the beneficiaries to explain them the use of the cards. These college students were also available at some locations the next month. The magnetic cards were intentionally designed to have the same appearance as the ones received by regular *Banco Nación* customers so as not to stigmatize beneficiaries as welfare recipients. The cards can be used in ATMs from any bank and to make direct purchases in any store accepting debit card purchases.

In figures 1 and 2, we take a first exploratory look at the real utilization of the debit cards by Jefes Program beneficiaries using data from Banco Nacion. Due to confidentiality reasons, Banco Nacion could not provide us with data on utilization of debit cards in absolute values, but as a ratio to utilization by regular Banco Nacion customers. Figure 1 shows that the number of withdrawals made by Jefes beneficiaries relative to regular customers oscillates around 0.8. Taking into account that Jefes beneficiaries are much poorer than regular customers, the number suggest a quite frequent utilization of the card. The number of direct purchases has a lower ratio (around 0.3) showing that Jefes beneficiaries use direct purchases relatively less than regular customers in comparison to the withdrawal use. The lines do not suggest an increasing learning process, but a quite immediate utilization. Figure 2 presents the same comparison considering the amounts of money withdrew or spent in direct purchases. Withdrawals of Jefes beneficiaries amount to approximately one third of withdrawals of regular customers. Their direct purchases have values around 10 percent of the purchases of regular customers. These data again suggest that Jefes beneficiaries use their cards for direct purchases relatively less than for



withdrawals (compared to regular customers), but their utilization in frequency and amounts is not negligible.

### **III. Data Description**

Our analysis exploits three different databases. The first database was obtained from a panel survey on *Jefes* beneficiaries in the cities of Corrientes (capital of the province of Corrientes) and Resistencia (capital of the province of Chaco). These two cities are next to each other, just separated by the Paraná River but communicated by a bridge that crosses it, and conforming one large metropolitan area. Given its proximity and communication, the beneficiaries of both cities participate in the same labor market and are exposed to similar shocks. Both cities are comparable in terms of level of development, socio-economic conditions and size.<sup>8</sup>

The survey includes a set of questions on beneficiaries' satisfaction with the transfer system, as well as on access to financial services, ability to address health shocks, consumption, savings, time and transportation costs and socio-demographics that will allow analyzing the impact of the policy change. The survey was performed by the opinion poll company Catterberg & Asoc in two waves. The first was run in September 2005, when Corrientes beneficiaries were about to receive the magnetic cards. Resistencia beneficiaries had received them in October 2004.

A total of 800 beneficiary households were surveyed in the first wave (400 in each city). The randomized sampling procedure was as follows. First, using information obtained from Ministerio de Trabajo, we identify the neighborhoods with the largest concentration of *Jefes* beneficiaries by neighborhood in each city.<sup>9</sup> In those neighborhoods, we randomly selected survey locations, and in each survey location, the interviewers followed a protocol to randomly select the interviewed households. For the second wave, the interviewers just looked for the households surveyed in the first wave. Anticipating some attrition, we

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<sup>8</sup> The total population (as of the 2001 census) and the total number of *Jefes y Jefas* recipients (as of December 2006) is, respectively, 328868 and 23358 for Corrientes, and 275.962 and 25102 for Resistencia.

<sup>9</sup> The information is provided at <http://www.trabajo.gov.ar/jefes/index.asp>

looked for 730 households randomly selected (with random replacement for the cases when the household had moved or when it declined to answer the second survey).<sup>10</sup>

The second database that we exploit is the Argentine Permanent Household Survey (Encuesta Permanente de Hogares - EPH). The EPH is a regular survey carried out by the official statistical office, INDEC. It is administered in 28 urban agglomerations and one urban-rural area, which represent about 60% of the Argentine population, or 70% of the urban population.<sup>11</sup> With 87% of the Argentine population urban, this means that the EPH only excludes rural population (13 % of the overall population), and inhabitants of small-cities and semi-urban areas (23%). The EPH survey is the only one of its kind in Argentina that has been implemented continuously over time, since 1973. The EPH data has been the primary source of household data exploited by researchers and policy-makers in Argentina. The data are publicly available at the individual and household level.<sup>12</sup>

In the third quarter of 2003 the EPH was modified from a semi-annual frequency to a continuous survey. The previous version was performed on the third week of May and October of each year. In this new version, the reported frequency is quarterly and surveys are performed continuously along the quarter. The sample size is 25,000 households per quarter and 100,000 per year. Apart from the standard socio-demographic characteristics, income and employment conditions, the EPH questionnaire now captures other features of the households, such as survival strategies, residence condition and the characteristics of the dwelling, among others.

The rotation scheme of the households in the sample is the following: the randomly selected households are surveyed for two consecutive quarters; they are then dropped from the sample for two consecutive quarters; and they then return to the sample for another two

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<sup>10</sup> We distributed a food stamp of \$5 (about 1.7 US dollars at the time of the survey) for each answered survey in each wave as a token of gratitude to the families willing to participate in our study.

<sup>11</sup> The agglomerations included are: Gran La Plata, Bahia Blanca, Gran Rosario, Gran Santa Fe, Gran Parana, Posadas, Gran Resistencia, Comodoro Rivadavia, Gran Mendoza, Corrientes, Gran Cordoba, Concordia, Formosa, Neuquen, Santiago del Estero, Jujuy, Rio Gallegos, Gran Catamarca, Salta, La Rioja, San Luis, Gran San Juan, Gran Tucuman, Santa Rosa, Ushuaia-Rio Grande, City of Buenos Aires, Gran Buenos Aires (excluding the city), Mar del Plata, Rio Cuarto.

<sup>12</sup> For detailed information about INDEC and EPH data, see [www.indec.gov.ar](http://www.indec.gov.ar).

consecutive quarters. Under this scheme, we are able to follow a single household for a time window of one and a half year. As explained below, we will use a difference in differences identification strategy. Our panel structure starts in the third quarter of 2003, when the new quarterly EPH structure was first implemented. As shown in Table 1, the last provinces were transferred to banking payment in September 2005. That means that the latest surveyed households for which we have data available before and after the change in the payment system are the households located in those provinces that were first interviewed in the third quarter of 2005 (for the families interviewed after that period, we will not have the before data). These households were interviewed for the last time in the fourth quarter of 2006 which is last period considered for our study.

The EPH data indicates the urban conglomerate where each household is located. Each of the urban agglomerations included in the EPH (see footnote 11) have a unique data of transfer of payment system, with the exception of the Great Buenos Aires area. For the largest conglomerate of the country, the transfer of payment system took place between June 2004 and June 2005. For each county of Great Buenos Aires, we know the exact transfer stage. However, for confidentiality reasons, the EPH does not indicate the exact location of each house within the conglomerate. For this reason, and only for this conglomerate, our difference in differences analysis for Great Buenos Aires has to treat the treatment status for all the observations in the interim period June 2004-June 2005 as missing.

The third database, measuring non-durable consumption, is produced by the marketing company LatinPanel, a subsidiary of TNS Gallup.<sup>13</sup> LatinPanel follows the consumption of non-durable branded food, cleaning and beauty products for a total of 3000 Argentine households. 1500 of these households live in the Buenos Aires metropolitan area and the other half in the rest of the country (excluding Patagonia). In each area, the families are selected through stratified randomization. The families that participate in the sample

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<sup>13</sup> For an extensive description of this database see David McKenzie and Ernesto Schargrotsky (2005) "Buying Less, but Shopping More: Changes in Consumption Patterns during a Crisis", BREAD Working Paper No. 092. LatinPanel operates in 15 countries of Latin America (including Argentina, Bolivia, Brasil, Chile, Colombia, Ecuador, México, Perú, and Venezuela) producing consumer data. See [www.latinpanel.com](http://www.latinpanel.com).

regularly report all their purchase decisions for a sample of products. In addition, an annual questionnaire asks whether household receive the Plan Jefes.

The LatinPanel respondents are classified into seven socio-economic levels. Given that there are basically no *Plan Jefes* beneficiaries in the top socio-economic levels, we only purchased the data for all the households in the lowest three levels (Low Superior, Low Inferior, and Marginal) that have been in the database for at least 12 months. Annual household demographic information (household head's education, household head's occupation status, wealth indicators, household size, housewife's age, youngest child's age) is also provided. Appendix Table 1 presents some household characteristics for the LatinPanel households. For 2004, for example, about 26.2% of the sample are Jefes recipients, although the proportion falls for subsequent year. Relative to the non-recipient population, the Jefes beneficiaries tend to be poorer, have larger families, the housewife is younger, the children are younger, and the proportion living in the capital city of Buenos Aires is smaller.

The purchase information of consumption goods is available for each ten-day period (for each month for the days 1<sup>st</sup> to 10<sup>th</sup>, 11<sup>th</sup> to 20<sup>th</sup>, and 21<sup>st</sup> to the end of month), and disaggregated into fresh food, non-fresh food, drinks, beauty products, and cleaning products. Households also report the distribution channel where they obtained each product. Ten distribution channels are considered: hypermarkets, supermarkets, discount stores, self-service stores (*autoservicios*), grocery stores (*almacenes*), wholesalers, candy stores (*kioscos*), drugstores, bartering clubs (*trueque*), and a residual category for other channels such as community markets. Moreover, Latin Panel classifies the quality of each product item four levels: premium brands, medium brands, priced brands, and distributor brands. The dataset covers the period June 2003-December 2006.

#### **IV. Econometric Methods**

Our objective is to identify the effects of transferring the payment of welfare programs from cash to banking deposits on a set of variables. Specifically, we are interested in

comparing the values of a set of variables when welfare beneficiaries receive banking deposits compared to the values when the same beneficiaries receive cash payments. Since the counterfactual is never observed, we must estimate it. Ideally, we would like to have a randomization assigning cash and banking payments across beneficiaries and compare the average outcomes of the two groups. In the absence of a randomized experiment, we are forced to turn to non-experimental methods that mimic it under reasonable conditions.

As discussed in Section III, the transfer of payment system was implemented at the province (and, in some large provinces, at the county level). During some period of time, we can compare the behavior of transferred vs. to-be-transferred beneficiaries. A major concern is that the provinces (or counties) that were transferred first could be different from the areas that were transferred later, and that these differences may be correlated with the outcomes under study. For example, relatively richer areas with better access to bank facilities could have been the ones first transferred. In this case, the correlation between the payment technology and the outcomes under study would be confounded with the effect of wealth effect.

In the case of the transfer of payments of the *Jefes* program, it is certainly possible that the areas first transferred are different from the late-transferred. The schedule of transfers, however, was pre-determined before the beginning of the process. If the schedule was based on heterogeneous characteristics, it was potentially correlated with the baseline values of those characteristics, and not with the time-varying levels. Therefore, these potential sources of heterogeneity are fixed over time in our experiment. In order to control for time-invariant heterogeneity we use panel data and estimate a difference-in-differences model introducing fixed effects. By conditioning on fixed effects, the difference-in-differences estimator identifies the parameter of interest without ruling out selection of program timing based of time-invariant unobservables.

Thus, without the benefit of a randomized experiment, we turn to a difference in differences approach, which compares the change in outcomes in the treated group before and after the intervention to the change in outcomes in the control group. By comparing changes, we

control for observed and unobserved time-invariant characteristics that might be correlated with the program timing as well as with the outcomes under study. The difference-in-differences model can be specified as a two-way fixed effect linear regression model:

$$y_{hit} = \alpha b_{it} + \beta x_{hit} + \lambda_t + \mu_h + \varepsilon_{hit} \quad (1)$$

where  $y_{hit}$  are different outcomes of household  $h$  in area  $i$  and period  $t$ ,  $b_{it}$  is an indicator variable that takes on the value one if welfare payments were transferred to banking deposits in area  $i$  and period  $t$  and 0 otherwise,  $x_{hit}$  is a vector of control variables that vary across households, areas and time,  $\mu_i$  is a household fixed effect,  $\lambda_t$  is a time fixed effect, and  $\varepsilon_{hit}$  is the error term. In this model,  $\alpha$  is the difference in difference estimate of the average effect of payment transfer on the different outcomes.

We exploit this difference in differences strategy for our three databases. In the case of the data from Corrientes and Resistencia, the first wave of the survey was performed in September 2005, when Corrientes beneficiaries were about to receive the magnetic cards (Resistencia beneficiaries had received them in October 2004). The second wave was performed in March 2006 when magnetic cards had already been distributed in both cities. This database only includes beneficiaries of the *Jefes* program. We use Resistencia beneficiaries as a control group (as for both survey waves their payment system status did not change), while the Corrientes beneficiaries are the treatment group whose status changed during the period of analysis. As a time fixed effect, we introduce a time dummy for the observations of the second survey wave. The units of observation are the households, so that we also introduce household fixed effects.

In the case of the EPH database, the official statistical office, INDEC, changed the survey methodology to a rotating quarterly panel since the third quarter of 2003. We then have quarterly observations since that first quarter throughout the third quarter of 2006 (last wave available at the time of writing). For our difference in differences strategy we can focus only on the *Jefes* beneficiary households exploiting the fact that the program was introduced at different points in time in different areas. The survey identifies *Jefes*

beneficiary households. In this case the households that do not change their payment system status between two periods (because they have been already transferred or because they were not) act as a control for the households that changed their status between those periods. Alternatively, we can also introduce as an additional control group non-beneficiary households. Under this specification, our econometric model uses a dummy variable that takes on the value one for beneficiary households, and 0 otherwise. This dummy variable is then interacted with our treatment variable  $b_{it}$  for beneficiary households transferred to the banking deposit system. The units of observation are the households. Under both specifications, we introduce household fixed effects and quarter time effects.

In the case of the LatinPanel database, for the difference in difference analysis we can again focus exclusively on the *Jefes* beneficiary households or also introduce as an additional control group non-beneficiary households. LatinPanel provides consumption (purchases) data at high frequency (every 10-day period). However, the sociodemographic information is only collected annually. Thus, in every December the survey identifies *Jefes* beneficiary households.<sup>14</sup> Under this specification, our econometric model uses a dummy variable that takes on the value one for beneficiary households, and 0 otherwise. This dummy variable is then interacted with our treatment variable  $b_{it}$  for beneficiary households transferred to the banking deposit system. The units of observation are the households. Under both specifications, we introduce household fixed effects and 10-day time effects.

## **V. Results**

### **V.1. The Corrientes-Resistencia survey**

We first present results exploiting the survey performed in the cities of Corrientes and Resistencia. As can be seen in Table 2, 87.1% of the beneficiaries interviewed in September 2005 in Resistencia report that they prefer the new debit card payment system to the old (cash) system. Only 3.2% reported that they preferred the cash system. These

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<sup>14</sup> For the households migrating in or out of the *Jefes* program during the year, we cannot know the exact date of those changes. We only have the *Jefes* membership as of December. We use different assumptions (leaving as missing the whole year of change, assuming that the change was at the beginning of the year, and assuming that the change was at the end of the year) to evaluate the robustness of our results.

figures do not represent a premature over-expectation about the benefits of the program. In the April 2006 survey, when more time has elapsed since the payment transfer in the city of Resistencia, the satisfaction with the ATM system is even larger.

**Table 2. Satisfaction with ATM payment**

	2005 survey		2006 survey	
	Frequency	Percent	Frequency	Percent
<b>Resistencia</b>				
Better	330	87.07	316	91.86
Same	37	9.76	19	5.52
Worse	12	3.17	9	2.62
Total			344	100
<b>Corrientes</b>				
Better			339	92.12
Same			23	6.25
Worse			6	1.63
Total			368	100

**Note:** The survey question is “With respect to the payment of the programs at ATMs via debit cards, in your opinion is this system better, the same or worse than the previous (cash)?”

Table 3 links the satisfaction or dissatisfaction with specific reasons, with 89% reporting that the new system is more efficient. Satisfied respondents overwhelmingly gave explanations which could be classified as “more efficient”, including shorter lines. For example one respondent answered “More practical to get money and don’t have to form a long line”.<sup>15</sup> Another offered “Can get money at any moment and avoid lines.”<sup>16</sup> Among the group who reported they were satisfied, more flexible and efficient access was the first reason listed by 98% of the satisfied respondents.

<sup>15</sup> “Más práctico para cobrar y no hacer tantas colas”.

<sup>16</sup> “Cobra en cualquier momento y evita colas.”



	<b>Frequency</b>	<b>Percent</b>
More efficient	967	88.8
More secure	11	1.01
More purchasing benefits	7	0.64
Less efficient	77	7.07
Same	27	2.48
Total	1,089	100

While not reported as the primary factor behind their satisfaction with the electronic transfer system, benefits associated with using the debit card in stores were provided by 4-11% of respondents who listed multiple reasons for their satisfaction. 4% listed reasons associated with better security.

Of the 8% of respondents who reported that there was no difference between the two approaches, the vast majority reported long lines at the ATMs they attended. One respondent wrote “The ATMs are always busy.”<sup>17</sup> Another responded “You end up wasting the same time in the line”.<sup>18</sup> This may be associated with a low penetration of ATM in certain neighborhoods. The mean distance to the ATM was 20 blocks.

Table 4 shows that the change in the payment system has allowed beneficiaries to enjoy large savings in time spent and transportation costs. Under cash payments, beneficiaries reported an average of more than six hours in payment days, whereas they now spend less than one hour to go to the ATM. Moreover, a larger percentage can now walk to the ATM, instead of taking a means of transportation to the cash payment location.

**Table 4. Time Spent and Means of Transportation: Cash vs. ATM payment**

	Time (in minutes)	Percent walking
Cash Payment	251	32.2
ATM Payment	43	48.6

<sup>17</sup> “Las cajeros siempre están llenos.”

<sup>18</sup> “Igual se hace cola con pérdida de tiempo”.

Higher education is correlated with higher levels of satisfaction as can be seen in Table 5. While those reporting that the card is better have the highest levels of education (a mean of 7.9 years of education), those reporting that the card is worse than cash have, in average, almost two years of education less.

**Table 5. Satisfaction with ATM payment by Years of Education**

	Years of Education
Better	7.89
Same	7.33
Worse	6.04

The panel structure of the survey allows us to explore how the new payment system has affected a variety of outcomes including consumption, access to financial markets; labor supply and income. Our specification includes a dummy for the survey wave (2005 omitted) as well as fixed effects for the household. The treatment variable, receiving the new payment system, is instrumented by the transition schedule described in Table 1. We first explore the ability of families to smooth consumption over time. As seen in regression 1, the new payment system does not increase the likelihood that the families will reach the end of the month with money from the plan. However beneficiary households are less likely to be unable to afford emergency health expenditures with the new system (regressions 2 and 3).<sup>19</sup>

As can be seen in regression 4 of Table 6, the change to electronic payment does not result in greater financial access for beneficiary families. The baseline level of financial access is very low among this population. For example, less than 2% of the beneficiary households in Corrientes had saving or checking accounts in formal or semi-formal (cooperatives) financial institutions in 2005. The levels in Resistencia are similarly low. This may be

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<sup>19</sup> In column 3 the dependent variable is missing for households that have no emergency medical necessity. In column 5 the dependent variable is zero for the households with no need.

related to the fact that households are unable to generate savings or other institutional factors.

Relatively larger impacts of the debit card, consistent with the satisfaction and time-saving results, are found in regressions for labor supply and family income. In regression 5, the beneficiary household head is significantly more likely to work once the new payment system is in place and total household income is significantly higher under the new regime. Regression 6 shows that total household income significantly increases with the debit card. These last two results suggest that beneficiaries are shifting some of the time savings toward the labor market.

The survey inquired both in 2005 and in 2006 about the control over resources within the household with the aim of investigating how the new distribution system may have changed internal dynamics in the household. The specific question asked was “In your home who in general decides how the money is spent?” The acquisition of the debit card has a significant negative impact on women’s control over household resources as shown in Table 7. The overall trend was slightly negative for women in both cities but approximately 10 percentage points larger for women with plans that switched from cash to debit cards. The difference does not appear to be generated by an asymmetry in basic information; husbands and wives share ATM codes with each other at similar rates (30%). It could be that for security reasons husbands have access to the ATMs more regularly or are less inclined to share the proceeds.<sup>20</sup>

The survey also included a question regarding kickbacks to individuals who helped provide access to *Plan Jefes*. “Before, when *Jefes Program* was providing cash in person, on the day you were paid would you repay part of the money to the organization or person who had helped you enter the program?”<sup>21</sup> 4% reported that under the previous cash system they provided a payment to an individual or organization that had helped provide access to the program. With the new electronic benefits transfer program less than 0.3% reported

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<sup>20</sup> No significant changes in crime were found in the study.

<sup>21</sup> “Antes, cuando los Planes Jefes se cobraban yendo en persona a cobrar en efectivo el día de pago, ¿ustedes repartían parte del dinero con la organización o la persona que les había ayudado a conseguir el Plan?”

providing a kickback. While these questions were asked only in the 2006 survey and thus subject to the standard caveats with respect to the collection of retrospective data, it is interesting to note in Table 8 that the before and after estimate is similar in both cities, (though the recall periods are different since the beneficiaries in Resistencia have used the debit system for approximately 17 months while the beneficiaries in Corrientes have used the debit system for approximately 6 months).

**Table 6. Panel Regression Results from Survey of Jefe and Jefe Beneficiary Families (Corrientes and Resistencia)**

	Consumption Smoothing End of Month <sup>1</sup>		Consumption Smoothing Not Afford Meds <sup>2</sup>		Consumption Smoothing Not Afford Meds <sup>3</sup>		Financial Access <sup>4</sup>		Labor Supply <sup>5</sup>		Household Income <sup>6</sup>	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
<b>Debit Card (<i>treatment IV</i>)<sup>7</sup></b>	0.036	0.038	-0.189 ***	0.055	-0.073 *	0.043	0.009	0.009	0.077 *	0.045	31.028 *	18.215
<b>Survey Wave</b>	-0.030	0.027	0.059	0.040	-0.005	0.031	-0.006	0.006	-0.067 *	0.033	14.016	13.119
<b>constant</b>	60.408	54.292	-118.542	80.626	11.014	61.586	12.065	12.540	135.223 *	65.288	-27769.0	26301.2
<b>Household fixed effects</b>	yes	yes	yes		yes		yes		yes		yes	
<b>Observations</b>	1403		1093		1398		1403		923		1346	
<b>Groups</b>	702		667		702		703		510		702	

Notes

\* Statistically different from zero at the .1 level.

\*\* Statistically different from zero at the .05 level.

\*\*\* Statistically different from zero at the .01 level.

<sup>1</sup> The dependent variable is whether the beneficiary was able to make it to the end of the previous month with the money from the plan.

<sup>2</sup> The dependent variable indicates whether any household member needed a medicine, medical study or treatment that could not be acquired or performed because it could not be afforded. Households with no need are treated as missing.

<sup>3</sup> The dependent variable indicates whether any household member needed a medicine, medical study or treatment that could not be acquired or performed because it could not be afforded. Households with no need are treated as a zero.

<sup>4</sup> The question asks whether the household head or other members have a bank account (saving or checking) in a financial institution, apart from the debit account.

<sup>5</sup> The question refers to the work status, restricted to household heads.

<sup>6</sup> The question refers to total household income.

<sup>7</sup> The treatment of receiving the card is instrumented by the intention to treat.

**Table 7. Beneficiary Has Some Control Over Household Resources**

Sample: Married beneficiaries of Plan JJ in households with one plan,  
restricted to household heads and spouses

	Males and Females		Males only		Females only	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
Dependent Variable: Influence over household resources <sup>1</sup>						
<b>Debit Card (treatment IV)</b> <sup>2</sup>	-0.034	0.039	0.071	0.060	-0.106 **	0.052
<b>Survey Wave</b>	0.039	0.027	0.017	0.044	0.059 *	0.036
<b>constant</b>	-78.076	54.616	-32.589	87.314	-116.45	71.216
<b>Household fixed effects</b>	yes	yes	yes	yes	yes	yes
<b>Observations</b>	836		305		531	
<b>Groups</b>	521		176		354	

## Notes

\* Statistically different from zero at the .1 level.

\*\* Statistically different from zero at the .05 level.

\*\*\* Statistically different from zero at the .01 level.

<sup>1</sup> The dependent variable is 1 if the plan holder reports that they decide or they decide with their spouse how money is spent by the household.

<sup>2</sup> The treatment of receiving the card is instrumented by the intention to treat.

**Table 8. Percent Reporting Kickbacks**

City	Cash System	Debit Card System	Difference	St. Err.	Obs.
Corrientes	0.036	0.003	0.033 *	0.009	365
Resistencia	0.041	0.003	0.038 *	0.010	345

\* Statistically different from zero at the .01 level.

Finally, the survey shows that, although 34.3 percent of the respondents declare knowing that the use of the ATM cards for direct purchases allows a significant reduction in VAT tax, only 7.5 percent of the beneficiaries have used the card for such purpose. Perhaps the high level of informality of the stores where this population makes their regular purchases explains such low level of utilization of the discount. It is important to notice that informality and tax evasion are higher in cities like Resistencia and Corrientes, than in the main areas of the country.

## **V.2. The Official Household Survey (EPH)**

The regular household survey allows us to evaluate the impact on debit cards on three sets of variables. The first one is a set of dummy variables on household survival strategies. Following the deep crisis of 2001, INDEC incorporated into the new EPH a set of questions on survival strategies including questions on whether households had to live out of savings, had to borrow from friends and relatives, had to borrow from a financial institution, or had to sell an asset or belonging. The EPH results show no effect of the debit cards on any of these survival strategies, with the exception of whether families had to sell something to survive. Table 9 shows a statistically significant reduction in the likelihood of needing to sell something to live associated to the possession of a debit card.

In Tables 10 and 11, we analyze the effect of the availability of debit cards on labor hours. Table 10 considers all the population of 21 or more years of age, while Table 11 is restricted to household heads. For all the population, we find a statistically significant increase of around one hour per week allowed by the debit cards. The effect doubles for the household heads. These results are consistent with our findings from the Corrientes-Resistencia survey. Our preliminary results using the EPH, however, show no effects on income. This is surprising because the effect on labor hours is robust and significant. One potential explanation is that (some of the) *Jefes Program* beneficiaries do not consider the money deposited into their bank accounts as part of their income, as they now do not see it in cash. More generally, the income reporting of this population from the official household survey is probably affected by the fact that *Jefes Program* beneficiaries have to be unemployed. In theory, they could not report any alternative source of income although, in practice, some *Jefes* beneficiaries report labor income in the survey. The change in the payment system perhaps affected reporting behavior.

## **V.3. Effects on Purchasing Behavior**

We exploit the purchasing data from LatinPanel to analyze whether the availability of debit cards affected the purchasing behavior of recipients. The main hypothesis is that the availability of debit cards could allow beneficiaries to make more purchases in up-the-trade

stores (hypermarkets, supermarkets, wholesalers) that have the technology for electronic payment using debit cards. There are two reasons for this store migration. The first one is that, when the welfare program was paid in cash, consumers were (at similar prices and location) indifferent between what type of store (formal or informal) to visit. Instead, once debit cards are available, beneficiaries can go to the ATMs to obtain cash and purchase in any store, or go directly to an up-the-trade store to purchase with the debit card. The transaction costs are now lower for direct purchases. A second reason is that the use of the card for direct purchases enjoys a reduction of 15% in the total price paid (the Value Added Tax is reduced from 21% to 6%, with the tax rebate being deposited back into the banking account), providing a powerful incentive for the use of debit cards in formal establishments.

In table 12, column 1 first shows a significant increase in the value of purchases made at formal establishments (hypermarkets, supermarkets and wholesalers) as a share of total purchases. In the average for our sample, households spent 21.7% of the value of their purchases in this type of stores. The estimated coefficient indicates an increase of 7.8% in this share. Column 2 shows that the significance of the results is robust to clustering the standard errors by period-location taking into account that all the beneficiaries in the same location received the cards at the same point in time. The third column shows that the results are robust to also including discount stores and self-services as up-the-trade stores. This five type of stores, but in particular the first three considered, are much more likely in Argentina to have the electronic devices for on-line purchases than the grocery stores (almacenes), candy stores (kioscos), drugstores (farmacias), bartering clubs (trueque), and community markets. Column 4 shows that the results are also robust to identify the effect considering only the households that were ever in Plan Jefes. In columns 5 and 6 we consider different definitions of the Jefes Program and Debit Card variables addressing the fact that the LatinPanel questionnaire only asks households about whether they are receiving the welfare program in December of each year. Finally, in column 7 we perform the experiment of evaluating the impact of a faked treatment. The LatinPanel dataset starts in June 2003, and the debit cards were first distributed in June 2004. In that column, we only consider the observations for June 2003 through June 2004 and assume that all the



Jefes Program recipients received cards in December 2003. The regression shows no impact of this faked experiment on the value of purchases made at formal establishments.

A second set of purchasing results refer to the frequency of purchases. In average for our sample, households made purchases in 5.88 days of each 10-day period. Table 13 shows a significant reduction of 0.1 days in this purchase frequency. This overall reduction is actually composed of a 6.3% increase in the frequency of purchases in up-the-trade stores and a 4.4% decrease in down-the-trade frequency. Focusing on a different variable (frequency of purchases), these results are consistent with the substitution in purchase channels showed for the value shares.

An important additional question is whether this migration had the advantage of time savings through the use of debit cards and lower purchase frequency, but had the cost of higher prices paid at stores in the formal economy. Column 1 of Table 14 shows that Jefes Program recipients pay lower prices (probably because they consume products of lower quality), but the debit card use was not associated to higher prices.<sup>22</sup> To control better for potential quality changes, we exploit that Latin Panel classifies each product into four quality levels: premium brands, medium brands, priced brands, and distributor brands. For the four quality levels considered independently, columns 2 to 5 show that the availability of debit cards is associated to lower prices, although the results are statistically significant only for the second quality level.

## **VI. Conclusions**

The change in the approach to the distribution of benefits in the *Jefes Program* provides important lessons. First, beneficiaries report much higher levels of satisfaction with the debit card system than with cash. The new system allows beneficiary households important savings in the time and money spent to collect the transfer. Since less educated beneficiaries report the highest levels of dissatisfaction with the new system, more attention

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<sup>22</sup> The prices in the LatinPanel data are not net of the VAT deduction enjoyed by the use of debit cards. The discount is not made at the stores but later refund by the tax authority to the bank accounts.

and opportunities should be given to training during the transition to the debit card. Active interventions could also be undertaken to foster the use of the ATM cards for additional uses, such as the access to VAT tax discounts through direct purchases.

The high levels of satisfaction related with the time savings of the ATM and store access is relevant to other conditional cash transfer programs that require beneficiaries to collect their subsidies during bank hours at the main facility. In neighborhoods with reasonable access to ATMs the time savings and satisfaction of beneficiaries are likely to be higher with an ATM card system.

With respect to the link between the debit card and program accountability and transparency there is evidence that the new approach has reduced the level of kickbacks. The survey results also suggest that the banking account leave beneficiaries in a better situation to afford health emergency expenditures. Although preliminary, our results also show that debit cards foster the access of beneficiary households to stores in the formal economy. However, and probably because of the impossibility to deposit additional funds in these accounts and the potential fear of being excluded from the program if funds accumulate, the transfer of the payment system does not seem to have improved the access of these households to savings tools. All these issues, however, are preliminary and worthy of further exploration.

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Table 9 - SURVIVAL STRATEGY: SELLING SOMETHING TO LIVE						
	(1)	(2)	(3)	(4)	(5)	(6)
Debit Card 1	-0.190*** (0.007)			-0.014 (0.017)		
Debit Card 2		-0.019*** (0.007)			-0.017 (0.016)	
Debit Card 3			-0.021*** (0.006)			-0.020 (0.013)
Jefes Program	0.019*** (0.005)	0.019*** (0.005)	0.019*** (0.005)			
Observations	197539	197776	198384	15563	15800	16408

Notes: All the regressions include a full set of time effects (14 quarterly dummies) and household fixed effects. The dependent variable is a dummy variable indicating whether the household reports that they had to sell something to survive. Column 4 to 6 restrict only to households with a Jefes Program beneficiary. The three variables Debit Card 1, Debit Card 2 and Debit Card 3 make alternative assumptions on the timing of the debit card availability for the Great Buenos Aires area where the EPH does not allow to identify the exact time of the card distribution, but an interval of time. Standard errors in parentheses. \* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

Table 10 - MAIN JOB LABOR HOURS FOR EVERY ADULT						
	(1)	(2)	(3)	(4)	(5)	(6)
Debit Card 1	0.805*** (0.272)			1.119* (0.657)		
Debit Card 2		0.789*** (0.271)			1.161* (0.648)	
Debit Card 3			0.447* (0.256)			0.582 (0.519)
Jefes Program	-7.395*** (0.338)	-7.332*** (0.170)	-7.292*** (0.170)			
Observations	240450	240820	241823	12916	13114	13649

Notes: All the regressions include a full set of time effects (14 quarterly dummies) and individual fixed effects. The dependent variable is the number of hours worked in the main job. The regression is restricted to all the individuals 21 years old or older. Column 4 to 6 restrict only to individuals with a Jefes Program beneficiary. The three variables Debit Card 1, Debit Card 2 and Debit Card 3 make alternative assumptions on the timing of the debit card availability for the Great Buenos Aires area where the EPH does not allow to identify the exact time of the card distribution, but an interval of time. Standard errors in parentheses. \* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

Table 11 - MAIN JOB LABOR HOURS FOR HOUSEHOLD HEADS						
	(1)	(2)	(3)	(4)	(5)	(6)
Debit Card 1	1.863*** (0.433)			1.877* (0.968)		
Debit Card 2		1.831*** (0.432)			1.994** (0.948)	
Debit Card 3			1.222*** (0.406)			0.654 (0.774)
Jefes Program	-4.855*** (0.358)	-4.801*** (0.355)	-4.552*** (0.345)			
Observations	128207	128386	128845	11901	12080	12539

Notes: All the regressions include a full set of time effects (14 quarterly dummies) and individual fixed effects. The dependent variable is the number of hours worked in the main job. The regression is restricted to household heads. Column 4 to 6 restrict only to households with a Jefes Program beneficiary. The three variables Debit Card 1, Debit Card 2 and Debit Card 3 make alternative assumptions on the timing of the debit card availability for the Great Buenos Aires area where the EPH does not allow to identify the exact time of the card distribution, but an interval of time. Standard errors in parentheses. \* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

Table 12 - Dependent Variable: Up-the-trade purchases as % of total purchases							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Jefes Program1	-0.0108*** (0.0039)	-0.0108*** (0.0039)	-0.010** (0.004)	-0.007 (0.006)			
Jefes Program2					-0.010*** (0.003)		
Jefes Program3						-0.006*** (0.002)	
Debit Card1	0.0178*** (0.0038)	0.178*** (0.0038)	0.028*** (0.004)	0.014** (0.007)			
Debit Card2					0.013*** (0.003)		
Debit Card3				Ever jefe		0.015*** (0.003)	
Faked Allocation of Debit Card							0.003 (0.004)
Observations	193097	193097	193097	31155	205945	206320	62853

Notes: All the regressions include a full set of time effects (130 dummies) controlling for each 10-day period and household fixed effects. Moreover, a set of dummy variables controls for household socioeconomic level (three categories), household size (four categories), wife age (five categories), and age of the youngest child (five categories). The dependent variable is the share of the value of purchases in up-the-trade stores (hypermarkets, supermarkets and wholesalers) as a share of total purchases. Huber-White standard errors clustered at the 10-day-period/location are used in column (2). In column 3 we also include discount stores and self-services as up-the-trade stores. Column 4 restricts only to household that were ever in the Jefes Program. In column (5) and (6) we use different assumptions for the definition of the Jefes Program and Debit Card variables due to the fact that LatinPanel only answers about reciprocity of the Jefes Program once a year. Finally, in column (7) we perform the faked experiment. Finally, in column 7 we perform the experiment of evaluating the impact of a faked treatment considering only the observations for June 2003 through June 2004 and assuming that all the Jefes Program recipients received cards in December 2003. Standard errors in parentheses. \* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.



Table 13 – Frequency of Purchases			
Dependent Variable	Number of Days Purchasing in Any Store	Number of Days Purchasing in up-the-trade stores	Number of Days Purchasing in down-the-trade stores
	(1)	(2)	(3)
Jefes Program	0.005 (0.035)	0.006 (0.021)	0.213*** (0.055)
Debit Car	-0.103*** (0.034)	0.067*** (0.020)	-0.319*** (0.535)
Observations	196412	196412	196412

Notes: All the regressions include a full set of time effects (130 dummies) controlling for each 10-day period and household fixed effects. Moreover, a set of dummy variables controls for household socioeconomic level (three categories), household size (four categories), wife age (five categories), and age of the youngest child (five categories). The dependent variable is the number of days in each 10-day period that purchases are made in each type of store. Column 1 considers every type of store, Column 2 considers the up-the-trade stores (hypermarkets, supermarkets and wholesalers). Column 3 considers the down-the-trade stores (discount stores, self-services, grocery stores (almacenes), candy stores (kioscos), drugstores (farmacias), bartering clubs (trueque), and community markets). Standard errors in parentheses. \* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

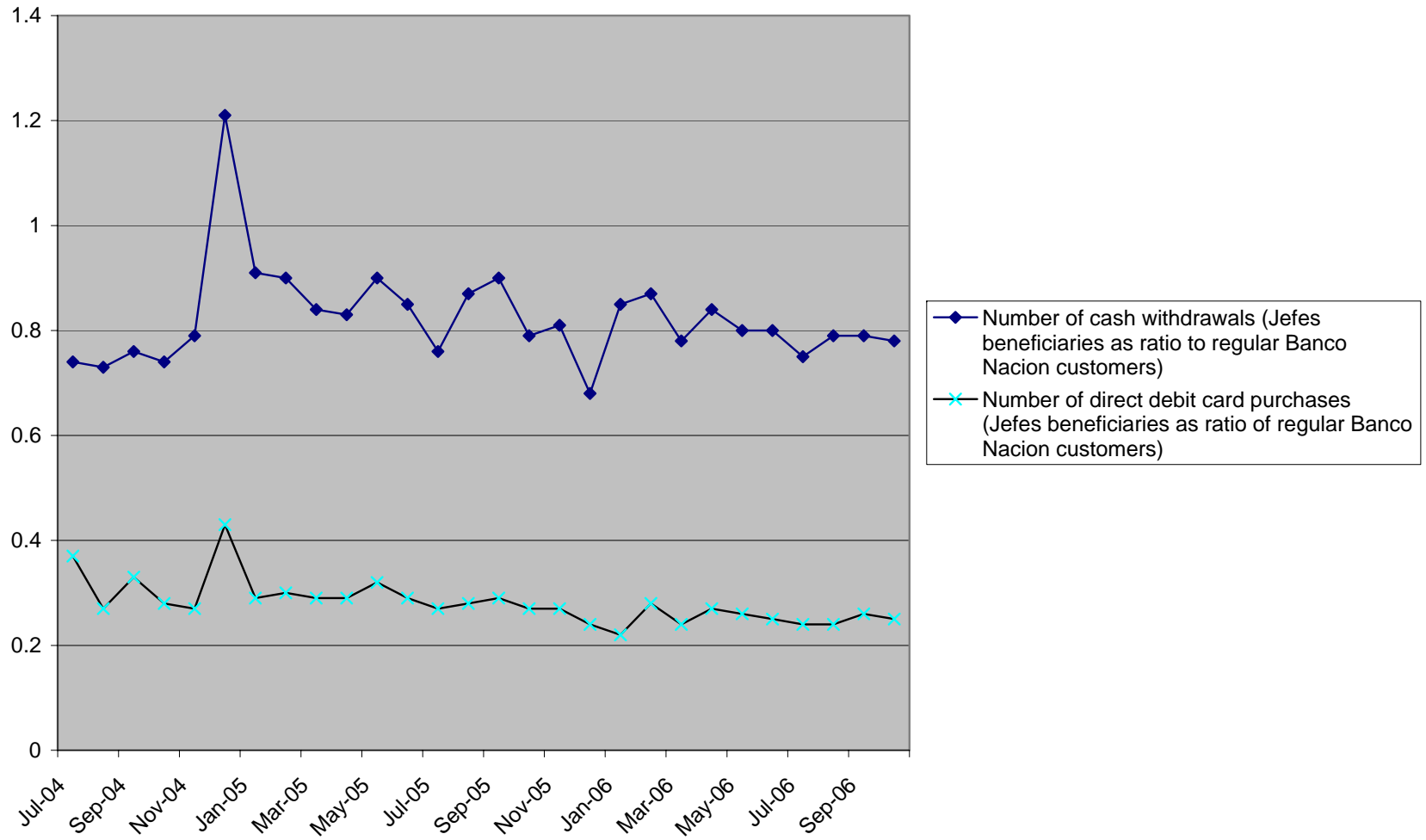
Table 14 - Prices					
Dependent Variable – Price paid for	Every quality goods	A-brand quality goods	B-brand quality goods	Distributors goods	Priced goods
	(1)	(2)	(3)	(4)	(5)
Jefes Program1	-0.048* (0.024)	-0.146** (0.068)	-0.857 (0.064)	0.044 (0.043)	-0.032 (0.052)
Debit Card1	-0.021 (0.024)	-0.037 (0.066)	-0.172*** (0.062)	-0.048 (0.042)	-0.067 (0.050)
Observations	196412	196412	196412	196412	196412

Notes: All the regressions include a full set of time effects (130 dummies) and household fixed effects. Moreover, a set of dummy variables controls for household socioeconomic level (three categories), household size (four categories), wife age (five categories), and age of the youngest child (five categories). The dependent variable is the average price for goods of different qualities. Standard errors in parentheses. \* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

Appendix Table 1 – Latin Panel Database

	HOUSEHOLDS WITH PLAN JEFES								HOUSEHOLDS WITHOUT PLAN JEFES							
	2003		2004		2005		2006		2003		2004		2005		2006	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
<b>Total</b>	371		371		192		192		1416		1416		1420		1420	
<b>SOCIO-ECONOMIC LEVEL</b>	371		371		177		192		1416		1416		1420		1420	
LOW SUPERIOR (5 <sup>th</sup> of 7)	73	20%	73	20%	26	15%	48	25%	579	41%	579	41%	565	40%	537	38%
LOW INFERIOR (6 <sup>th</sup> of 7)	100	27%	100	27%	41	23%	53	28%	370	26%	370	26%	400	28%	433	30%
MARGINAL (7 <sup>th</sup> of 7)	198	53%	198	53%	110	62%	91	47%	467	33%	467	33%	455	32%	450	32%
<b>FAMILY SIZE</b>	371		371		177		192		1416		1416		1420		1420	
1 TO 2 PEOPLE	14	4%	12	3%	10	6%	14	7%	378	27%	400	28%	442	31%	467	33%
3 TO 4 PEOPLE	130	35%	136	37%	79	45%	86	45%	611	43%	587	41%	534	38%	548	39%
5 TO 6 PEOPLE	133	36%	132	36%	49	28%	53	28%	306	22%	311	22%	316	22%	283	20%
7 AND MORE PEOPLE	94	25%	91	25%	39	22%	39	20%	121	9%	118	8%	128	9%	122	9%
<b>HOUSEWIFE AGE</b>	371		371		192		192		1416		1416		1420		1420	
LESS THAN 35 YEARS OLD	161	43%	152	41%	81	42%	70	36%	335	24%	295	21%	298	21%	269	19%
FROM 36 TO 45 YEARS OLD	111	30%	109	29%	58	30%	59	31%	278	20%	297	21%	294	21%	293	21%
FROM 46 TO 55 YEARS OLD	69	19%	74	20%	40	21%	46	24%	302	21%	298	21%	257	18%	267	19%
FROM 56 TO 65 YEARS OLD	22	6%	27	7%	10	5%	14	7%	270	19%	271	19%	261	18%	261	18%
65 & MORE	8	2%	9	2%	3	2%	3	2%	231	16%	255	18%	310	22%	330	23%
<b>CHILDREN AGE</b>	371		371		192		192		1416		1416		1420		1420	
LESS THAN 6 YEARS OLD	224	60%	177	48%	78	41%	85	44%	399	28%	333	24%	359	25%	312	22%
FROM 6 TO 12 YEARS OLD	104	28%	126	34%	58	30%	59	31%	263	19%	284	20%	272	19%	282	20%
FROM 13 TO 18 YEARS OLD	34	9%	54	15%	29	15%	36	19%	163	12%	164	12%	162	11%	159	11%
FROM 19 TO 25 YEARS OLD	5	1%	9	2%	9	5%	9	5%	138	10%	142	10%	131	9%	150	11%
WITHOUT CHILDREN	4	1%	5	1%	18	9%	3	2%	453	32%	493	35%	496	35%	517	36%
<b>TOTAL ARGENTINA</b>	371		371		192		192		1416		1416		1420		1420	
CITY OF BUENOS AIRES	10	3%	10	3%	10	5%	10	5%	146	10%	146	10%	112	8%	112	8%
GBA	132	36%	132	36%	64	33%	64	33%	496	35%	496	35%	510	36%	510	36%
NORTH GBA	30	8%	30	8%	8	4%	8	4%	140	10%	140	10%	144	10%	144	10%
WEST GBA	45	12%	45	12%	26	14%	26	14%	149	11%	149	11%	148	10%	148	10%
SOUTH GBA	57	15%	57	15%	30	16%	30	16%	207	15%	207	15%	218	15%	218	15%
INTERIOR	229	62%	229	62%	118	61%	118	61%	774	55%	774	55%	798	56%	798	56%
LITORAL	84	23%	84	23%	43	22%	43	22%	247	17%	247	17%	259	18%	259	18%
CUYO	31	8%	31	8%	10	5%	10	5%	106	7%	106	7%	121	9%	121	9%
NOA	38	10%	38	10%	26	14%	26	14%	110	8%	110	8%	122	9%	122	9%
CENTRAL	76	20%	76	20%	39	20%	39	20%	311	22%	311	22%	296	21%	296	21%

**Figure 1 - Number of Withdrawals and Direct Purchases using Debit Cards  
(in number of times as ratio to regular Banco Nacion customers)**



**Figure 2 - Amount of Cash Withdrawals and Direct Purchases using Debit Cards  
(in monetary amounts as ratio to regular Banco Nacion customers)**

