# The Impact of a Cash Transfer Program on Life Outcomes

## Evidence from Uruguay

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**Abstract**

This paper analyzes the impact of a cash transfer program targeting households in extreme poverty, *Tarjeta Uruguay Social*, on a variety of life outcomes. A fuzzy Regression Discontinuity Design is implemented by using administrative data for the period 2013-2017, exploiting a doubling of the transfer to the poorest members of the program based on a poverty score. The results show significant improvements in both household and individual outcomes, specifically regarding dwelling attributes, durable goods, and formal work. Our results highlight the significant impact that the amount of the transfer and duration of the benefit have on the treatment effects.

**Keywords:** Poverty, Cash transfer, Regression Discontinuity
**JEL classifications:** I14, I32, J18

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# I. Introduction

Cash transfers have become one of the main social assistance policies used to address poverty and inequality in developing countries. In the past decades non-contributory cash transfers have seen a rapid expansion, from being implemented in a few countries at the end of the twentieth century to more than 100 countries, covering more than 750 million people in recent years. Latin America was one of the pioneer regions in implementing this type of program together with monitoring and evaluation strategies, reaching nowadays 28 out 29 countries in the region (DFID 2011; Honorati et al. 2015).

The main objectives of a social protection system are to "ensure an income sufficient to maintain a minimum quality of life for people's development; facilitate access to social and advocacy services; and secure decent work for all" (Cecchini and Martinez 2012, 16). These objectives are met through contributory social protection, labor market regulation and non-contributory social protection (also referred to as social assistance). Non-contributory cash transfers constitute a social assistance instrument, defined as a direct and regular payment to people in poverty or vulnerable situations.

The main objective of cash transfers is to reduce poverty and vulnerability by increasing and smoothing household income, although additional objectives are usually defined depending on the program and country. Among these, the most relevant are: increasing access to health and education, reducing food insecurity, breaking of the intergenerational transmission of poverty through the accumulation of human and productive capital, and reducing inequality. In a broad sense, cash transfers are assumed to have positive impacts on the present and future living conditions of poor households. Cash transfers can have four different roles: a preventive role, as an insurance against any unexpected and detrimental risks; a protective role in ensuring minimum living standards; a promoting role, encouraging the accumulation of human capabilities and productive assets; and a transforming role to reduce social exclusion (DFID 2011).

Considering their central position in social protection systems, high quality evaluations of cash transfer programs are fundamental in order to assess their effectiveness. Even though there is

a considerably large literature on impact evaluation, more research is still needed to understand the channels and particular aspects that determine their success, since countries differ widely in the details of program design.

This research aims to analyze the impact of a non-contributory cash transfer targeting households in extreme poverty by using evidence from Uruguay. The program, called *Tarjeta Uruguay Social* (TUS), was implemented in 2009 and underwent considerable design modifications until the beginning of 2013. By taking advantage of these design changes, we will evaluate the impact of introducing a new category of benefit, which consists of a doubling in the amount of the transfer. Additionally, by exploiting rich administrative data, we will evaluate the effect of the benefit duration on relevant outcomes. Evaluation is done using a regression discontinuity design for three time periods, May 2013, May 2015 and May 2017. Since cash transfers could potentially impact a wide range of life outcomes by relaxing the household budget constraint, the results evaluated in this paper include: housing and living conditions, food insecurity, formal labor market work, education enrollment of children and adolescents, prenatal and birth health conditions, and family composition.

This study will contribute to the existing evidence on cash transfer programs in several ways. First, it will shed light on how program design affects performance, specifically by analyzing the role of the amount of the transfer and the duration of the benefit on the final outcomes. Second, it will provide evidence on the effectiveness of cash transfers programs for excluded and vulnerable households in a middle-income country with high levels of human development and nearly universal access to primary school and healthcare, as is Uruguay (UNDP 2015). These results will generate evidence on how to refine the design of similar programs in other countries to increase their effectiveness and improve efficiency in the allocation of public funds.

The remainder of the paper is structured as follows. Section II presents a brief summary of the literature on the topic. Section III describes the design and implementation of the *Tarjeta Uruguay Social* program. Section IV presents the data and Section V the methodology and identification strategy. Section VI shows the results and Section VII presents some final remarks.

## II. Literature Review

There are two main variations of cash transfer programs, conditional and unconditional. Conditional cash transfers involve specific behavioral requirements that must be met to receive the benefit, while unconditional cash transfers have no co-responsibilities for the beneficiaries and thus the benefit may be spent without constraints (Honorati et al. 2015). Conditional cash transfers vary greatly in their degree of conditionality, with some programs imposing strict requirements in order to receive benefits and others having very few. For example, some require active participation from beneficiaries, including schooling requirements and mandatory visits to doctors, while others merely promote that the transfer is spent on children (Araujo et al. 2016; Skoufias and McClafferty 2001). There is an active debate in the field of social assistance regarding conditionalities, but there is no clear consensus of their impact on outcomes. While the introduction of conditionalities can complicate programs and impose additional costs on governments, they may improve political support for the transfers (DFID 2011).

In addition, the structure and implementation of these types of programs vary greatly, with differences in the amount of money provided, targeting mechanisms, monitoring procedures, and participation of recipients. The average benefit provided by the social assistance net varies depending on the income of each country, with low-income countries providing 10% of the average household consumption in the poorest quintile, lower-middle-income countries providing 21%, and upper-middle-income countries providing 37% (Honorati et al. 2015). Despite the many differences in implementation of cash transfer programs, there are a few characteristics that are similar across countries. For example, selection of the beneficiaries is usually done using a combination of geographical and household targeting by proxy-means test. Additionally, women are the preferred recipient of the transfer, as this improves intrahousehold allocation of resources, child outcomes and female household bargaining power (DFID 2011; Duflo 2003).

In theory, cash transfers are expected to have a positive impact on welfare based on the belief that recipients will use the transfers efficiently to better their living conditions (DFID 2011).

There are many different channels through which this positive impact on welfare could occur. The increase in household income should have an effect on the reduction of short-term poverty and could also be used to smooth consumption. In turn, this would relax the household budget constraint and free up resources to improve other outcomes and hence reduce intergenerational poverty through the accumulation of human capital or purchase of productive assets. Concerning education, we can expect an increase in enrollment of children and improvements in schooling outcomes due to, notably, the ability to acquire the necessary supplies, less stress from parents, healthier children, and potential school attendance conditionalities. This increase in schooling could subsequently reduce child labor. Additionally, cash transfers may improve health outcomes through more frequent and nutritious food consumption, improvements in the health of pregnant women and infants, and by relaxing financial barriers in the access to healthcare. As with education, there are often conditionalities which could also play a role in improving health outcomes. Moreover, cash transfers can lead to greater empowerment of beneficiaries due to increased self-esteem and social status, especially of women, as they are usually the primary recipients. Finally, transfers may also increase social cohesion, as there can be a communal sentiment regarding the transfers and an improved relationship between the state and the beneficiaries (DFID 2011; Fiszbein and Schady 2009).

On the other hand, there could be unintended effects. For instance, an increase in fertility may be observed as many benefits change according to the number of children in the household, or due to the fact that household resources increase. Additionally, an increase in labor informality could occur due to the monitoring of conditions for program eligibility (Levy 2008). There may also be a decrease in labor supply due to the income effect of the cash transfer (Fiszbein and Schady 2009). Finally, a cultural stigma could exist concerning those receiving state welfare (Moffitt 1983).

Many of the theoretical outcomes of cash transfers have been widely studied. It has been shown empirically that cash transfers have been successful in reducing short-term poverty through decreases in both the incidence of poverty and the poverty gap, and by increasing per capita consumption in beneficiary households. These increases in consumption lead to reduced hunger and food insecurity (DFID 2011). There have been positive impacts found on indicators of health

and education, with improvements in access to both. Positive effects of cash transfers have been found on the school enrollment of children, especially females, but the impact on long-term outcomes of children is either very small or nonexistent (Araujo et al. 2016; Schultz 2004). This increase in school enrollment has been linked to a decrease in child labor (Parker and Skoufias 2000). Positive effects have also been observed on the health outcomes of both children and adults in households receiving cash transfers; for children, improvements in measures such as birth weight, cognitive performance, and incidence of anemia, and for adults, in measures such as number of days spent feeling sick and an increased use of prenatal care (Gertler and Boyce 2001; Lagarde et al. 2007). As with educational outcomes, there is clear evidence of the effect of cash transfers on access to healthcare, but some ambiguity in their impact on longer-term health measures. In addition, cash transfers have been seen to have positive impacts on female empowerment, social cohesion, household investment in productive assets and household productivity. On the other hand, small or no impact has been found on labor market participation and fertility (DFID 2011; Fiszbein and Schady 2009).

In Uruguay, studies have been conducted on different cash transfer programs, such as *Plan de Atención Nacional a la Emergencia Social* (PANES) and the *Asignacioines Familiares del Plan de Equidad* (AFAM-PE). PANES was an unconditional temporary social assistance program implemented during an economic crisis which provided a cash transfer to the poorest 10% of households. The program impacted health outcomes, labor supply, the prevalence of extreme poverty and political support for the government (Amarante et al. 2010). PANES, combined with improved living standards, decreased the incidence of low birthweight by 20%, particularly in cases of premature births (Amarante et al. 2016). On the other hand, there was a persistent decrease in formal labor supply of men, but the program had no effect on child labor and school attendance (Amarante et al. 2011; Amarante, Ferrando and Vigorito 2013). Interestingly, a positive impact on political support for the government which implemented the program was also found (Manacorda et al. 2011). Additionally, other studies have been conducted to evaluate the impact of AFAM-PE, a conditional cash transfer program that was implemented after PANES. Results of these studies show a reduction of extreme poverty, a small positive effect on school attendance of teenagers in beneficiary households, an increase in labor informality for women, and an increased appreciation of the government (Bergolo et al. 2016; Colafranceschi and Vigorito 2013). However, studies do

not find impacts on fertility, children's health and nutrition, and enrollment of children or educational lagging (Bergolo et al. 2016).

In this paper, we focus on evaluating the effect of the Tarjeta Uruguay Social program, a conditional cash transfer program which has yet to be thoroughly studied. At this moment, only two studies have been performed, both by the Ministry of Social Development. The first one is a qualitative study on a particular area of Montevideo, analyzing the perceptions of all the actors involved in the program (beneficiaries, non-beneficiaries and shop-owners) and the main implementation problems. The second study evaluates the impact of the program on prices and competition, by analyzing the differences in prices paid by the beneficiaries.

## III. Descriptive overview of the program

The *Tarjeta Uruguay Social* (TUS) is a conditional cash transfer program implemented in 2009 which aims at assisting those in situations of extreme poverty in Uruguay. It targets the 60,000 worst-off households by providing them with a monthly cash transfer on a prepaid magnetic card. This card can be used to purchase food items, cleaning supplies, and hygiene products, except for alcohol and cigarettes, in an extensive network of affiliated stores. As defined by the program, its objective is to "achieve a minimum food consumption, improve the situations of sanitary risk and contribute towards social integration and inclusion" (MIDES 2013, 157).[1]

Eligibility for the program is based on the Critical Needs Index (CNI), a proxy means test that evaluates household poverty, created to assess eligibility to the AFAM-PE and TUS programs.[2] The index is estimated using a probit model that predicts the likelihood of the household belonging to the first quintile of income, using variables associated to education, dwelling, access to durable goods and household composition. The considered variables are highly correlated with income poverty, relatively stable in time and hard to manipulate. The probit estimation is done using a nationally representative survey, estimating two separate models, one

[1] Translation made by the authors.
[2] This index was created by the *Instituto de Economía* at the *Universidad de la República* (Colafranceschi, Dean and Vigorito 2014).

for the country's capital, Montevideo, and another for the rest of the country. Eligibility to AFAM-PE and TUS is determined according to thresholds that capture the 60,000 and 200,000 most vulnerable households in survey data (MIDES 2013). Given the nature of the variables, the complexity of the index's computation and the precision of the thresholds, it would be very unlikely for individuals to be able to manipulate their CNI value to obtain values that ensure program eligibility. The information used to determine for the value of the CNI for each household is obtained either through household visits performed by the Uruguayan Ministry of Social Development or by the records of voluntary and sworn declaration performed by the households at the Institute for Social Security.

This cash transfer covers approximately 70,000 households and 177,000 children, implying 6% of households and 20% of children in the overall population. These households are mostly from lowest income strata, being that 90% of the expenditure is concentrated in the first three income deciles (MIDES forthcoming). The budget for this program entails approximately 0.1% of the national GDP, 0.5% of the social public expenditure and 41% of the budget for the Ministry of Social Development. Benefits are typically updated every year according to the Food and Drinks Price Index from the National Institute of Statistics. The value of the cash transfer varies depending on the number of minors in the household, with the average benefit being around 70 euros per month. This represents between 5% and 11% of the poverty line for a typical TUS household, depending on the region, and approximately 9% of the average pre-transfer household income.[3] When considering simple TUS in addition to AFAM-PE, the average benefit rises to approximately 110 euros per month, while double TUS plus AFAM-PE implies on average 184 euros.

Since the program began, several modifications concerning its design and implementation have been performed. Regarding the number of beneficiaries, the program initially covered 30,000 cardholders. In January of 2011, the benefit provided to the 15,000 worst-off households was doubled, creating two specifications: simple TUS and double TUS. In January of 2013, the benefit

[3] The number of households, child beneficiaries and benefits were estimated using administrative data, the number of overall households were estimated using the National Household Survey from the National Institute of Statistics and the number of children were taken from populations projections by the National Institute of Statistics. In every case averages were estimated for years 2013-2017.

was expanded to contain another 30,000 households, targeting 30,000 households in simple TUS and 30,000 households in double TUS. With respect to additional benefits, fortified milk was provided to TUS beneficiaries beginning February of 2012, and in September of the same year a tax credit for the VAT of purchases made with the card was implemented. Moreover, agreements with the public water company (OSE) and the public electricity company (UTE) were implemented in 2010 and 2015, respectively, through which TUS beneficiaries were given access to a lower price in the consumption of these services. Considering the targeting and monitoring of the program, two significant actions to reduce inclusion and exclusion errors were undertaken: the updating of the CNI in January 2013 and the re-design of the field work performed by the Ministry.[4] With regard to complementary interventions, since July of 2013, households participating in prioritized social programs were given access to TUS under a less demanding threshold (the AFAM-PE threshold). Finally, while initially the program was closely related to the extra conditions demanded by the AFAM-PE program, such as having a formal per capita income below a certain threshold, fulfilling the health and education conditionalities and having a valid identification number, over time the TUS program became less attached to the AFAM-PE program.

Considering the discussion above, we will analyze the TUS program after May 2013 in order to study the doubling of the program and, at the same time, account for the new implementation conditions of the program, such as the updating of the CNI. Given the program design in the period 2013-2017, we would expect to find positive impacts mostly on food and hygiene products. Additionally, indirect effects could also be found in other dimensions, since the program allows for the reallocation of cash from food, now purchased with the debit card, to other goods and services. This could improve living conditions, through investment in durable goods and in dwelling upgrades. Likewise, it may increase school enrollment, health access or employment, since there could be a rise in complementary goods consumption, such as public transportation, school supplies and garments. Moreover, TUS may lead to an increase in pregnancy and infant health, either through changes in food consumption or through the fortified milk

[4] The updating of the CNI consisted of the re-estimation of the model using a more recent survey to refine the weighting and thresholds to determine eligibility. The re-design of the field work implied a considerable increase in the average number of visits per year in order to improve the targeting of TUS.

provided to children younger than four years old. Finally, complementary interventions regarding public services in water and electricity could potentially increase access to these services.

## IV. Data sources

The data used is in this paper involves a combination of different types of administrative data from a wide array of institutions. First of all, we use records from the TUS program regarding the cardholders and their household members, as well as records from the beneficiaries of the AFAM-PE program and their household members, provided by the Ministry of Social Development. Both sources contain monthly microdata on beneficiaries and their benefit amounts from 2013 until 2017. This type of data allows us to analyze the effects of the program for TUS cardholders in each of the months included in the period 2013-2017. Even though the doubling of the program for the worst-off 30,000 households occurred in January 2013, several updates were made to the implementation mechanism during the first months of that year, with the program becoming relatively stable in May. Additionally, despite the fact that there is no fixed duration for the program, the population receiving the benefit remains relatively stable over time, being that the average monthly exit rate is 3% and the entry rate is 3%.[5] Given this persistence in benefit recipients and in order to estimate the effects on different beneficiaries at several points in time, we will analyze three months, each two years apart: May 2013, May 2015 and May 2017. The number of cardholders in each period is 64,589, 65,257 and 82,143 respectively, with 46,499 individuals receiving the benefit in all three time periods. Considering this initial sample, we will restrict the analysis to those recipients of TUS who were simultaneously receiving AFAM-PE, in order to ensure we are isolating the effect of the doubling.[6]

Since the records from the TUS cardholders do not include the CNI, we must replicate the information available at the time the benefit was provided to determine TUS eligibility. This is done using a combination of administrative data on the AFAM-PE program and historical records

[5]The only exceptions that lead to pre-defined duration are: beneficiaries who are also part of prioritized complementary interventions by the Ministry of Social Development, and some particular programs from the Ministry of Housing, Territorial Planning and Environment.

[6] Over 93% of TUS recipients in each of the three years were also receiving AFAM-PE.

of household visits performed by the Ministry of Social Development (henceforth, MIDES visits).[7] This database contains visits starting in September 2011, when a new field work methodology was implemented. Since then, more than 250,000 visits have been made, reaching more than 750,000 individuals. This implies an extensive database on the poorest households in Uruguay, being that the information on the most vulnerable geographical areas can be almost seen as census data.

Data for household and individual outcomes is obtained through the MIDES visits database and information provided by the Social Integrated Information System (SIIAS), a system managed by MIDES which is responsible for storing and exchanging data across different public entities involved in the implementation of social policies. Given that both types of data are available from 2013 to 2017, we have the ability to analyze duration-specific results and thus estimate heterogeneous effects according to the duration of the benefit. We define short-term results as those within one year of the period of analysis, medium-term as two to three years after, and long-term as three years or more. Hence, for May 2013, we are able to compute short, medium, and long-term results, for 2015, short and medium-term results and for 2017, short-term results. To define each of the duration categories we consider cardholders who were receiving the benefit in at least 80% of the months considered in each term.[8] Additionally, heterogeneous effects will be estimated for schooling enrollment based on age range.

The information provided allows us to analyze a wide array of outcomes. The MIDES visits questionnaire is used to gather information regarding household outcomes including the following dimensions: durable goods in the dwelling, dwelling conservation, housing tenure, materials of floor and roof, bathroom, running water and electricity in the dwelling, overcrowding, bed sharing, household type and food insecurity. On the other hand, SIIAS data is used to analyze individual outcomes of TUS household members, considering the following dimensions: school enrollment

[7] The CNI may not be recovered for some of the cardholders, as TUS inherited beneficiaries from similar programs due to a restructuring of social interventions in the period 2005-2010. This implies that some individuals might not be registered in either the MIDES visits data or the AFAM-PE data. This is the case for 1.3%, 2.0% and 1.9% of beneficiaries of May 2013, May 2015 and May 2017, respectively.

[8] As an example, for May 2013, short-term outcomes are evaluated considering only those cardholders who received the benefit in at least 10 months in the period May 2013-April 2014. Medium-term outcomes are evaluated considering those cardholders who received the benefit in at least 29 months in the period May 2013-April 2016. Long-term outcomes are evaluated considering those cardholders who received the benefit in at least 56 months in the period May 2013-December 2017.

in public schools from preschool to highschool; monthly affiliation to the compulsory national health system for formal workers, from which we can infer work formality; and data included in the Live Born Certificate, such as weight at birth and number of prenatal appointments. The set of outcomes and indicators considered to analyze the impact of TUS, together with their average value for each period and term are presented in Tables A1, A2, A3 and A4 in the Appendix.

Data from the SIIAS system contains administrative records on all recipients of social benefits. This data is nationally representative, with the caution that education data does not include private schools and that the indicator of work formality is a proxy.[9] Nevertheless, sample selection may be a concern with the MIDES visits data, as the main objective of the field work is to improve targeting efficiency and minimize implementation costs, which does not imply randomization. Out of the TUS cardholders in May 2013, 59.1% had at least one visit after the reference period. This number increases to 63.8% and 71.3% for the cardholders of May 2015 and May 2017, respectively. To test whether this could bias our results, we estimate a probit model for the probability that a cardholder is visited at least once after May 2013 in the short, medium and long-term, after May 2015 in the short and medium-term, and after May 2017 in the short-term. We control for the standardized value of the CNI, the interaction of the CNI with an indicator of eligibility for double TUS, sex, years of education and region of residence of the cardholder. Additionally, we estimate a quadratic specification of the CNI and its interaction with the eligibility variable. Table A5 in the Appendix presents the marginal effects of both estimations. The results indicate that having a greater CNI, being a female cardholder and being eligible to the double TUS program are significant in explaining the probability of being visited at the 99% confidence level for most specifications. Nevertheless, the marginal effects are fairly small, ranging in absolute value from 0.02% to 7%. Therefore, we do not expect that the absence of explicit randomization in the MIDES visits database would substantially bias the estimated effects. Despite this, the sample size is reduced significantly when evaluating the outcomes for each period and term separately, which could affect the precision of the estimators increasing the likelihood of non-significant effects.

[9] Regarding education, the percentage of TUS beneficiaries attending private education is expected to be very low. Regarding formal work, according to SIIAS the proxy for formal employment identifies 90% of formal workers. This percentage increases to 95% when we only consider dependent workers.

Considering the discussion above, our final sample is presented in the table below. For each period, we only consider the additional beneficiaries to ensure that the analysis does not include overlapping individuals from previous periods.[10]

**Table 1. Number of Cardholders and Household Members in Each Term by Period**

| Period | Term | Number of Cardholders | Number of Cardholders with Visits | Number of Household Members |
|---|---|---|---|---|
| May 2013 | Short-term | 53,364 | 9,468 | 276,712 |
| | Medium-term | 43,865 | 12,430 | 238,281 |
| | Long-term | 38,715 | 3,728 | 215,762 |
| May 2015 | Short-term | 15,825 | 1,069 | 77,262 |
| | Medium-term | 14,731 | 1,009 | 72,446 |
| May 2017 | Short-term | 16,169 | 477 | 71,193 |

Source: Computations using MIDES data on TUS and AFAM-PE (2013-2017).

Notes: The third column indicates the number of cardholders who were receiving TUS simple or double in the period of analysis (May 2013, May 2015 or May 2017) and were receiving the benefit for at least 80% of the months in each term (short, medium or long-term). The fourth column is the subsample of the first column for which we observe at least one MIDES visits in the corresponding term. The fifth column refers to the number of household members residing in the households defined in the third column.

## V. Identification strategy and methodology

We estimate the impact of the TUS program using a Regression Discontinuity (RD) design. Following Lee and Lemieux (2010), we exploit the discontinuous probability of being assigned to double TUS around a determined value of the Critical Needs Index. Given that individuals cannot precisely manipulate the value of the CNI, the assignment to treatment around the threshold is "as good as random," which allows us to compare individuals above and below the threshold to infer the causal effect of the program. Manipulation of the CNI is not expected since eligibility to double

[10] For example, cardholders from 2015 will only include those who were not receiving the benefit for 80% of the months for each term of May 2013.
This implies that overlapping cannot occur across periods but it may be observed within periods for different terms. For example, someone who received the benefit every month from May 2013 until December 2017 will be evaluated for their short, medium and long-term outcomes in the period May 2013, but will not be in the sample of either May 2015 or 2017.

TUS is determined using very precise thresholds, and the variables used in the index and the thresholds themselves and are not publicly known.

Two conditions must be met in an RD design. The first one requires a discontinuity in the probability of being assigned to treatment around the threshold:

$$lim_{z \to z_0^+} P(D_i = 1 | Z_i = z) \neq lim_{z \to z_0^-} P(D_i = 1 | Z_i = z) \quad (1)$$

Where $D_{\square}$ is a dummy variable indicating assignment to either simple or double TUS, $Z_i$ is the CNI of individual *i*, and $z_o$ is the value of the CNI at the cut-off point for either simple or double TUS. Figure A1 in the Appendix provides evidence the condition is met in this case. The second assumption is continuity in potential outcomes. If the running variable, the CNI, cannot be precisely manipulated, individuals around the threshold should be similar in observable and unobservable characteristics. This condition can be generalized through the following expression:

$$lim_{z \to z_0^+} P(Y_{ij} \leq r | Z_i = z) = lim_{z \to z_o^-} P(Y_{ij} \leq r | Z_i = z) \;\; j \in \{0,1\} \quad (2)$$

Where $y_{\square\square}$ is the potential outcome of individual *i*, *j* is a subscript that determines if individual *i* is in the treatment or control group, and $r$ is a given value of *Y*. Although this condition cannot be formally tested, as we only observe individuals under either treatment or control, we provide evidence for continuity around the threshold for a set of variables to be used in the RD regressions in the following section.

In the case of TUS, treatment is not perfectly determined according to CNI eligibility. During the period of analysis, the program was undergoing modifications to the design and monitoring mechanisms in order to improve targeting. Initially, additional conditions to the CNI were needed in order to receive TUS, such as having children in the household or meeting the educational conditionalities of AFAM-PE, in order to align the two programs. Over time, TUS separated from the AFAM-PE eligibility conditions, eventually becoming completely determined by the CNI. As can be seen in Figure A1 in the Appendix, as time progressed, the probability of treatment below the threshold decreases and the probability above the threshold approaches one.

Based on this, we can identify a causal effect by using a fuzzy RD design, which implies that two additional assumptions must be met in order to accurately determine a causal inference, monotonicity and excludability of the running variable (Lee and Lemieux 2010). In this case, the effect can be estimated using a Two-Stage Least Squares Estimator using CNI eligibility as an instrument for treatment around the threshold (Hahn, Todd and Van der Klaauw 2001). The first-stage regression can be represented by the following equation:

$$D_i = \gamma_0 + \gamma_1 T_i + f(C_i) + \gamma_2 X + \epsilon_i \qquad (3)$$

Where $T_i$ is an indicator of eligibility according to the CNI, $T_i = \mathbb{1}(Z_i \geq z_0)$; $C_i$ is a measure of the individual CNI which is normalized relative to the threshold, meaning that households with a positive value for $C_i$ are eligible for treatment; $f(C_i)$ is a polynomial of the standardized CNI; $X$ represents a set of covariates; and $\epsilon_i$ is the error term.

The second-stage regression is as follows:

$$Y_i = \beta_0 + \beta_1 \widehat{D_i} + g(C_i) + \beta_3 X + u_i \qquad (4)$$

Where $Y_i$ is the outcome of interest, $\widehat{D_i}$ is the fitted value from the first stage regression, $g(C_i)$ is a polynomial of the standardized CNI, and $u_i$ is the error term. These equations are estimated using local linear regressions, determining the bandwidths by analyzing the continuity of the covariates and the sample size (see following section). Given that estimates are sensitive to the choice of bandwidth, $h$, and the specification of the standardized CNI function, to assess robustness we report the estimation using different bandwidths and polynomials, from order one to four. Following Lee and Lemieux (2010), we will use the same bandwidth and polynomial in both stages with rectangular weights. In the case of individual outcomes, standard errors are clustered at the household level to allow correlation between the errors. The covariates used in the analysis of household outcomes are sex, age, years of education, region of residence and children under the care of the cardholder, while in the analysis for individual outcomes we include age, sex and region of the individual, and years of education and minor under the care of the cardholder.[11]

[11] The inclusion of years of education of the cardholder and not the individual one corresponds to data constraints. Average values of this variables for each period and term are presented in Table A3 in the Appendix.

By using this methodology, $\beta_1$ in equation 4 gives us an estimate for the local average treatment effect. That is, it estimates the impact of the double TUS program for compliers around the threshold:

$$\beta_{late} = lim_{z \to z_{\square}} E[Y_1 - Y_0 | \, compliers, Z = z] \qquad (5)$$

Where $\beta_{late}$ represents the estimate of the local average treatment effect, and $Y_1 - Y_0$ represents the difference between the expected outcomes of the treated and non-treated groups around the threshold. In this case we are not expecting significant take-up issues. Since the majority of the information is on households already receiving social assistance, it will be unlikely for them to reject the double TUS but not simple TUS or AFAM-PE. Hence, in this case compilers are mostly determined by the implementation errors and/or other eligibility rules besides the CNI.

All things considered, our identification strategy consists of comparing beneficiaries in each period who are receiving double TUS for 80% of the term with those who are not, which implies that they are either receiving simple TUS for 80% of the term or receiving a combination of simple and double TUS.

**i. Testing of Regression Discontinuity assumptions**

As discussed in Lee and Lemieux (2010), endogenous sorting and manipulability of the assignment variable can invalidate the use of the regression discontinuity design. If this type of self-selection occurs, the assumption that individuals right above and right below the threshold are comparable is violated leading to biased estimators. Manipulability of the CNI is evaluated using a test developed by Cattaneo, Jansson and Ma (2018), based on a local polynomial estimator that evaluates the difference in density at each side of the eligibility threshold. Additionally, we test whether the control variables are balanced at each side of the threshold by performing an RD estimation for each of the control variables included in our estimations.

For the manipulability test, we find that the null hypothesis of no manipulation of the CNI is rejected in each of the three periods of analysis in most specifications when using polynomials

of degree 1 to 4 (Table A7 in the Appendix). As opposed to what would be expected, we find a larger density to the left of the eligibility cut-off (Figure A2 in the Appendix). This is explained by an abnormal concentration of mass at a particular value of the CNI, resulting from combination of characteristics that have high frequency in the population (around 2%).[12] In order to test the influence of this specific value of the CNI on the results, we perform the test using larger bandwidths, hence reducing the weight of these observations (Table A6 in the Appendix). We additionally run the manipulation test removing these individuals (Figure A3 in the Appendix). We do not reject the null hypothesis of absence of discontinuity of the CNI around the threshold in any of the three periods for most polynomial specifications (Table A7 in the Appendix). Both exercises indicate that the presence of manipulability is driven by this particular value of the CNI. Overall, the complexity of the CNI and its confidential nature, together with the evidence presented above, indicates absence of manipulation in the running variable.

In addition, we estimate an RD regression on the baseline covariates to analyze the existence of a discontinuity at the eligibility threshold. This analysis is performed for all covariates and for both household and individual outcomes, using different order polynomials and bandwidths. Tables A8 through A11 in the Appendix present a summary of the results, which provide convincing evidence that the covariates are continuous at each side of the threshold given that we do not reject the null hypothesis for most specifications. In the few cases where the null hypothesis is rejected, we find that the results are not robust to the bandwidth specifications nor to the polynomial specification.[13] This analysis is also used to determine the bandwidths to be used in the outcome regressions, to ensure that our results are not driven by a potential discontinuity in the control variables. The final bandwidth choices and number of observations per bandwidth are included in Table A12 in the Appendix.

[12] Though the CNI is a continuous index in theory, variability is limited by the fact that most variables are categorical, except for the number of individual in the household, average years of education of adults and the durable goods index. In this particular case, all adults in the household have only completed primary school, their households have three members and they have no durable goods in the household (leading to a zero value in the corresponding index).

[13] Nevertheless, results for infant outcomes in May 2015 medium-term should be interpreted with caution, given that we reject the null hypothesis for years of education and age of the cardholder in more than two polynomials for most of the bandwidths.

# VI. Results

This following section presents a summary of the results, considering only those which are robust to the selection of multiple bandwidths and polynomials. Tables A13 through A23 in the Appendix present the results for all outcomes with significant effects in at least one specification, and Figures A4 to A9 in the Appendix present the outcomes as a function of the standardized CNI for all variables. It is important to note that the probability of treatment according to the CNI improves as years pass, therefore results from short-term of 2013 may be subject to weak instrument bias, since it is the term where the instrument has the least explanatory power. Despite this, the instrument becomes much stronger for the remaining terms of our analysis.

Overall, the results indicate that receiving double TUS as compared to simple TUS has significant impacts on both household and individual incomes. The robust outcomes vary significantly with the term of analysis, showing that effects are heterogeneous according to the duration of benefit reception. Additionally, effects vary when considering different years, which could be due to disparities in the sample composition of households receiving the benefit or to the improvement in economic conditions observed in the country since 2005.[14] Considering the former, individual heterogeneity regarding unobservable characteristics may alter preferences and hence the way beneficiaries decide to allocate the extra resources. Considering the latter, the steady increase in real income per capita during the analyzed period relaxes the household budget constraint which could consequently affect consumption decisions (MIDES and OPP 2017).

The analysis of the results begins with household outcomes in the short-term for beneficiaries belonging to each period (May 2013, 2015 and 2017), and then progresses to the medium and long-term. Regarding the short-term outcomes, which are those observed within a year of the start of each period, we observe robust improvements in dwelling attributes coupled with results that suggest potential attempts of manipulation by households (Table A13 in the Appendix).[15] Short-term 2013 outcomes show a positive impact of double TUS, specifically

[14] Average yearly GDP growth in real terms from 2005-2016 was 4.1% (CEPALSTAT, United Nations, 2018).

[15] Even though we only use information gathered by surveyors in household visits, there is always a possibility of manipulation since the data combines observational information with household answers on living conditions. For example, misleading answers to the questionnaire would constitute manipulation.

decreases in the incidence of condensation in the dwelling and in roofs made of waste materials. The latter is especially important since it affects almost 10% of the analyzed population. Questions of potential manipulation arise due to a negative effect on the probability of having a bathroom in the dwelling and decreases in both the Durable Goods and Positive Dwelling Attribute Indices.[16] While manipulation regarding bathroom may seem counterintuitive when considering an average dwelling, the living conditions of the extreme poor may include precarious structures used as bathrooms, leading it to be unclear to the surveyor whether there is a bathroom in the home or not. There is also a significant increase in bed sharing and in the number of extended-family homes. It is possible that the increase in bed sharing is due to extended family members moving into the home, potentially motivated by an increase in household resources.

The short-term results for 2015 and 2017 show a less ambiguous impact of double TUS. In 2015, the program leads to a significant increase in the Durable Goods Index and the occurrence of water heaters, cable TV, and cell phones (Table A14 in the Appendix). The increase in water heaters is particularly relevant in households with children, as they can improve sanitation and ensure comfort during the winter. Additionally, we observe a negative effect on the probability of being a rent-free occupant, meaning that there is a decrease in squatting by double TUS recipients. This could be explained by renting or buying the dwelling due to the informal housing market in poor areas, which may facilitate the exchange of ownership through informal methods. Moreover, a change in household structure is observed with a decrease in dual-parent households. Regarding 2017, positive effects on the living conditions are also observed, with increases in the presence of running water and electricity (Table A15 in the Appendix). Furthermore, there are positive effects on the likelihood of having a light roof with no ceiling, which could be driven by those households which made an improvement from roofs made of trash.

When analyzing the perception of food security for both 2015 and 2017 short-term, an increase in the food insecurity of minors is observed in 2015 together with a decrease in the food

[16]These indices partially overlap, with a correlation coefficient of approximately 0.7654. As presented in Table A1 in the Appendix, the Durable Goods Index is a weighted sum of the following goods: water heater, cable TV, landline, VCR or DVD, washing machine, microwave, computer and automobile. The Positive Dwelling Attributes is an unweighted sum of the following characteristics: bathroom with flush, running water, electricity, refrigerator, water heater, washing machine and microwave.

insecurity of the household in 2017. The fact that the program has contradictory effects in these two periods could be explained by the subjective nature of the indicator or by manipulation issues.

As the benefit becomes more stable, we expect a rise in household investment due to a decrease in income volatility as the program becomes a stable source of income, and a decrease in potential manipulability as recipients become less concerned about having the benefit revoked. These expectations are consistent with the medium-term results, which analyze outcomes two to three years after the start of the period for beneficiaries who have received the benefit for at least 29 out of 36 months. In 2013, there is a decrease in the collapse hazard of the dwelling, along with gains in both the Durable Goods and Positive Dwelling Attribute Indices (Table A16 in the Appendix). Likewise, an increase in the probability of having a bathroom, water heater and washing machine in the dwelling is observed. Moreover, results show a clear movement from light roofs with ceilings to poured concrete roofs. Regarding household composition, a decrease in single parent households together with an increase in dual-parent households with couples is observed. This effect is the opposite as the one observed for short-term 2015. Nevertheless, both results are plausible considering that the benefit is mostly assigned to women (96% on average). On the one hand, women experience greater financial independence and empowerment, allowing for separations that would not have happened otherwise. On the other hand, the benefit could increase the cost of separation for the partner and/or give more bargaining power to the women, increasing satisfaction in the couple.

Results for medium-term 2015 show only sparse effects as opposed to the widespread improvement in outcomes of 2013. A decrease in the food insecurity of minors and an improvement from bathrooms with no flush to those with flush is observed (Table A17 in the Appendix). Nevertheless, there is a significant increase in medium conservation problems in the dwelling, explained by the existence of roof drips, leaks, poor ventilation, or exposed wires. This counterintuitive result could also be the result of manipulation, as this variable is mainly determined by individual answers.

Concerning long-term household results, we observe few positive significant results. Long-term outcomes are analyzed three years after May 2013 for cardholders who received the benefit

for at least 45 months, which reduces the sample size greatly, possibly affecting the significance of results. There is a significant decrease in the collapse hazard of the dwelling and an increase in water heaters (Table A18 in the Appendix). There is also a decrease in overcrowding in the household, meaning that the average number of people per room to sleep decreases.

Finally, we analyze the individual outcomes for members of double TUS households. Overall, we observe positive effects on formal work, school enrollment of children and prenatal care. An increase in the average number of months of formal employment is observed in the short and medium-term of 2015 and in the short-term of 2017 (Tables A20, A22 and A21 in the Appendix, respectively). Considering prenatal health, long-term 2013 results show a decrease in the indicator for late first prenatal appointments, meaning there are fewer first visits past the 12th week of pregnancy (Table A23 in the Appendix).

With regards to schooling enrollment, there is an increase in enrollment for children younger than six years old in the long-term 2013 (Table A23 in the Appendix). This positive result is coupled with a decrease in school enrollment of twelve to thirteen year olds in short-term 2017 (Table A21 in the Appendix). Despite this puzzling result, there is very high enrollment on either side of the threshold, with 95% of simple TUS children enrolled in school and 96% of double TUS children. The lack of significant results concerning educational enrollment could be driven by the fact that all of the households in our sample are receiving AFAM-PE, which means they are subject to the educational conditionalities of the program.

Overall, the results presented above indicate that receiving double TUS compared to simple TUS leads to an increase in investment in durable goods and an improvement in living conditions, in accordance with the literature. These results are heterogeneous according to benefit duration, with more positive significant results in the medium and long-term. The increasing effects of more persistent benefits could potentially be explained due to uncertainty in the short-term regarding whether the benefit will continue to be provided, which decreases over time. Moreover, uncertainty may explain potential evidence of manipulation in the short-term, as beneficiaries may feel that they need to ensure the benefit. Additionally, there are positive results regarding prenatal care, which can lead to long-term health improvements. We also observe a robust increase in months of

formal work, contrary to the findings regarding the AFAM-PE program. This could be due to the progressive separation of the TUS and AFAM-PE programs over time, in which beneficiaries attempted to learn the different conditionalities applied to each one. While in AFAM-PE the formal income threshold has been applied since the beginning of the program and continues to apply, TUS definitions regarding this condition have been more ambiguous and changing over time.

## VI. Conclusion

The aim of this research was to analyze the impact of a contributory cash transfer program targeting households in extreme poverty, focusing on differential effects according to the amount of the transfer and benefit duration. We used evidence from a Uruguayan program called *Tarjeta Uruguay Social* (TUS), which provides a monthly cash transfer on a prepaid magnetic card to be used on food, cleaning supplies, and hygiene products purchases.

By taking advantage of design changes implemented around 2013, we evaluated the impact of introducing a new category of benefit which consists of a doubling in the amount of the transfer. We exploited the fact that assignment to simple and double TUS is mostly determined by a poverty score (Critical Needs Index) and measured the effects of double TUS using a fuzzy Regression Discontinuity design. The period of analysis includes the years 2013-2017, for which we can employ rich administrative data on the TUS cardholders and all members of their households. This allows us to evaluate the effect of the benefit duration on a wide range of relevant outcomes. Three periods are defined for the analysis, consisting of cardholders from May 2013, May 2015 and May 2017. These samples are further divided into short, medium and long-term benefit recipients, which allowed us to estimate heterogeneous duration-specific results.

Since cash transfers could potentially impact a wide range of life outcomes by relaxing the household budget constraint, the results evaluated include: housing and living conditions, food insecurity, formal labor market work, education enrollment of children and adolescents, prenatal and birth health conditions, and family composition. Results show than an increase in the amount of a cash transfer can in fact have important impacts on the life outcomes of recipients. Positive effects were found on living conditions, with an increase in investment in durable goods and a

betterment of housing conditions, together with improvements in individual outcomes, where positive results regarding prenatal care and months of formal work were observed. Nevertheless, some negative results were found in the short-term, which could potentially be explained by an attempt of manipulation by the beneficiaries in order to ensure continued benefit provision under uncertainty. Results also show that the duration of the benefit has a considerable impact on how the transfer is spent. More positive significant household results are found in the medium-term, while individual results become stronger in the long-term.

The results obtained mostly coincide with the literature, except for the increase in formal work. Although other studies have found a decrease in this indicator, we believe that the particular characteristics of the program under analysis influence this outcome. Specifically, TUS recipients may not have a strong conviction regarding the elimination of the benefit if a certain threshold of formal income is met, as exists in many other programs.

This study contributes to the literature of poverty alleviation policies by providing evidence which can be used to improve the design of cash transfer programs, one of the most important tools in social protection policies in developing countries. The positive effects found in this paper from comparing different amounts of the transfer within the same program indicate that the monetary amount of the benefit is a relevant policy parameter with consequences for the effectiveness of the program. Additionally, the results for heterogeneous effects by benefit duration indicate that the persistence of the transfer is another relevant aspect of program design. The evidence provided in this paper indicates that a predefined duration upon entering the program together with a minimum duration of one year could constitute a good practice. This may mitigate negative effects regarding household manipulation attempts and potentiate positive effects by reducing income volatility and increasing housing investments. Moreover, the absence of negative results regarding formal work may shed light on how to reduce unintended effects of cash transfer programs by comparing this program design with others.

Limitations of the present study and future lines of research include analyzing the effects of not having TUS compared to having simple TUS to identify more precisely the differences in effects according to the level of the benefit. In addition, limited dependent outcomes may be

estimated with a probit model instead of a linear probability model to obtain treatment effect estimators within the expected range. Moreover, it is important to note that the estimated effects refer to an increase in the TUS benefit for households which are already receiving AFAM-PE. Hence, the treatment effects refer to the combination of both programs, TUS and AFAM-PE. Finally, potential negative effects of the program and manipulability issues should be analyzed in greater depth.

Even though there is a vast empirical literature on the effect of cash transfer programs, there is still much to be studied in order to understand the channels through which these programs affect outcomes. Considering the increasing popularity of this type of program in the past decades, more research will be needed in order to improve efficacy and efficiency in the allocation of public funds by employing robust evidence to improve policy design.

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**Table A1. Household Outcomes Considered in the Analysis (MIDES visits database)**

| Category | Indicator | |
|---|---|---|
| Durable goods | Durable Goods Index | Weighted linear combination of dichotomous variables for the following durable goods: water heater, cable TV, landline, VCR or DVD, washing machine, microwave, computer, automobile[1] |
| | Refrigerator | Dichotomous indicator for this attribute |
| | Water heater | Dichotomous indicator for this attribute |
| | Cable TV | Dichotomous indicator for this attribute |
| | Washing machine | Dichotomous indicator for this attribute |
| | Microwave | Dichotomous indicator for this attribute |
| | Computer | Dichotomous indicator for this attribute |
| | Landline | Dichotomous indicator for this attribute |
| | Cell phone | Dichotomous indicator for this attribute |
| | Car | Dichotomous indicator for this attribute |
| Dwelling conservation | Good overall dwelling conservation | Dichotomous indicator for this attribute |
| | Conservation problem: condensation | Dichotomous indicator for this attribute |
| | Conservation problem: roof drips | Dichotomous indicator for this attribute |
| | Conservation problem: floods when it rains | Dichotomous indicator for this attribute |
| | Conservation problem: leaks | Dichotomous indicator for this attribute |
| | Conservation problem: in danger of collapse | Dichotomous indicator for this attribute |
| | Conservation problem: cracks in floor | Dichotomous indicator for this attribute |
| | Conservation problem: uneven floors | Dichotomous indicator for this attribute |
| | Conservation problem: poor ventilation | Dichotomous indicator for this attribute |
| | Conservation problem: exposed wires | Dichotomous indicator for this attribute |
| | Serious conservation problem | Dichotomous indicator for having at least one of the following problems: floods when it rains, collapse hazard or floor cracks |
| | Medium conservation problem | Dichotomous indicator for having at least one of the following problems: roof drips, leaks, poor ventilation or exposed wires |
| Housing tenure | Owner | Dichotomous indicator for this attribute |
| | Renter | Dichotomous indicator for this attribute |
| | Rent-free occupancy (squatters or occupants with permission) | Dichotomous indicator for this attribute |
| | Rent-free occupancy excluding those obtaining occupant rights through employment | Dichotomous indicator for this attribute |
| Roof materials in dwelling | Poured concrete, with protection | Dichotomous indicator for this attribute |
| | Poured concrete, without protection | Dichotomous indicator for this attribute |
| | Light roof with ceiling | Dichotomous indicator for this attribute |
| | Light roof with no ceiling | Dichotomous indicator for this attribute |
| | Waste materials | Dichotomous indicator for this attribute |

[1] This index ranges from 0 to 5.

| | | |
|---|---|---|
| Floor materials in dwelling | Tiles, Parquet or Carpet | Dichotomous indicator for this attribute |
| | Cement or Subfloor | Dichotomous indicator for this attribute |
| | No Floor | Dichotomous indicator for this attribute |
| Bathroom in dwelling | Bathroom with flush | Dichotomous indicator for this attribute |
| | Bathroom without flush | Dichotomous indicator for this attribute |
| | No bathroom | Dichotomous indicator for this attribute |
| Running water in dwelling | Running water | Dichotomous indicator for this attribute |
| Electricity in dwelling | Electricity | Dichotomous indicator for this attribute |
| Bed sharing | Bed sharing between children and adults | |
| Overcrowding | Number of individuals in the household per room to sleep | Either continuous or a dichotomous indicator for when the ratio is larger than 2 |
| Positive dwelling attributes | Positive dwelling attributes index | Equal weighted sum of the following attributes: bathroom with flush, running water, electricity, refrigerator, water heater, washing machine and microwave. |
| Negative dwelling attributes | Negative dwelling attributes index | Equal weighted sum of the following attributes: roof trash, no floor, condensation, roof drips, floods when it rains, leaks, collapse hazard, floor cracks, uneven floor, poor ventilation, exposed wires, no bathroom or without flush, bed sharing, overcrowding. |
| Type of household | Single person | Dichotomous indicator for this attribute |
| | Couple with or without children | Dichotomous indicator for this attribute |
| | Single parent | Dichotomous indicator for this attribute |
| | Extended or composite | Dichotomous indicator for this attribute |
| Food insecurity | Food insecurity in the household | Dichotomous indicator for lack of food in the last 30 days due to money constraints |
| | Food insecurity for adults | Dichotomous indicator for an adult skipping a meal in the last 30 days due to money constraints |
| | Food insecurity for children | Dichotomous indicator for a minor skipping a meal in the last 30 days due to money constraints |

**Table A2. Individual Outcomes Considered in the Analysis (SIIAS database)**

| **Category** | **Indicator** | |
|---|---|---|
| Pregnancy/Infant health | Birth weight | Birth weight in kilograms |
| | Underweight | Dichotomous indicator for birth weight lower than 2,5 kilograms |
| | Prenatal appointments | Number of prenatal appointments |
| | Late first visit | Dichotomous indicator for first prenatal appointment after week 12 |
| School enrollment | School enrollment | Dichotomous indicator for enrollment in either preschool, primary, middle, high school or technical school according to age (0-5, 6-11, 12-13, 14-15, 16-17) |
| Formal employment | Formal work | Number of months registered in the compulsory national health system for formal workers |

## Table A3. Average Values of Household Baseline Covariates and Outcomes by Period and Term

| | Variables | 2013 | | | | | | 2015 | | | | 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Short-term | | Medium-term | | Long-term | | Short-term | | Medium-term | | Short-term | |
| | | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS |
| **Baseline covariates** | Region of residence | 32.1% | 44.8% | 24.8% | 45.0% | 30.2% | 49.7% | 30.2% | 50.1% | 36.6% | 58.2% | 37.7% | 54.7% |
| | Age | 37 | 38 | 36 | 38 | 36 | 38 | 34 | 36 | 33 | 34 | 29 | 31 |
| | Female | 96.1% | 95.9% | 96.9% | 96.5% | 96.4% | 95.7% | 93.0% | 92.3% | 93.8% | 95.4% | 96.8% | 92.0% |
| | Years of education | 6.2 | 5.6 | 6.3 | 5.7 | 6.1 | 5.6 | 6.6 | 6.2 | 6.6 | 6.1 | 7.3 | 6.5 |
| | Minors under the care of the cardholder | 2.6 | 3.6 | 2.7 | 3.6 | 2.8 | 3.7 | 2.3 | 2.9 | 2.2 | 2.7 | 1.8 | 2.5 |
| **Durable goods** | Durable Goods Index | 1.1 | 0.7 | 1.1 | 0.7 | 0.8 | 0.6 | 0.8 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 |
| | Refrigerator | 89.4% | 79.7% | 86.5% | 81.4% | 82.8% | 79.6% | 81.3% | 77.6% | 78.8% | 74.8% | 76.6% | 79.1% |
| | Water heater | 31.8% | 14.5% | 39.8% | 21.3% | 33.9% | 21.7% | 33.1% | 17.7% | 30.5% | 24.0% | 34.1% | 22.7% |
| | Cable TV | 35.0% | 24.5% | 32.9% | 24.0% | 24.6% | 20.6% | 27.7% | 21.4% | 19.2% | 18.5% | 17.1% | 19.6% |
| | Washing machine | 44.3% | 31.4% | 47.8% | 37.4% | 40.8% | 36.0% | 37.1% | 31.4% | 34.4% | 28.8% | 34.5% | 37.8% |
| | Microwave | 15.2% | 5.6% | 16.2% | 7.2% | 10.5% | 6.9% | 11.8% | 6.5% | 8.1% | 4.3% | 6.3% | 6.7% |
| | Computer | 11.8% | 4.3% | 8.8% | 4.5% | 3.1% | 1.5% | 4.9% | 2.0% | 3.2% | 1.7% | 2.0% | 1.8% |
| | Landline | 10.6% | 4.9% | 11.2% | 6.0% | 6.6% | 4.3% | 6.3% | 4.7% | 4.7% | 4.8% | 5.6% | 4.0% |
| | Cell phone | 95.2% | 91.0% | 96.1% | 94.8% | 95.6% | 93.9% | 93.1% | 93.3% | 92.9% | 92.1% | 90.9% | 94.2% |
| | Car | 2.5% | 0.9% | 2.1% | 0.9% | 1.4% | 0.7% | 0.6% | 0.5% | 1.0% | 1.0% | 1.6% | 0.9% |
| **Dwelling conservation** | Good overall dwelling conservation | 38.4% | 20.7% | 32.9% | 19.4% | 23.1% | 15.5% | 27.5% | 13.5% | 21.6% | 10.6% | 15.5% | 11.6% |
| | Conservation problem: condensation | 86.4% | 89.9% | 88.8% | 91.8% | 89.4% | 90.2% | 89.8% | 93.3% | 88.9% | 89.7% | 90.1% | 88.4% |
| | Conservation problem: roof drips | 68.2% | 77.7% | 69.7% | 79.1% | 74.2% | 77.5% | 71.9% | 83.0% | 71.3% | 78.6% | 71.8% | 76.4% |
| | Conservation problem: leaks | 68.6% | 76.7% | 72.0% | 79.2% | 77.4% | 81.5% | 75.0% | 82.0% | 78.4% | 82.9% | 81.3% | 83.6% |
| | Conservation problem: in danger of collapse | 9.1% | 17.3% | 8.5% | 13.3% | 12.4% | 14.9% | 10.0% | 16.5% | 12.1% | 13.5% | 16.3% | 13.8% |
| | Conservation problem: cracks in floor | 42.2% | 56.8% | 44.1% | 55.4% | 48.5% | 56.3% | 47.5% | 61.3% | 47.4% | 51.2% | 47.2% | 52.4% |
| | Conservation problem: uneven floors | 51.7% | 62.4% | 47.4% | 60.0% | 56.5% | 66.6% | 47.2% | 60.3% | 60.7% | 69.2% | 66.3% | 68.4% |
| | Conservation problem: poor ventilation | 19.5% | 33.4% | 18.4% | 28.6% | 25.4% | 34.2% | 25.6% | 31.2% | 33.2% | 41.8% | 42.5% | 44.0% |
| | Conservation problem: exposed wires | 53.9% | 69.9% | 55.7% | 69.5% | 60.6% | 71.8% | 61.8% | 70.8% | 63.7% | 75.7% | 63.1% | 76.9% |
| | Serious conservation problem | 55.2% | 70.8% | 55.2% | 68.8% | 61.8% | 69.1% | 59.6% | 73.1% | 61.2% | 66.1% | 62.3% | 70.2% |
| | Medium conservation problem | 87.1% | 93.4% | 88.4% | 93.6% | 90.3% | 93.7% | 91.2% | 94.8% | 90.7% | 95.9% | 93.7% | 95.6% |
| **Housing tenure** | House owner | 41.0% | 44.8% | 10.5% | 10.2% | 4.4% | 3.8% | 4.5% | 4.5% | 6.2% | 4.6% | 8.3% | 4.4% |
| | Renter | 9.2% | 6.1% | 13.1% | 6.2% | 10.6% | 3.9% | 8.1% | 9.7% | 6.7% | 4.8% | 7.9% | 4.9% |
| | Occupant | 49.8% | 49.2% | 76.4% | 83.5% | 84.9% | 92.3% | 87.4% | 85.8% | 87.0% | 90.6% | 83.7% | 90.7% |
| | Occupant (not through employment) | 47.2% | 47.0% | 73.8% | 81.3% | 84.0% | 90.9% | 85.6% | 84.8% | 84.8% | 90.4% | 81.7% | 88.9% |
| | Poured concrete, with protection | 1.3% | 0.8% | 1.3% | 0.8% | 1.0% | 1.0% | 1.9% | 1.2% | 1.9% | 0.2% | 1.2% | 0.4% |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Roof materials in dwelling** | Poured concrete, without protection | 16.3% | 8.4% | 13.7% | 9.3% | 12.5% | 8.3% | 12.6% | 9.0% | 11.0% | 7.5% | 17.5% | 9.3% |
| | Light roof with ceiling | 26.9% | 13.1% | 28.0% | 15.5% | 24.5% | 16.9% | 23.8% | 14.7% | 22.3% | 12.3% | 16.7% | 10.7% |
| | Light roof with no ceiling | 53.2% | 70.7% | 53.5% | 66.7% | 56.9% | 66.2% | 55.4% | 65.1% | 58.7% | 69.5% | 57.5% | 70.2% |
| | Waste materials | 2.3% | 7.1% | 3.5% | 7.7% | 5.0% | 7.7% | 6.3% | 10.0% | 6.2% | 10.6% | 7.1% | 9.3% |
| **Floor materials in dwelling** | Tiles, Parquet or Carpet | 32.1% | 13.4% | 32.3% | 15.6% | 26.0% | 16.8% | 27.8% | 16.2% | 21.8% | 14.9% | 23.0% | 12.9% |
| | Cement or Subfloor | 65.0% | 75.6% | 64.5% | 75.9% | 68.6% | 72.9% | 67.2% | 72.6% | 71.8% | 74.5% | 68.7% | 74.7% |
| | No Floor | 2.9% | 11.0% | 3.3% | 8.5% | 5.4% | 10.3% | 4.9% | 11.2% | 6.4% | 10.6% | 8.3% | 12.4% |
| **Bathroom in dwelling** | Bathroom with flush | 60.7% | 37.4% | 63.0% | 44.4% | 57.0% | 43.3% | 58.7% | 40.1% | 48.9% | 38.9% | 46.8% | 37.3% |
| | Bathroom without flush | 33.7% | 49.7% | 31.3% | 45.5% | 35.5% | 46.0% | 30.5% | 42.9% | 40.3% | 45.7% | 38.5% | 47.6% |
| | No bathroom | 5.6% | 12.9% | 5.8% | 10.1% | 7.4% | 10.7% | 10.8% | 17.0% | 10.8% | 15.4% | 14.7% | 15.1% |
| **Running water in dwelling** | Running water | 92.8% | 89.8% | 94.0% | 92.9% | 94.3% | 94.1% | 94.8% | 93.3% | 93.1% | 91.8% | 87.7% | 91.6% |
| **Electricity in dwelling** | Electricity | 95.7% | 95.2% | 96.6% | 96.4% | 96.8% | 98.1% | 97.6% | 98.5% | 97.6% | 98.6% | 94.8% | 98.2% |
| **Bed sharing** | Bed sharing between children and adults | 34.5% | 52.0% | 34.6% | 49.5% | 42.0% | 52.8% | 47.3% | 58.6% | 52.3% | 55.5% | 50.8% | 55.6% |
| **Overcrowding** | Number of individuals in the household per room to sleep larger than 2 | 63.5% | 86.0% | 61.2% | 81.5% | 63.8% | 79.9% | 67.8% | 81.5% | 70.8% | 84.1% | 67.1% | 83.1% |
| | Number of individuals in the household per room to sleep | 2.9 | 3.7 | 2.8 | 3.5 | 2.9 | 3.5 | 2.9 | 3.5 | 3.1 | 3.6 | 3.0 | 3.6 |
| **Positive dwelling attributes** | Positive dwelling attributes | 4.6 | 4.0 | 4.8 | 4.3 | 4.5 | 4.3 | 4.4 | 4.1 | 4.3 | 4.1 | 4.2 | 4.2 |
| **Negative dwelling attributes** | Negative dwelling attributes | 5.7 | 7.4 | 5.7 | 7.2 | 6.4 | 7.4 | 6.3 | 7.6 | 6.8 | 7.6 | 7.0 | 7.7 |
| **Type of household** | Single person | 0.1% | 0.0% | 0.1% | 0.0% | 0.2% | 0.1% | 0.0% | 0.0% | 0.2% | 0.7% | 0.4% | 0.0% |
| | Couple with or without children | 44.0% | 43.7% | 41.6% | 40.4% | 36.9% | 34.4% | 40.4% | 36.7% | 39.3% | 46.2% | 40.5% | 50.2% |
| | Single parent | 31.4% | 25.4% | 36.1% | 28.3% | 34.4% | 25.6% | 35.5% | 28.9% | 32.7% | 19.5% | 28.6% | 20.9% |
| | Extended or composite | 24.5% | 30.9% | 22.2% | 31.4% | 28.5% | 39.9% | 24.1% | 34.4% | 27.8% | 33.7% | 30.6% | 28.9% |
| **Food insecurity** | Food insecurity in the household | 44.4% | 52.2% | 54.7% | 60.9% | 70.2% | 74.1% | 59.0% | 65.3% | 74.5% | 71.9% | 75.0% | 74.2% |
| | Food insecurity for adults | 37.3% | 46.0% | 46.8% | 54.4% | 62.0% | 68.6% | 52.4% | 61.1% | 68.3% | 68.3% | 70.6% | 68.4% |
| | Food insecurity for children | 23.2% | 28.6% | 31.9% | 37.7% | 41.2% | 42.7% | 36.5% | 42.4% | 41.5% | 37.5% | 37.3% | 36.0% |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013, 2015, 2017).

## Table A4. Average Values of Individual Baseline Covariates and Outcomes by Period and Term

| Variables | | 2013 | | | | | | 2015 | | | | 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Short-term | | Medium-term | | Long-term | | Short-term | | Medium-term | | Short-term | |
| | | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS | No double TUS | Double TUS |
| **Formal employment** | Number of months in formal employment | 1.35 | 1.04 | 4.17 | 3.26 | 6.48 | 5.19 | 1.29 | 1.16 | 3.50 | 3.13 | 0.79 | 0.71 |
| **School enrollment** | Younger than 6 years old | 58% | 55% | 82% | 82% | 93% | 94% | 60% | 59% | 85% | 84% | 61% | 60% |
| | Between 6 and 11 years old | 98% | 98% | 98% | 98% | 96% | 95% | 98% | 98% | 99% | 99% | 98% | 99% |
| | Between 12 and 13 years old | 94% | 92% | 92% | 86% | 76% | 66% | 94% | 92% | 93% | 90% | 95% | 96% |
| | Between 14 and 15 years old | 79% | 67% | 73% | 60% | 44% | 34% | 80% | 73% | 78% | 69% | 87% | 83% |
| | Between 16 and 17 years old | 55% | 40% | 40% | 31% | 19% | 13% | 59% | 45% | 48% | 37% | 63% | 56% |
| **Pregnancy/Infant health** | Birthweight | 3.28 | 3.22 | 3.25 | 3.24 | 3.25 | 3.25 | 3.29 | 3.25 | 3.26 | 3.26 | 3.26 | 3.26 |
| | Underweight | 7.1% | 9.2% | 8.1% | 7.9% | 8.5% | 7.9% | 6.8% | 8.3% | 8.0% | 7.0% | 8.1% | 7.0% |
| | Number of doctor visits | 8.82 | 7.84 | 8.92 | 8.09 | 9.44 | 8.38 | 8.08 | 7.73 | 9.54 | 8.40 | 8.57 | 8.12 |
| | Late first visit | 41.1% | 50.2% | 39.2% | 45.7% | 38.6% | 43.9% | 47.9% | 48.9% | 35.1% | 45.3% | 38.5% | 46.0% |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013, 2015, 2017).

**Table A5. Marginal effects of the Probability of Having a MIDES visit by Period and Term**

| Variables | Short term | | | | | | Medium term | | | | Long term | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | May 2013 | | May 2015 | | May 2017 | | May 2013 | | May 2015 | | May 2013 | |
| | Linear | Quadratic | Linear | Quadratic | Linear | Quadratic | Linear | Quadratic | Linear | Quadratic | Linear | Quadratic |
| **CNI** | 0.002*** | 0.002*** | 0.000 | -0.001*** | -0.001*** | -0.002*** | 0.000 | -0.000 | -0.000 | -0.001*** | -0.002*** | -0.002*** |
| | (0.000) | (0.000) | (0.00) | (0.000) | (0.000) | (0.00) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Double TUS Eligibility** | -0.007 | 0.024 | 0.011*** | 0.043*** | 0.060*** | 0.086*** | -0.001 | 0.078*** | 0.034*** | 0.051*** | -0.0052 | -0.057*** |
| | (0.005) | (0.02) | (0.003) | (0.011) | (0.005) | (0.012) | (0.006) | (0.020) | (0.007) | (0.015) | (0.007) | (0.022) |
| **Male** | -0.019** | -0.019** | -0.034*** | -0.033*** | 0.031*** | 0.031*** | -0.074*** | -0.073*** | 0.014 | 0.014 | 0.071*** | 0.071*** |
| | (0.008) | (0.008) | (0.008) | (0.008) | (0.009) | (0.009) | (0.009) | (0.009) | (0.01) | (0.01) | (0.009) | (0.009) |
| **Region** | -0.003 | -0.004 | -0.065*** | -0.067*** | 0.025*** | 0.024*** | -0.049*** | -0.051*** | 0.007 | 0.008* | 0.049*** | 0.05*** |
| | (0.004) | (0.004) | (0.003) | (0.003) | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.005) | (0.005) | (0.005) |
| **Years of Education** | 0.001 | 0.001 | -0.004*** | -0.004*** | -0.004*** | -0.004*** | -0.001* | -0.001* | -0.005*** | -0.005*** | -0.000 | -0.000 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| **Minors under the care of the cardholder** | -0.018** | -0.018*** | -0.008*** | -0.008*** | 0.007*** | 0.007*** | -0.006*** | -0.006*** | -0.006*** | -0.005*** | 0.016*** | 0.016*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) | (0.001) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| **Unconditional probability** | 0.216 | 0.216 | 0.162 | 0.162 | 0.367 | 0.367 | 0.311 | 0.311 | 0.5217 | 0.5217 | 0.565 | 0.565 |
| **Number of Observations** | 63,200 | 63,200 | 62,664 | 62,664 | 69,816 | 69,816 | 63,200 | 63,200 | 62,664 | 62,664 | 63,200 | 63,200 |

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Notes: Standard errors in parentheses (** p<0.01, ** p<0.05, * p<0.1). Marginal effects of a probit model which explains the probability of being visited in the short-term (within one year), medium-term (within 2 to 3 years) and the long-term (3 or more years) of a cardholder receiving TUS and AFAM-PE. The first column for each year presents the marginal effects of the following explanatory variables: one hundred times the CNI, being eligible to double TUS, the interaction between CNI and double TUS eligibility, the cardholder being a female, the average year of education of the cardholder, if the cardholder resides in Montevideo and the number of minors in the care of the cardholder. The second column presents the marginal effects for the same explanatory variables but includes a quadratic specification for one hundred times the CNI and its interaction with the eligibility variable. Multiple individuals overlap in all three years estimated.

**Table A6. Manipulation Test at the Eligibility Threshold by Bandwidth and Period (Second Order Polynomial)**

| Bandwidth | May 2013 | | May 2015 | | May 2017 | |
|---|---|---|---|---|---|---|
| | P-value | observations | P-value | Observations | P-value | Observations |
| 0.05 | 0.00 | 6,443 | 0.00 | 7,696 | 0.00 | 9,574 |
| 0.06 | 0.00 | 9,646 | 0.00 | 11,379 | 0.00 | 13,927 |
| 0.07 | 0.00 | 12,796 | 0.00 | 15,068 | 0.00 | 18,469 |
| 0.08 | 0.00 | 15,845 | 0.00 | 18,836 | 0.00 | 23,049 |
| 0.09 | 0.00 | 19,164 | 0.00 | 22,438 | 0.00 | 27,424 |
| 0.1 | 0.00 | 22,451 | 0.00 | 26,260 | 0.00 | 32,033 |
| 0.11 | 0.00 | 25,601 | 0.03 | 29,749 | 0.00 | 36,171 |
| 0.12 | 0.03 | 28,888 | 0.09 | 33,528 | 0.00 | 40,631 |
| 0.13 | 0.10 | 32,036 | 0.19 | 36,948 | 0.00 | 44,650 |
| 0.14 | 0.11 | 35,238 | 0.15 | 40,540 | 0.00 | 48,835 |
| 0.15 | 0.08 | 37,976 | 0.09 | 43,092 | 0.00 | 51,410 |
| 0.16 | 0.11 | 40,657 | 0.14 | 45,501 | 0.00 | 53,788 |
| 0.17 | 0.13 | 43,478 | 0.29 | 47,862 | 0.01 | 56,114 |
| 0.18 | 0.18 | 45,970 | 0.49 | 49,835 | 0.06 | 58,217 |
| 0.19 | 0.24 | 48,256 | 0.76 | 51,544 | 0.37 | 59,870 |
| 0.2 | 0.22 | 50,215 | 0.90 | 53,060 | 0.94 | 61,206 |
| 0.21 | 0.10 | 52,013 | 0.79 | 54,412 | 0.75 | 62,490 |
| **Total Rejected** | **7** | | **7** | | **13** | |
| **% of Rejected** | **41%** | | **41%** | | **76%** | |

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Notes: Local polynomial density test computed using the Stata *rddensity* command developed by Cattaneo, Jansson and Ma (2017). The first column of each year indicates the p-value associated to the null hypothesis of no manipulation (i.e. continuity at the threshold). The second columns indicate the total number of observations taken into account in the estimations. The second to last row indicates the number of rejections and the last row indicates the percentage of rejections.

## Table A7. P-Values of Manipulation Test by Polynomial Specification and Period

| Manipulation Test (Unrestricted) | | | | | | |
|---|---|---|---|---|---|---|
| Polynomial | May 2013 | | May 2015 | | May 2017 | |
| | P-value | Observations | P-value | Observations | P-value | Observations |
| 1 | 0.76 | 1657 | 0.17 | 3228 | 0.01 | 5598 |
| 2 | 0.00 | 9896 | 0.01 | 20587 | 0.38 | 8232 |
| 3 | 0.00 | 11465 | 0.00 | 15959 | 0.00 | 22563 |
| 4 | 0.00 | 15376 | 0.00 | 23713 | 0.00 | 23525 |

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Notes: Manipulation test developed by Cattaneo, Jansson and Ma (2018) for the total number of cardholders in each period. The first column in each period corresponds to the p-value associated to the no manipulation null hypothesis estimated using polynomial specifications from 1 to 4. The second column for each year corresponds to the total number of observations considered in the test.

| Manipulation Test (Restricted) | | | | | | |
|---|---|---|---|---|---|---|
| Polynomial | May 2013 | | May 2015 | | May 2017 | |
| | P-value | Observations | P-value | Observations | P-value | Observations |
| 1 | 0.01 | 1482 | 0.67 | 3040 | 0.03 | 3074 |
| 2 | 0.24 | 8041 | 0.76 | 9297 | 0.94 | 12404 |
| 3 | 0.17 | 11263 | 0.53 | 15343 | 0.02 | 34326 |
| 4 | 0.06 | 15139 | 0.61 | 24350 | 0.32 | 24509 |

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Notes: Manipulation test developed by Cattaneo, Jansson and Ma (2018) for a restricted sample in each period. Individuals with a standardized CNI of -0.0079132 were removed, corresponding to 182 cardholders in May 2013, 26 cardholders in May 2015 and 586 cardholders in May 2017. The first column in each period corresponds to the p-value associated to the no manipulation null hypothesis estimated using polynomial specifications from 1 to 4. The second column for each year corresponds to the total number of observations considered in the test.

**Table A8. Summary Results of RD Estimation on Covariates for Infant Outcomes**

**May 2013, Short-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | **Total** |
| 0.06 | 4 | 4 | 4 | 4 | 100% |
| 0.07 | 4 | 4 | 4 | 4 | 100% |
| 0.08 | 4 | 4 | 4 | 4 | 100% |
| 0.09 | 4 | 4 | 4 | 4 | 100% |
| 0.1 | 4 | 4 | 4 | 4 | 100% |

**May 2013, Medium-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | **Total** |
| 0.06 | 4 | 4 | 4 | 4 | 100% |
| 0.07 | 4 | 4 | 4 | 4 | 100% |
| 0.08 | 4 | 4 | 4 | 4 | 100% |
| 0.09 | 3 | 4 | 4 | 4 | 94% |
| 0.1 | 4 | 4 | 4 | 4 | 100% |

**May 2013, Long-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | **Total** |
| 0.06 | 4 | 4 | 4 | 4 | 100% |
| 0.07 | 3 | 4 | 4 | 4 | 94% |
| 0.08 | 4 | 4 | 4 | 4 | 100% |
| 0.09 | 4 | 4 | 4 | 4 | 100% |
| 0.1 | 4 | 3 | 4 | 4 | 94% |

**May 2015, Short-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | **Total** |
| 0.06 | 4 | 3 | 2 | 4 | 81% |
| 0.07 | 4 | 4 | 2 | 3 | 81% |
| 0.08 | 4 | 4 | 3 | 3 | 88% |
| 0.09 | 4 | 4 | 3 | 2 | 81% |
| 0.1 | 4 | 3 | 3 | 3 | 81% |

**May 2015, Medium-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | **Total** |
| 0.06 | 3 | 2 | 3 | 4 | 75% |
| 0.07 | 2 | 3 | 2 | 3 | 63% |
| 0.08 | 2 | 3 | 2 | 3 | 63% |
| 0.09 | 2 | 3 | 3 | 3 | 69% |
| 0.1 | 3 | 3 | 3 | 2 | 69% |

**May 2017, Short-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | **Total** |
| 0.06 | 4 | 4 | 4 | 4 | 100% |
| 0.07 | 4 | 4 | 4 | 4 | 100% |
| 0.08 | 4 | 4 | 4 | 4 | 100% |
| 0.09 | 4 | 4 | 4 | 4 | 100% |
| 0.1 | 4 | 4 | 4 | 4 | 100% |

Source: : Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The second to the fifth column in each of the tables present the number of covariates for whom being eligible to the program has a none significant RD coefficient for a 95% confidence level. The sixth column presents the percentage of none significant RD coefficient per bandwidth used in our estimations. The four covariates used in the estimations of infant outcomes are : age of the cardholder, whether the cardholder resides in Montevideo, the number of children under the care of the cardholder and years of education of the cardholder. . The estimations standard errors are clustered at the household level.

**Table A9. Summary Results of RD Estimation on Covariates for Individual Outcomes**

**May 2013, Short-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.003 | 5 | 5 | 4 | 4 | 90% |
| 0.005 | 5 | 5 | 4 | 4 | 90% |
| 0.01 | 5 | 5 | 4 | 5 | 95% |
| 0.02 | 5 | 5 | 5 | 5 | 100% |
| 0.03 | 4 | 5 | 5 | 5 | 95% |
| 0.04 | 5 | 4 | 5 | 5 | 95% |

**May 2013, Medium-term**

| Bandwidths | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.003 | 5 | 5 | 5 | 5 | 100% |
| 0.005 | 5 | 5 | 5 | 5 | 100% |
| 0.01 | 5 | 5 | 5 | 5 | 100% |
| 0.02 | 4 | 4 | 5 | 5 | 90% |
| 0.03 | 3 | 4 | 5 | 5 | 85% |
| 0.04 | 4 | 4 | 5 | 5 | 90% |

**May 2013, Long-term**

| Bandwidths | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.003 | 5 | 5 | 5 | 5 | 100% |
| 0.005 | 5 | 5 | 5 | 5 | 100% |
| 0.01 | 5 | 5 | 5 | 5 | 100% |
| 0.02 | 4 | 5 | 5 | 5 | 95% |
| 0.03 | 4 | 4 | 5 | 5 | 90% |
| 0.04 | 4 | 4 | 5 | 5 | 90% |

**May 2015, Short-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | total |
| 0.003 | 5 | 4 | 5 | 5 | 95% |
| 0.005 | 4 | 5 | 5 | 5 | 95% |
| 0.01 | 4 | 5 | 4 | 5 | 90% |
| 0.02 | 3 | 5 | 3 | 5 | 80% |
| 0.03 | 3 | 4 | 4 | 4 | 75% |
| 0.04 | 3 | 3 | 3 | 3 | 60% |

**May 2015, Medium-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | total |
| 0.003 | 4 | 4 | 5 | 5 | 90% |
| 0.005 | 4 | 4 | 5 | 5 | 90% |
| 0.01 | 4 | 4 | 4 | 5 | 85% |
| 0.02 | 3 | 5 | 3 | 5 | 80% |
| 0.03 | 3 | 4 | 4 | 4 | 75% |
| 0.04 | 3 | 4 | 4 | 3 | 70% |

**May 2017, Short-term**

| Bandwidths | Polynomials | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | total |
| 0.003 | 5 | 5 | 4 | 4 | 90% |
| 0.005 | 4 | 5 | 5 | 5 | 95% |
| 0.01 | 4 | 4 | 4 | 3 | 75% |
| 0.02 | 4 | 4 | 4 | 4 | 80% |
| 0.03 | 1 | 5 | 5 | 4 | 75% |
| 0.04 | 2 | 4 | 4 | 5 | 75% |

Source: : Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The second to the fifth column in each of the tables present the number of covariates for whom being eligible to the program has a none significant RD coefficient for a 95% confidence level. The sixth column presents the percentage of none significant RD coefficient per bandwidth used in our estimations. The five covariates used in the estimations of individual outcomes are : age of the cardholder, whether the cardholder resides in Montevideo, the number of children under the care of the cardholder, whether the cardholder is a female and years of education of the cardholder. The estimations standard errors are clustered at the household level.

**Table A10. Summary Results of RD Estimation on Covariates for Household Outcomes**

**May 2013, Short-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.01 | 5 | 5 | 5 | 5 | 100% |
| 0.02 | 4 | 5 | 5 | 5 | 95% |
| 0.03 | 4 | 4 | 5 | 5 | 90% |
| 0.04 | 4 | 4 | 5 | 5 | 90% |
| 0.05 | 4 | 4 | 5 | 5 | 90% |

**May 2013, Medium-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.01 | 5 | 5 | 5 | 5 | 100% |
| 0.02 | 5 | 5 | 5 | 5 | 100% |
| 0.03 | 5 | 5 | 5 | 5 | 100% |
| 0.04 | 5 | 5 | 5 | 5 | 100% |
| 0.05 | 5 | 4 | 5 | 5 | 95% |

**May 2013, Long-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.04 | 4 | 5 | 5 | 5 | 95% |
| 0.05 | 5 | 5 | 5 | 5 | 100% |
| 0.06 | 5 | 5 | 5 | 5 | 100% |
| 0.07 | 5 | 5 | 5 | 5 | 100% |
| 0.08 | 5 | 5 | 5 | 5 | 100% |

**May 2015, Short-term**

| Bandwidths | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.05 | 5 | 5 | 5 | 5 | 100% |
| 0.06 | 5 | 5 | 5 | 5 | 100% |
| 0.07 | 5 | 5 | 5 | 5 | 100% |
| 0.08 | 5 | 5 | 5 | 5 | 100% |
| 0.09 | 5 | 5 | 5 | 5 | 100% |

**May 2015, Medium-term**

| Bandwidths | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.05 | 5 | 5 | 5 | 5 | 100% |
| 0.06 | 5 | 5 | 5 | 5 | 100% |
| 0.07 | 5 | 5 | 5 | 5 | 100% |
| 0.08 | 5 | 5 | 5 | 5 | 100% |
| 0.09 | 5 | 5 | 5 | 5 | 100% |

**May 2017, Short-term**

| Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| 0.05 | 5 | 5 | 5 | 5 | 100% |
| 0.06 | 5 | 5 | 5 | 5 | 100% |
| 0.07 | 5 | 5 | 5 | 5 | 100% |
| 0.08 | 4 | 5 | 5 | 5 | 95% |
| 0.09 | 4 | 5 | 5 | 5 | 95% |

Source: : Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The second to the fifth column in each of the tables present the number of covariates for whom being eligible to the program has a none significant RD coefficient for a 95% confidence level. The sixth column presents the percentage of none significant RD coefficient per bandwidth used in our estimations. The five covariates used in the estimations of the household outcomes are : age of the cardholder, whether the cardholder resides in Montevideo, the number of children under the care of the cardholder, whether the cardholder is a female and years of education of the cardholder.

## Table A11. Summary Results of RD Estimation on Covariates for Education Outcomes by Age Range

**May 2013, Short-term**

| Age Range | Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | Total |
| 0-5 | 0.003 | 5 | 5 | 5 | 5 | 100% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 5 | 5 | 4 | 5 | 95% |
| | 0.02 | 5 | 5 | 5 | 5 | 100% |
| | 0.03 | 5 | 4 | 4 | 5 | 90% |
| 6-11 | 0.003 | 5 | 5 | 4 | 4 | 90% |
| | 0.005 | 5 | 5 | 4 | 4 | 90% |
| | 0.01 | 5 | 5 | 4 | 5 | 95% |
| | 0.02 | 3 | 5 | 5 | 5 | 90% |
| | 0.03 | 4 | 3 | 5 | 5 | 85% |
| 12-13 | 0.003 | 5 | 5 | 5 | 5 | 100% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 5 | 5 | 5 | 5 | 100% |
| | 0.02 | 4 | 5 | 5 | 5 | 95% |
| | 0.03 | 3 | 4 | 5 | 5 | 85% |
| 14-15 | 0.003 | 4 | 4 | 5 | 5 | 90% |
| | 0.005 | 5 | 4 | 4 | 4 | 85% |
| | 0.01 | 4 | 5 | 4 | 5 | 90% |
| | 0.02 | 5 | 5 | 4 | 5 | 95% |
| | 0.03 | 5 | 5 | 4 | 5 | 95% |
| 16-17 | 0.003 | 5 | 5 | 5 | 5 | 100% |
| | 0.005 | 4 | 4 | 4 | 4 | 80% |
| | 0.01 | 4 | 5 | 4 | 5 | 90% |
| | 0.02 | 5 | 4 | 5 | 4 | 90% |
| | 0.03 | 5 | 5 | 4 | 5 | 95% |

**May 2013, Medium-term**

| Age Range | Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | total |
| 0-5 | 0.003 | 4 | 5 | 5 | 5 | 95% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 5 | 5 | 5 | 5 | 100% |
| | 0.02 | 4 | 5 | 5 | 5 | 95% |
| | 0.03 | 5 | 4 | 5 | 5 | 95% |
| 6-11 | 0.003 | 4 | 5 | 4 | 4 | 85% |
| | 0.005 | 5 | 3 | 4 | 4 | 80% |
| | 0.01 | 5 | 5 | 4 | 5 | 95% |
| | 0.02 | 3 | 3 | 5 | 5 | 80% |
| | 0.03 | 3 | 4 | 3 | 5 | 75% |
| 12-13 | 0.003 | 5 | 5 | 5 | 5 | 100% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 5 | 5 | 5 | 5 | 100% |
| | 0.02 | 4 | 4 | 5 | 5 | 90% |
| | 0.03 | 4 | 4 | 5 | 5 | 90% |
| 14-15 | 0.003 | 5 | 4 | 5 | 5 | 95% |
| | 0.005 | 5 | 5 | 4 | 4 | 90% |
| | 0.01 | 5 | 5 | 5 | 5 | 100% |
| | 0.02 | 5 | 5 | 5 | 5 | 100% |
| | 0.03 | 4 | 5 | 5 | 5 | 95% |
| 16-17 | 0.003 | 4 | 5 | 5 | 5 | 95% |
| | 0.005 | 4 | 5 | 5 | 5 | 95% |
| | 0.01 | 4 | 4 | 4 | 5 | 85% |
| | 0.02 | 5 | 4 | 4 | 4 | 85% |
| | 0.03 | 5 | 4 | 3 | 4 | 80% |

**May 2013, Long-term**

| Age Range | Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | Total |
| **0-5** | 0.003 | 5 | 5 | 5 | 5 | 100% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 5 | 5 | 5 | 5 | 100% |
| | 0.02 | 4 | 5 | 5 | 5 | 95% |
| | 0.03 | 5 | 4 | 5 | 5 | 95% |
| **6-11** | 0.003 | 4 | 4 | 5 | 5 | 90% |
| | 0.005 | 4 | 4 | 4 | 4 | 80% |
| | 0.01 | 4 | 5 | 4 | 4 | 85% |
| | 0.02 | 3 | 2 | 5 | 4 | 70% |
| | 0.03 | 3 | 3 | 3 | 5 | 70% |
| **12-13** | 0.003 | 5 | 5 | 5 | 5 | 100% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 5 | 5 | 5 | 5 | 100% |
| | 0.02 | 4 | 5 | 5 | 5 | 95% |
| | 0.03 | 5 | 5 | 5 | 5 | 100% |
| **14-15** | 0.003 | 5 | 4 | 4 | 4 | 85% |
| | 0.005 | 5 | 5 | 4 | 4 | 90% |
| | 0.01 | 5 | 5 | 5 | 5 | 100% |
| | 0.02 | 5 | 5 | 5 | 5 | 100% |
| | 0.03 | 5 | 5 | 5 | 5 | 100% |
| **16-17** | 0.003 | 3 | 5 | 5 | 5 | 90% |
| | 0.005 | 3 | 4 | 4 | 4 | 75% |
| | 0.01 | 4 | 3 | 4 | 4 | 75% |
| | 0.02 | 4 | 3 | 3 | 3 | 65% |
| | 0.03 | 5 | 3 | 4 | 3 | 75% |

**May 2015, Short-term**

| Age Range | Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | Total |
| **0-5** | 0.003 | 4 | 5 | 5 | 5 | 95% |
| | 0.005 | 4 | 5 | 5 | 5 | 95% |
| | 0.01 | 4 | 5 | 4 | 5 | 90% |
| | 0.02 | 3 | 4 | 4 | 5 | 80% |
| | 0.03 | 2 | 4 | 5 | 4 | 75% |
| **6-11** | 0.003 | 3 | 3 | 4 | 4 | 70% |
| | 0.005 | 3 | 4 | 3 | 3 | 65% |
| | 0.01 | 4 | 4 | 2 | 4 | 70% |
| | 0.02 | 5 | 5 | 3 | 3 | 80% |
| | 0.03 | 5 | 4 | 4 | 4 | 85% |
| **12-13** | 0.02 | 5 | 5 | 5 | 4 | 95% |
| | 0.03 | 5 | 5 | 5 | 4 | 95% |
| | 0.04 | 5 | 5 | 5 | 5 | 100% |
| | 0.05 | 5 | 5 | 5 | 5 | 100% |
| | 0.06 | 5 | 5 | 5 | 5 | 100% |
| **14-15** | 0.02 | 4 | 4 | 5 | 5 | 90% |
| | 0.03 | 5 | 4 | 4 | 5 | 90% |
| | 0.04 | 4 | 4 | 4 | 4 | 80% |
| | 0.05 | 4 | 5 | 4 | 4 | 85% |
| | 0.06 | 5 | 4 | 4 | 4 | 85% |
| **16-17** | 0.02 | 4 | 4 | 5 | 5 | 90% |
| | 0.03 | 4 | 4 | 5 | 5 | 90% |
| | 0.04 | 4 | 4 | 4 | 5 | 85% |
| | 0.05 | 4 | 4 | 4 | 4 | 80% |
| | 0.06 | 4 | 4 | 4 | 4 | 80% |

**May 2015, Medium-term**

| Age Range | Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | Total |
| 0-5 | 0.003 | 5 | 5 | 5 | 5 | 100% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 4 | 5 | 4 | 5 | 90% |
| | 0.02 | 3 | 3 | 4 | 5 | 75% |
| | 0.03 | 2 | 4 | 4 | 4 | 70% |
| 6-11 | 0.003 | 4 | 2 | 3 | 3 | 60% |
| | 0.005 | 4 | 4 | 3 | 3 | 70% |
| | 0.01 | 4 | 4 | 2 | 5 | 75% |
| | 0.02 | 5 | 5 | 4 | 4 | 90% |
| | 0.03 | 5 | 5 | 5 | 5 | 100% |
| 12-13 | 0.02 | 5 | 5 | 5 | 5 | 100% |
| | 0.03 | 5 | 5 | 5 | 5 | 100% |
| | 0.04 | 5 | 5 | 5 | 5 | 100% |
| | 0.05 | 5 | 5 | 5 | 5 | 100% |
| | 0.06 | 5 | 5 | 5 | 5 | 100% |
| 14-15 | 0.02 | 4 | 4 | 5 | 5 | 90% |
| | 0.03 | 5 | 4 | 4 | 5 | 90% |
| | 0.04 | 4 | 5 | 4 | 4 | 85% |
| | 0.05 | 4 | 5 | 4 | 4 | 85% |
| | 0.06 | 5 | 5 | 5 | 4 | 95% |
| 16-17 | 0.02 | 4 | 5 | 5 | 5 | 95% |
| | 0.03 | 4 | 4 | 5 | 5 | 90% |
| | 0.04 | 4 | 4 | 4 | 5 | 85% |
| | 0.05 | 4 | 4 | 4 | 5 | 85% |
| | 0.06 | 4 | 4 | 4 | 5 | 85% |

**May 2017, Short-term**

| Age Range | Bandwidth | Polynomial | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | Total |
| 0-5 | 0.003 | 4 | 5 | 3 | 3 | 75% |
| | 0.005 | 5 | 3 | 4 | 4 | 80% |
| | 0.01 | 5 | 5 | 3 | 4 | 85% |
| | 0.02 | 4 | 5 | 4 | 5 | 90% |
| | 0.03 | 2 | 4 | 5 | 5 | 80% |
| 6-11 | 0.003 | 4 | 5 | 3 | 3 | 75% |
| | 0.005 | 5 | 5 | 5 | 5 | 100% |
| | 0.01 | 4 | 5 | 5 | 5 | 95% |
| | 0.02 | 5 | 5 | 4 | 5 | 95% |
| | 0.03 | 3 | 5 | 5 | 5 | 90% |
| 12-13 | 0.02 | 4 | 5 | 5 | 5 | 95% |
| | 0.03 | 5 | 4 | 5 | 5 | 95% |
| | 0.04 | 3 | 4 | 4 | 5 | 80% |
| | 0.05 | 3 | 5 | 4 | 5 | 85% |
| | 0.06 | 4 | 4 | 5 | 4 | 85% |
| 14-15 | 0.02 | 5 | 5 | 5 | 5 | 100% |
| | 0.03 | 5 | 5 | 5 | 5 | 100% |
| | 0.04 | 5 | 5 | 5 | 5 | 100% |
| | 0.05 | 5 | 5 | 5 | 5 | 100% |
| | 0.06 | 5 | 5 | 5 | 5 | 100% |
| 16-17 | 0.02 | 3 | 5 | 5 | 5 | 90% |
| | 0.03 | 4 | 5 | 5 | 5 | 95% |
| | 0.04 | 4 | 3 | 5 | 5 | 85% |
| | 0.05 | 4 | 2 | 5 | 5 | 80% |
| | 0.06 | 4 | 4 | 2 | 5 | 75% |

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The third to the sixth column in each of the tables present the number of covariates for whom being eligible to the program has a none significant RD coefficient for a 95% confidence level for each of the five age groups used in our education enrollment outcomes. The sixth column presents the percentage of none significant RD coefficient per bandwidth used in our estimations. The five covariates used in the estimations of the education enrollment outcomes are: age of the cardholder, whether the cardholder resides in Montevideo, the number of children under the care of the cardholder, whether the cardholder is a female and years of education of the cardholder.

**Table A12. Bandwidth Choice and Number of Observations per Outcomes, Period and Term**

| Bandwidths | Household outcomes | | | | | | Formal employment and health access | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 | | | 2015 | | 2017 | 2013 | | | 2015 | | 2017 |
| | Short-term | Medium-term | Long-term | Short-term | Medium-term | Short-term | Short-term | Medium-term | Long-term | Short-term | Medium-term | Short-term |
| **0.003** | 159 | 194 | 45 | 19 | 19 | 10 | 3960 | 3698 | 3308 | 1435 | 1357 | 1238 |
| **0.005** | 275 | 337 | 87 | 33 | 30 | 18 | 7118 | 6562 | 5953 | 2567 | 2428 | 2363 |
| **0.01** | 528 | 710 | 201 | 67 | 65 | 38 | 14566 | 13276 | 12236 | 5555 | 5299 | 5629 |
| **0.02** | 1076 | 1435 | 412 | 122 | 130 | 64 | 28264 | 25750 | 24012 | 10870 | 10371 | 10723 |
| **0.03** | 1615 | 2102 | 620 | 182 | 175 | 93 | 42536 | 38581 | 35965 | 16210 | 15414 | 15344 |
| **0.04** | 2145 | 2807 | 816 | 244 | 231 | 110 | 56,362 | 51,312 | 47,902 | 21,645 | 20,515 | 20,224 |
| **0.05** | 2718 | 3536 | 1046 | 302 | 294 | 140 | 70,669 | 64,451 | 60,226 | 26,928 | 25,618 | 25,240 |
| **0.06** | 3,250 | 4,207 | 1254 | 367 | 339 | 168 | 84,918 | 77,207 | 72,129 | 31,868 | 30,235 | 29,941 |
| **0.07** | 3,766 | 4,923 | 1487 | 443 | 404 | 192 | 99,519 | 90,397 | 84,257 | 37,434 | 35,474 | 35,150 |
| **0.08** | 4,291 | 5,577 | 1679 | 492 | 454 | 215 | 113,676 | 102,737 | 95,498 | 42,273 | 40,051 | 39,583 |
| **0.09** | 4,811 | 6,328 | 1,901 | 562 | 508 | 245 | 128,906 | 116,539 | 108,231 | 47,392 | 44,890 | 44,130 |

| Bandwidths | Infant outcomes | | | | | |
|---|---|---|---|---|---|---|
| | 2013 | | | 2015 | | 2017 |
| | Short-term | Medium-term | Long-term | Short-term | Medium-term | Short-term |
| **0.003** | 52 | 64 | 35 | 23 | 23 | 6 |
| **0.005** | 81 | 112 | 61 | 42 | 42 | 15 |
| **0.01** | 153 | 247 | 142 | 98 | 91 | 56 |
| **0.02** | 316 | 484 | 259 | 173 | 164 | 110 |
| **0.03** | 468 | 719 | 393 | 268 | 261 | 145 |
| **0.04** | 624 | 955 | 520 | 350 | 343 | 199 |
| **0.05** | 778 | 1205 | 656 | 429 | 419 | 262 |
| **0.06** | 952 | 1502 | 783 | 511 | 499 | 307 |
| **0.07** | 1105 | 1788 | 938 | 602 | 598 | 355 |
| **0.08** | 1285 | 2025 | 1074 | 681 | 675 | 399 |
| **0.09** | 1459 | 2312 | 1190 | 773 | 765 | 452 |
| **0.1** | 1620 | 2613 | 1341 | 841 | 834 | 487 |

| Bandwidths | 2013 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short term | | | | | Medium term | | | | | Long term | | | | |
| | 0-5 | 6-11 | 12-13 | 14-15 | 16-17 | 0-5 | 6-11 | 12-13 | 14-15 | 16-17 | 0-5 | 6-11 | 12-13 | 14-15 | 16-17 |
| **0.003** | 610 | 837 | 285 | 296 | 243 | 594 | 774 | 298 | 259 | 248 | 527 | 729 | 275 | 219 | 209 |
| **0.005** | 1093 | 1450 | 522 | 505 | 470 | 1023 | 1377 | 511 | 459 | 434 | 952 | 1310 | 470 | 391 | 371 |
| **0.01** | 2234 | 2954 | 1121 | 1007 | 931 | 2100 | 2813 | 1046 | 909 | 842 | 2018 | 2655 | 987 | 776 | 743 |
| **0.02** | 4374 | 5793 | 2155 | 1909 | 1838 | 4141 | 5503 | 1998 | 1735 | 1621 | 4003 | 5216 | 1925 | 1545 | 1470 |
| **0.03** | 6539 | 8692 | 3211 | 2965 | 2721 | 6192 | 8229 | 2960 | 2651 | 2388 | 5983 | 7846 | 2829 | 2358 | 2142 |
| **0.04** | 8,700 | 11,626 | 4,219 | 3,909 | 3,591 | 8,274 | 11,025 | 3,938 | 3,521 | 3,134 | 7,979 | 10,563 | 3,762 | 3,136 | 2,799 |
| **0.05** | 10,898 | 14,588 | 5,356 | 4,918 | 4,522 | 10,439 | 13,822 | 4,979 | 4,460 | 3,925 | 10,072 | 13,276 | 4,729 | 3,996 | 3,514 |
| **0.06** | 13,182 | 17,584 | 6,420 | 5,893 | 5,391 | 12,544 | 16,629 | 5,944 | 5,309 | 4,710 | 12,068 | 15,965 | 5,645 | 4,793 | 4,231 |
| **0.07** | 15,539 | 20,581 | 7,473 | 6,893 | 6,292 | 14,764 | 19,524 | 6,923 | 6,174 | 5,472 | 14,182 | 18,655 | 6,560 | 5,580 | 4,905 |
| **0.08** | 17,735 | 23,498 | 8,543 | 7,889 | 7,199 | 16,749 | 22,179 | 7,906 | 7,037 | 6,200 | 16,049 | 21,174 | 7,470 | 6,336 | 5,563 |
| **0.09** | 20,102 | 26,721 | 9,695 | 8,958 | 8,201 | 19,079 | 25,248 | 8,950 | 7,976 | 7,002 | 18,216 | 24,087 | 8,472 | 7,181 | 6,289 |

| Bandwidths | 2015 | | | | | | | | | | 2017 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short term | | | | | Medium term | | | | | Long term | | | | |
| | 0-5 | 6-11 | 12-13 | 14-15 | 16-17 | 0-5 | 6-11 | 12-13 | 14-15 | 16-17 | 0-5 | 6-11 | 12-13 | 14-15 | 16-17 |
| **0.003** | 343 | 247 | 77 | 60 | 46 | 326 | 236 | 71 | 60 | 43 | 308 | 206 | 45 | 52 | 47 |
| **0.005** | 619 | 449 | 129 | 106 | 88 | 585 | 428 | 128 | 103 | 82 | 593 | 377 | 91 | 96 | 84 |
| **0.01** | 1,379 | 957 | 238 | 231 | 216 | 1,322 | 922 | 242 | 226 | 198 | 1570 | 859 | 194 | 174 | 199 |
| **0.02** | 2,655 | 1,849 | 487 | 464 | 460 | 2,547 | 1,807 | 490 | 450 | 412 | 2937 | 1656 | 388 | 333 | 374 |
| **0.03** | 3,922 | 2,771 | 731 | 706 | 680 | 3,753 | 2,679 | 727 | 687 | 614 | 4147 | 2367 | 592 | 505 | 558 |
| **0.04** | 5,271 | 3,708 | 992 | 954 | 928 | 5,050 | 3,565 | 973 | 921 | 826 | 5508 | 3117 | 759 | 688 | 722 |
| **0.05** | 6,539 | 4,581 | 1,252 | 1,201 | 1,170 | 6,303 | 4,433 | 1,226 | 1,165 | 1,038 | 6878 | 3892 | 934 | 849 | 894 |
| **0.06** | 7,795 | 5,386 | 1,482 | 1,418 | 1,392 | 7,481 | 5,208 | 1,446 | 1,375 | 1,226 | 8115 | 4654 | 1,137 | 1,024 | 1,061 |
| **0.07** | 9,197 | 6,337 | 1,746 | 1,662 | 1,605 | 8,822 | 6,103 | 1,685 | 1,594 | 1,417 | 9601 | 5445 | 1329 | 1190 | 1209 |
| **0.08** | 10,310 | 7,198 | 2,023 | 1,880 | 1,815 | 9,872 | 6,931 | 1,955 | 1,800 | 1,609 | 10773 | 6123 | 1500 | 1373 | 1385 |
| **0.09** | 11,555 | 8,135 | 2,280 | 2,117 | 2,022 | 11,070 | 7,840 | 2,196 | 2,022 | 1,800 | 11,998 | 6,876 | 1,671 | 1,532 | 1,552 |

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Notes: The tables present the number of observation for a range of bandwidths. The shaded area indicates the bandwidths chosen for each of the estimations for the outcomes analysed. In addition, the last six tables present the number of observations at each bandwidth for different age groups used in the school enrollment estimation

## Table A13. Effect of Double TUS on Household Outcomes, Short-Term 2013

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 |
| Roof: Poured Concrete, Not Protected | 1 | -0.270 | -0.370 | -0.336* | -0.264* | -0.183 |
| | | (0.258) | (0.227) | (0.197) | (0.144) | (0.117) |
| | 2 | -0.169 | -0.342 | -0.368 | -0.422 | -0.412* |
| | | (0.431) | (0.283) | (0.305) | (0.301) | (0.241) |
| | 3 | -0.058 | -0.042 | -0.350 | -0.323 | -0.389 |
| | | (0.689) | (0.364) | (0.269) | (0.286) | (0.333) |
| | 4 | 0.097 | -0.419 | -0.170 | -0.290 | -0.294 |
| | | (0.460) | (0.600) | (0.355) | (0.305) | (0.297) |
| Roof: Waste Material | 1 | -0.071 | -0.190* | -0.239** | -0.161** | -0.138** |
| | | (0.120) | (0.110) | (0.099) | (0.066) | (0.055) |
| | 2 | -0.040 | -0.077 | -0.121 | -0.276* | -0.213* |
| | | (0.184) | (0.127) | (0.146) | (0.157) | (0.118) |
| | 3 | -0.288 | -0.029 | -0.074 | -0.033 | -0.203 |
| | | (0.402) | (0.168) | (0.120) | (0.131) | (0.165) |
| | 4 | -0.148 | -0.151 | -0.045 | -0.087 | 0.015 |
| | | (0.253) | (0.264) | (0.161) | (0.137) | (0.136) |
| Conservation: Condensation in Dwelling | 1 | -0.497 | -0.579** | -0.562** | -0.285* | -0.169 |
| | | (0.309) | (0.282) | (0.238) | (0.157) | (0.126) |
| | 2 | -0.615 | -0.650* | -0.728* | -0.961** | -0.723** |
| | | (0.546) | (0.354) | (0.401) | (0.434) | (0.310) |
| | 3 | -1.158 | -0.559 | -0.573* | -0.550 | -0.881* |
| | | (1.276) | (0.457) | (0.318) | (0.345) | (0.467) |
| | 4 | -0.770 | -0.538 | -0.542 | -0.587 | -0.561 |
| | | (0.714) | (0.680) | (0.431) | (0.366) | (0.357) |
| Conservation: Leaks | 1 | 0.716* | -0.046 | -0.149 | -0.191 | -0.291* |
| | | (0.423) | (0.320) | (0.278) | (0.202) | (0.169) |
| | 2 | 1.050 | 0.472 | 0.229 | -0.027 | 0.002 |
| | | (0.824) | (0.428) | (0.442) | (0.422) | (0.335) |
| | 3 | 1.702 | 1.321* | 0.562 | 0.522 | 0.251 |
| | | (1.801) | (0.782) | (0.413) | (0.439) | (0.482) |
| | 4 | 0.978 | 1.546 | 1.119 | 0.682 | 0.723 |
| | | (0.901) | (1.300) | (0.697) | (0.496) | (0.487) |
| Conservation: Poor Ventilation | 1 | 0.616* | 0.243 | 0.110 | 0.101 | 0.065 |
| | | (0.351) | (0.264) | (0.228) | (0.169) | (0.138) |
| | 2 | 0.760 | 0.406 | 0.290 | 0.136 | 0.209 |
| | | (0.611) | (0.345) | (0.362) | (0.345) | (0.279) |
| | 3 | 1.109 | 0.831 | 0.583* | 0.565 | 0.241 |
| | | (1.193) | (0.553) | (0.345) | (0.373) | (0.391) |
| | 4 | 0.840 | 1.108 | 0.756 | 0.590 | 0.766* |
| | | (0.656) | (0.937) | (0.510) | (0.400) | (0.420) |

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 |
| Floor: Cement or Subfloor | 1 | 0.349 | 0.554* | 0.420 | 0.294 | 0.236 |
| | | (0.386) | (0.333) | (0.283) | (0.201) | (0.164) |
| | 2 | -0.037 | 0.000 | 0.399 | 0.587 | 0.445 |
| | | (0.656) | (0.404) | (0.444) | (0.446) | (0.346) |
| | 3 | -0.267 | 0.433 | 0.290 | 0.296 | 0.638 |
| | | (1.142) | (0.578) | (0.390) | (0.417) | (0.509) |
| | 4 | -0.353 | 0.096 | 0.004 | 0.196 | 0.133 |
| | | (0.783) | (0.835) | (0.537) | (0.446) | (0.432) |
| Floor: No Floor | 1 | -0.074 | -0.114 | -0.151 | -0.127* | -0.048 |
| | | (0.109) | (0.097) | (0.094) | (0.066) | (0.052) |
| | 2 | -0.060 | -0.049 | 0.031 | -0.088 | -0.159 |
| | | (0.171) | (0.114) | (0.133) | (0.132) | (0.114) |
| | 3 | -0.376 | -0.135 | -0.176 | -0.043 | -0.088 |
| | | (0.396) | (0.154) | (0.122) | (0.121) | (0.143) |
| | 4 | -0.022 | -0.161 | 0.055 | -0.116 | 0.027 |
| | | (0.105) | (0.220) | (0.144) | (0.129) | (0.125) |
| Bathroom: No Flush | 1 | 0.046 | -0.009 | 0.011 | -0.070 | -0.078 |
| | | (0.380) | (0.321) | (0.279) | (0.203) | (0.167) |
| | 2 | -0.165 | -0.350 | 0.032 | 0.135 | 0.104 |
| | | (0.665) | (0.424) | (0.441) | (0.426) | (0.341) |
| | 3 | 0.497 | 0.232 | -0.322 | -0.146 | -0.112 |
| | | (1.186) | (0.576) | (0.401) | (0.423) | (0.480) |
| | 4 | 0.747 | 0.285 | 0.060 | -0.223 | -0.045 |
| | | (0.843) | (0.877) | (0.548) | (0.459) | (0.441) |
| Bathroom: No Bathroom | 1 | 0.306** | 0.016 | -0.079 | -0.077 | -0.009 |
| | | (0.145) | (0.131) | (0.126) | (0.093) | (0.078) |
| | 2 | 0.651** | 0.371** | 0.208 | 0.091 | -0.044 |
| | | (0.323) | (0.164) | (0.172) | (0.168) | (0.147) |
| | 3 | 0.426 | 0.515** | 0.297** | 0.238 | 0.260 |
| | | (0.460) | (0.244) | (0.145) | (0.154) | (0.190) |
| | 4 | 0.384 | 0.711 | 0.711** | 0.453** | 0.383** |
| | | (0.298) | (0.463) | (0.289) | (0.184) | (0.176) |
| Dwelling: Bed Sharing | 1 | 1.165** | 0.552 | 0.439 | 0.294 | 0.229 |
| | | (0.498) | (0.336) | (0.283) | (0.202) | (0.166) |
| | 2 | 1.629 | 0.811* | 0.858* | 0.805* | 0.525 |
| | | (1.023) | (0.460) | (0.501) | (0.477) | (0.351) |
| | 3 | 1.809 | 1.835* | 0.834* | 0.883* | 1.173* |
| | | (1.917) | (0.952) | (0.439) | (0.477) | (0.614) |
| | 4 | 0.580 | 1.792 | 1.586* | 1.008* | 0.767 |
| | | (0.732) | (1.437) | (0.830) | (0.542) | (0.481) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Durable Goods Index | 1 | -1.557* | 0.077 | 0.170 | 0.068 | 0.367 |
| | | (0.811) | (0.588) | (0.515) | (0.373) | (0.312) |
| | 2 | -2.410 | -1.362 | -0.391 | -0.175 | -0.478 |
| | | (1.664) | (0.830) | (0.804) | (0.773) | (0.625) |
| | 3 | -3.006 | -2.958* | -1.495* | -0.832 | -0.379 |
| | | (3.395) | (1.602) | (0.812) | (0.793) | (0.873) |
| | 4 | -0.880 | -2.441 | -3.037* | -2.061** | -1.479 |
| | | (1.567) | (2.238) | (1.566) | (1.050) | (0.914) |
| Durable Goods: Water Heater | 1 | -0.503 | 0.094 | 0.128 | 0.033 | 0.150 |
| | | (0.394) | (0.313) | (0.270) | (0.195) | (0.163) |
| | 2 | -1.802 | -0.549 | -0.110 | -0.018 | -0.146 |
| | | (1.095) | (0.425) | (0.426) | (0.409) | (0.327) |
| | 3 | -2.327 | -1.512* | -0.648 | -0.300 | -0.187 |
| | | (2.355) | (0.839) | (0.417) | (0.414) | (0.466) |
| | 4 | -0.764 | -2.003 | -1.439* | -1.036* | -0.559 |
| | | (0.890) | (1.574) | (0.787) | (0.553) | (0.460) |
| Durable Goods: Microwave | 1 | -0.477* | -0.280 | -0.129 | 0.001 | 0.081 |
| | | (0.289) | (0.229) | (0.197) | (0.143) | (0.117) |
| | 2 | -0.188 | -0.357 | -0.405 | -0.357 | -0.268 |
| | | (0.435) | (0.293) | (0.326) | (0.311) | (0.242) |
| | 3 | -0.072 | -0.623 | -0.390 | -0.454 | -0.456 |
| | | (0.739) | (0.446) | (0.280) | (0.313) | (0.358) |
| | 4 | -0.256 | 0.025 | -0.438 | -0.329 | -0.436 |
| | | (0.528) | (0.560) | (0.391) | (0.315) | (0.322) |
| Number of observations | | 528 | 1,076 | 1,615 | 2,145 | 2,718 |

| | | | | | | |
|---|---|---|---|---|---|---|
| HH Type: Single Parent | 1 | -0.177 | -0.517* | -0.338 | -0.234 | 0.062 |
| | | (0.328) | (0.312) | (0.266) | (0.193) | (0.160) |
| | 2 | -0.112 | -0.290 | -0.435 | -0.452 | -0.617* |
| | | (0.534) | (0.358) | (0.406) | (0.397) | (0.339) |
| | 3 | -0.638 | 0.038 | -0.464 | -0.447 | -0.392 |
| | | (1.006) | (0.470) | (0.345) | (0.378) | (0.431) |
| | 4 | -0.642 | -0.341 | 0.273 | -0.300 | -0.315 |
| | | (0.703) | (0.711) | (0.469) | (0.379) | (0.378) |
| HH Type: Extended or Composite | 1 | 0.596 | 0.762** | 0.504* | 0.267 | 0.095 |
| | | (0.377) | (0.339) | (0.268) | (0.185) | (0.148) |
| | 2 | 0.763 | 0.663 | 0.919* | 0.871* | 0.733** |
| | | (0.665) | (0.406) | (0.487) | (0.464) | (0.351) |
| | 3 | 1.803 | 0.604 | 0.765* | 0.865* | 0.899* |
| | | (1.793) | (0.537) | (0.397) | (0.449) | (0.523) |
| | 4 | 0.796 | 1.034 | 0.375 | 0.639 | 0.842* |
| | | (0.758) | (0.960) | (0.480) | (0.436) | (0.461) |
| Positive Dwelling Attributes | 1 | -1.628* | 0.157 | 0.283 | 0.465 | 0.686 |
| | | (0.984) | (0.756) | (0.663) | (0.494) | (0.418) |
| | 2 | -2.543 | -1.844* | -0.592 | -0.432 | -0.323 |
| | | (1.926) | (1.087) | (1.037) | (0.987) | (0.794) |
| | 3 | -2.550 | -3.164* | -1.718* | -1.045 | -0.916 |
| | | (3.440) | (1.818) | (1.018) | (1.019) | (1.149) |
| | 4 | -1.386 | -1.805 | -3.448* | -2.291* | -1.708 |
| | | (2.001) | (2.311) | (1.825) | (1.269) | (1.148) |
| Negative Dwelling Attributes | 1 | 4.312* | -0.306 | -1.245 | -0.963 | -0.837 |
| | | (2.292) | (1.747) | (1.568) | (1.133) | (0.943) |
| | 2 | 4.038 | 1.880 | 0.990 | -0.493 | -0.670 |
| | | (3.751) | (2.150) | (2.334) | (2.281) | (1.859) |
| | 3 | 4.041 | 6.219* | 2.585 | 2.183 | 0.891 |
| | | (6.316) | (3.752) | (2.082) | (2.235) | (2.523) |
| | 4 | 2.214 | 6.163 | 5.413 | 3.509 | 3.469 |
| | | (3.905) | (5.625) | (3.397) | (2.510) | (2.469) |
| Number of observations | | 528 | 1,076 | 1,615 | 2,145 | 2,718 |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

## Table A14. Effect of Double TUS on Household Outcomes, Short-Term 2015

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| Housing Tenure: Renter | 1 | 0.130 | 0.212 | 0.205* | 0.146 | 0.181 |
| | | (0.149) | (0.136) | (0.122) | (0.125) | (0.120) |
| | 2 | 0.380 | 0.123 | 0.141 | 0.253 | 0.188 |
| | | (0.344) | (0.289) | (0.213) | (0.194) | (0.165) |
| | 3 | 0.272 | 0.560 | 0.416 | 0.101 | 0.239 |
| | | (0.260) | (0.385) | (0.447) | (0.406) | (0.313) |
| | 4 | -0.228 | -0.018 | 0.194 | 0.470 | 0.301 |
| | | (0.430) | (0.288) | (0.298) | (0.393) | (0.441) |
| Conservation: Floods when Rains | 1 | 0.452 | 0.339 | 0.148 | 0.149 | 0.242 |
| | | (0.278) | (0.227) | (0.204) | (0.202) | (0.200) |
| | 2 | 1.165 | 0.928 | 0.805* | 0.567 | 0.271 |
| | | (0.808) | (0.614) | (0.457) | (0.362) | (0.292) |
| | 3 | 0.728 | 0.939 | 1.224 | 1.432 | 1.376* |
| | | (0.649) | (0.801) | (1.056) | (1.096) | (0.828) |
| | 4 | 0.428 | 0.454 | 0.550 | 0.772 | 0.891 |
| | | (0.840) | (0.640) | (0.705) | (0.912) | (1.041) |
| Conservation: Serious Problem | 1 | 0.415 | 0.343 | 0.177 | 0.161 | 0.202 |
| | | (0.292) | (0.239) | (0.215) | (0.212) | (0.208) |
| | 2 | 1.088 | 0.889 | 0.766* | 0.555 | 0.356 |
| | | (0.789) | (0.619) | (0.462) | (0.374) | (0.311) |
| | 3 | 1.146 | 1.033 | 1.286 | 1.427 | 1.305* |
| | | (0.700) | (0.806) | (1.045) | (1.058) | (0.785) |
| | 4 | 1.479 | 1.386* | 1.106 | 1.176 | 1.210 |
| | | (0.993) | (0.764) | (0.771) | (0.963) | (1.097) |
| Dwelling: Overcrowding | 1 | 0.010 | -0.064 | -0.089 | -0.173 | -0.122 |
| | | (0.249) | (0.209) | (0.192) | (0.197) | (0.188) |
| | 2 | 0.462 | 0.370 | 0.155 | 0.132 | -0.016 |
| | | (0.619) | (0.495) | (0.369) | (0.315) | (0.270) |
| | 3 | 1.054 | 0.877 | 0.961 | 0.621 | 0.500 |
| | | (0.641) | (0.726) | (0.879) | (0.784) | (0.578) |
| | 4 | 2.314* | 1.528** | 1.213 | 1.292 | 1.210 |
| | | (1.285) | (0.748) | (0.755) | (0.958) | (1.043) |
| HH Type: Couple | 1 | -0.800** | -0.842** | -0.668** | -0.572** | -0.576** |
| | | (0.317) | (0.264) | (0.230) | (0.222) | (0.217) |
| | 2 | -1.624 | -1.190* | -1.237** | -1.114** | -0.860** |
| | | (1.002) | (0.714) | (0.549) | (0.447) | (0.349) |
| | 3 | -0.893 | -1.567 | -1.528 | -1.688 | -1.709* |
| | | (0.760) | (1.055) | (1.249) | (1.262) | (0.960) |
| | 4 | -1.519 | -0.911 | -1.248 | -1.160 | -1.124 |
| | | (1.241) | (0.792) | (0.932) | (1.108) | (1.209) |

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| Housing Tenure: Rent-Free Occupancy (1) | 1 | -0.204 | -0.304* | -0.222 | -0.129 | -0.162 |
| | | (0.179) | (0.165) | (0.146) | (0.149) | (0.144) |
| | 2 | -0.774 | -0.337 | -0.376 | -0.441* | -0.290 |
| | | (0.477) | (0.347) | (0.264) | (0.240) | (0.198) |
| | 3 | -0.370 | -0.944* | -0.720 | -0.497 | -0.615 |
| | | (0.305) | (0.517) | (0.575) | (0.506) | (0.412) |
| | 4 | 0.248 | 0.075 | -0.370 | -0.614 | -0.534 |
| | | (0.464) | (0.333) | (0.346) | (0.471) | (0.527) |
| Housing Tenure: Rent-free Occupancy (Except Through Employment) | 1 | -0.385* | -0.432** | -0.324** | -0.261 | -0.269* |
| | | (0.206) | (0.183) | (0.159) | (0.162) | (0.155) |
| | 2 | -1.130* | -0.670 | -0.637* | -0.623** | -0.473** |
| | | (0.651) | (0.442) | (0.327) | (0.286) | (0.229) |
| | 3 | -0.672 | -1.265* | -1.161 | -1.026 | -0.948* |
| | | (0.417) | (0.701) | (0.819) | (0.742) | (0.229) |
| | 4 | -0.070 | -0.201 | -0.652 | -0.950 | -1.058 |
| | | (0.480) | (0.374) | (0.463) | (0.671) | (0.804) |
| Dwelling: Running Water | 1 | -0.117 | -0.106 | -0.032 | -0.070 | -0.083 |
| | | (0.101) | (0.088) | (0.087) | (0.091) | (0.088) |
| | 2 | -0.412 | -0.272 | -0.300* | -0.175 | -0.120 |
| | | (0.270) | (0.194) | (0.158) | (0.119) | (0.101) |
| | 3 | 0.074 | -0.155 | -0.247 | -0.467 | -0.394 |
| | | (0.165) | (0.183) | (0.262) | (0.348) | (0.252) |
| | 4 | 0.117 | 0.167 | 0.031 | -0.060 | -0.204 |
| | | (0.158) | (0.144) | (0.155) | (0.209) | (0.258) |
| Durable Goods Index | 1 | 0.456 | 0.382 | 0.583* | 0.735** | 0.662* |
| | | (0.451) | (0.374) | (0.347) | (0.351) | (0.338) |
| | 2 | 1.398 | 1.117 | 0.533 | 0.362 | 0.574 |
| | | (1.167) | (0.916) | (0.663) | (0.555) | (0.485) |
| | 3 | 2.549** | 2.403 | 2.475 | 1.923 | 1.030 |
| | | (1.247) | (1.458) | (1.806) | (1.540) | (1.025) |
| | 4 | 3.301* | 2.786** | 2.942** | 3.198 | 3.310 |
| | | (1.827) | (1.283) | (1.485) | (1.979) | (2.287) |
| Durable Goods: Water Heater | 1 | 0.032 | 0.019 | 0.157 | 0.330* | 0.362* |
| | | (0.256) | (0.216) | (0.195) | (0.197) | (0.192) |
| | 2 | 0.480 | 0.244 | -0.065 | -0.186 | -0.014 |
| | | (0.610) | (0.497) | (0.387) | (0.336) | (0.280) |
| | 3 | 1.359** | 1.292 | 1.161 | 0.896 | 0.151 |
| | | (0.680) | (0.803) | (0.924) | (0.812) | (0.571) |
| | 4 | 2.210* | 1.605** | 1.646** | 1.739 | 2.035 |
| | | (1.147) | (0.723) | (0.827) | (1.077) | (1.347) |

| | | | | | | |
|---|---|---|---|---|---|---|
| HH Type: Single Parent | 1 | 0.493* | 0.350 | 0.312 | 0.172 | 0.239 |
| | | (0.268) | (0.218) | (0.201) | (0.198) | (0.194) |
| | 2 | 0.918 | 0.964 | 0.707* | 0.736** | 0.418 |
| | | (0.699) | (0.589) | (0.416) | (0.356) | (0.285) |
| | 3 | 0.474 | 0.648 | 1.166 | 1.021 | 1.236* |
| | | (0.583) | (0.699) | (0.978) | (0.896) | (0.726) |
| | 4 | 1.687 | 0.881 | 0.717 | 0.919 | 0.645 |
| | | (1.130) | (0.649) | (0.687) | (0.888) | (0.918) |
| HH Type: Extended or Composite | 1 | 0.307 | 0.492** | 0.355* | 0.399** | 0.337* |
| | | (0.250) | (0.227) | (0.198) | (0.198) | (0.192) |
| | 2 | 0.705 | 0.226 | 0.530 | 0.378 | 0.441 |
| | | (0.687) | (0.484) | (0.399) | (0.322) | (0.284) |
| | 3 | 0.419 | 0.919 | 0.361 | 0.666 | 0.473 |
| | | (0.588) | (0.805) | (0.801) | (0.832) | (0.593) |
| | 4 | -0.168 | 0.030 | 0.530 | 0.241 | 0.478 |
| | | (0.718) | (0.565) | (0.677) | (0.768) | (0.902) |
| Food Insecurity: Adult | 1 | 0.584* | 0.417 | 0.327 | 0.296 | 0.332 |
| | | (0.319) | (0.255) | (0.229) | (0.225) | (0.221) |
| | 2 | -0.419 | 0.149 | 0.381 | 0.391 | 0.301 |
| | | (0.720) | (0.583) | (0.459) | (0.388) | (0.330) |
| | 3 | -0.356 | -0.818 | -0.743 | -0.302 | 0.111 |
| | | (0.701) | (0.890) | (1.030) | (0.898) | (0.681) |
| | 4 | -0.564 | -0.384 | -0.747 | -1.096 | -1.034 |
| | | (1.020) | (0.754) | (0.874) | (1.158) | (1.257) |
| Food Insecurity: Minor | 1 | 0.778** | 0.522** | 0.414* | 0.367* | 0.318 |
| | | (0.310) | (0.240) | (0.214) | (0.209) | (0.204) |
| | 2 | 0.043 | 0.631 | 0.739 | 0.657* | 0.582* |
| | | (0.649) | (0.577) | (0.451) | (0.374) | (0.317) |
| | 3 | 0.515 | -0.153 | 0.049 | 0.446 | 0.603 |
| | | (0.619) | (0.724) | (0.847) | (0.821) | (0.657) |
| | 4 | 0.988 | 0.776 | 0.274 | -0.077 | -0.080 |
| | | (0.876) | (0.660) | (0.687) | (0.849) | (0.948) |
| Number of Observations | | 302 | 367 | 443 | 492 | 562 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Durable Goods: Cable TV | 1 | 0.472* | 0.421* | 0.413** | 0.344* | 0.260 |
| | | (0.270) | (0.226) | (0.202) | (0.198) | (0.189) |
| | 2 | 0.770 | 0.657 | 0.552 | 0.569* | 0.562* |
| | | (0.663) | (0.534) | (0.399) | (0.345) | (0.295) |
| | 3 | 1.171* | 1.029 | 0.929 | 0.761 | 0.776 |
| | | (0.621) | (0.730) | (0.874) | (0.792) | (0.608) |
| | 4 | 1.579* | 1.229** | 1.188* | 1.203 | 0.870 |
| | | (0.874) | (0.603) | (0.673) | (0.871) | (0.923) |
| Durable Goods: Washing Machine | 1 | 0.359 | 0.251 | 0.289 | 0.312 | 0.348* |
| | | (0.280) | (0.233) | (0.215) | (0.213) | (0.209) |
| | 2 | 0.440 | 0.557 | 0.382 | 0.331 | 0.264 |
| | | (0.668) | (0.565) | (0.421) | (0.351) | (0.300) |
| | 3 | 1.243* | 0.938 | 0.970 | 0.787 | 0.720 |
| | | (0.753) | (0.810) | (0.980) | (0.886) | (0.666) |
| | 4 | 1.822 | 1.529* | 1.437 | 1.371 | 1.128 |
| | | (1.171) | (0.831) | (0.895) | (1.078) | (1.109) |
| Durable Goods: Cellphone | 1 | 0.116 | 0.122 | 0.115 | 0.074 | 0.051 |
| | | (0.174) | (0.141) | (0.125) | (0.119) | (0.116) |
| | 2 | 1.060* | 0.666 | 0.407 | 0.351 | 0.276 |
| | | (0.623) | (0.424) | (0.289) | (0.234) | (0.195) |
| | 3 | 1.051* | 1.334* | 1.317 | 1.082 | 0.794 |
| | | (0.591) | (0.772) | (0.898) | (0.766) | (0.511) |
| | 4 | 1.230 | 1.008* | 1.318* | 1.546 | 1.608 |
| | | (0.908) | (0.609) | (0.737) | (0.983) | (1.115) |
| Positive Dwelling Attributes | 1 | -0.204 | -0.253 | 0.393 | 0.486 | 0.410 |
| | | (0.591) | (0.499) | (0.473) | (0.469) | (0.457) |
| | 2 | -0.312 | -0.170 | -1.012 | -0.594 | -0.083 |
| | | (1.389) | (1.134) | (0.954) | (0.754) | (0.627) |
| | 3 | 2.278 | 1.751 | 1.552 | -0.237 | -0.882 |
| | | (1.389) | (1.510) | (1.851) | (1.700) | (1.383) |
| | 4 | 3.005 | 2.575* | 2.684* | 3.228 | 2.687 |
| | | (1.868) | (1.370) | (1.596) | (2.188) | (2.268) |
| Number of Observations | | 302 | 367 | 443 | 492 | 562 |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

## Table A15. Effect of Double TUS on Household Outcomes, Short-Term 2017

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| Roof: Poured Concrete, Not Protected | 1 | -0.257* | -0.105 | -0.072 | -0.088 | -0.049 |
| | | (0.153) | (0.136) | (0.129) | (0.125) | (0.106) |
| | 2 | -0.158 | -0.356 | -0.277 | -0.180 | -0.173 |
| | | (0.237) | (0.217) | (0.194) | (0.176) | (0.180) |
| | 3 | -0.267 | -0.076 | -0.298 | -0.384 | -0.272 |
| | | (0.336) | (0.315) | (0.284) | (0.261) | (0.209) |
| | 4 | -0.210 | -0.275 | -0.071 | -0.128 | -0.321 |
| | | (0.358) | (0.351) | (0.358) | (0.346) | (0.350) |
| Roof: Light Roof with No Ceiling | 1 | 0.354** | 0.158 | 0.092 | 0.067 | 0.094 |
| | | (0.178) | (0.171) | (0.171) | (0.166) | (0.149) |
| | 2 | 0.274 | 0.530** | 0.476** | 0.358* | 0.232 |
| | | (0.283) | (0.255) | (0.231) | (0.212) | (0.223) |
| | 3 | 0.079 | -0.001 | 0.232 | 0.421 | 0.474* |
| | | (0.372) | (0.392) | (0.324) | (0.291) | (0.251) |
| | 4 | 0.065 | 0.017 | 0.008 | 0.008 | 0.132 |
| | | (0.400) | (0.397) | (0.432) | (0.426) | (0.403) |
| Bathroom: With Flush | 1 | -0.007 | -0.024 | -0.004 | 0.090 | 0.101 |
| | | (0.123) | (0.125) | (0.130) | (0.126) | (0.108) |
| | 2 | 0.171 | 0.154 | 0.051 | -0.020 | -0.016 |
| | | (0.206) | (0.167) | (0.159) | (0.146) | (0.154) |
| | 3 | 0.124 | 0.292 | 0.343 | 0.252 | 0.086 |
| | | (0.220) | (0.234) | (0.229) | (0.194) | (0.165) |
| | 4 | 0.224 | 0.171 | 0.163 | 0.357 | 0.460* |
| | | (0.258) | (0.231) | (0.237) | (0.263) | (0.274) |
| Bathroom: No Bathroom | 1 | 0.007 | 0.024 | 0.004 | -0.090 | -0.101 |
| | | (0.123) | (0.125) | (0.130) | (0.126) | (0.108) |
| | 2 | -0.171 | -0.154 | -0.051 | 0.020 | 0.016 |
| | | (0.206) | (0.167) | (0.159) | (0.146) | (0.154) |
| | 3 | -0.124 | -0.292 | -0.343 | -0.252 | -0.086 |
| | | (0.220) | (0.234) | (0.229) | (0.194) | (0.165) |
| | 4 | -0.224 | -0.171 | -0.163 | -0.357 | -0.460* |
| | | (0.258) | (0.231) | (0.237) | (0.263) | (0.274) |
| Dwelling: Running Water | 1 | 0.120 | 0.136 | 0.088 | 0.069 | 0.076 |
| | | (0.134) | (0.135) | (0.131) | (0.124) | (0.110) |
| | 2 | 0.414** | 0.277 | 0.263* | 0.237 | 0.177 |
| | | (0.203) | (0.175) | (0.156) | (0.153) | (0.159) |
| | 3 | 0.195 | 0.537* | 0.432* | 0.386* | 0.344** |
| | | (0.193) | (0.278) | (0.228) | (0.198) | (0.166) |
| | 4 | 0.095 | 0.170 | 0.386 | 0.444* | 0.460* |
| | | (0.206) | (0.217) | (0.258) | (0.266) | (0.265) |
| | 1 | 0.118 | 0.180* | 0.178* | 0.159* | 0.142* |

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| Conservation: In Danger of Collapse | 1 | 0.129 | 0.059 | 0.031 | -0.003 | -0.088 |
| | | (0.151) | (0.142) | (0.143) | (0.136) | (0.122) |
| | 2 | -0.068 | 0.036 | 0.070 | 0.100 | 0.175 |
| | | (0.212) | (0.182) | (0.171) | (0.167) | (0.183) |
| | 3 | -0.348 | -0.275 | -0.089 | -0.033 | -0.004 |
| | | (0.261) | (0.248) | (0.225) | (0.206) | (0.183) |
| | 4 | -0.595* | -0.538* | -0.537* | -0.408 | -0.277 |
| | | (0.335) | (0.303) | (0.311) | (0.290) | (0.273) |
| Conservation: Exposed Wires | 1 | 0.121 | 0.273 | 0.317* | 0.361** | 0.308** |
| | | (0.179) | (0.178) | (0.177) | (0.169) | (0.152) |
| | 2 | 0.040 | -0.003 | 0.076 | 0.123 | 0.274 |
| | | (0.284) | (0.249) | (0.230) | (0.215) | (0.222) |
| | 3 | -0.134 | -0.065 | -0.134 | -0.132 | -0.084 |
| | | (0.368) | (0.378) | (0.335) | (0.298) | (0.255) |
| | 4 | 0.273 | 0.115 | 0.105 | 0.011 | -0.051 |
| | | (0.421) | (0.396) | (0.421) | (0.415) | (0.400) |
| Conservation: Serious Problem | 1 | 0.216 | 0.268 | 0.308* | 0.211 | 0.130 |
| | | (0.182) | (0.181) | (0.180) | (0.173) | (0.153) |
| | 2 | -0.021 | 0.098 | 0.157 | 0.304 | 0.368 |
| | | (0.273) | (0.241) | (0.224) | (0.219) | (0.231) |
| | 3 | -0.253 | -0.137 | -0.091 | -0.161 | 0.049 |
| | | (0.341) | (0.362) | (0.316) | (0.287) | (0.249) |
| | 4 | -0.073 | -0.160 | -0.100 | -0.041 | -0.287 |
| | | (0.351) | (0.359) | (0.396) | (0.393) | (0.404) |
| Durable Goods Index | 1 | 0.345 | 0.302 | 0.422 | 0.509** | 0.439* |
| | | (0.259) | (0.255) | (0.255) | (0.246) | (0.224) |
| | 2 | 0.305 | 0.408 | 0.239 | 0.271 | 0.453 |
| | | (0.436) | (0.394) | (0.321) | (0.299) | (0.325) |
| | 3 | 0.456 | 0.403 | 0.508 | 0.432 | 0.226 |
| | | (0.602) | (0.602) | (0.504) | (0.438) | (0.356) |
| | 4 | 0.786 | 0.735 | 0.530 | 0.576 | 0.756 |
| | | (0.668) | (0.658) | (0.649) | (0.620) | (0.632) |
| Durable Goods: Refrigerator | 1 | 0.043 | 0.109 | 0.218 | 0.311* | 0.285** |
| | | (0.169) | (0.163) | (0.165) | (0.161) | (0.139) |
| | 2 | -0.005 | -0.017 | -0.060 | -0.016 | 0.096 |
| | | (0.266) | (0.226) | (0.206) | (0.194) | (0.201) |
| | 3 | 0.020 | 0.008 | 0.067 | -0.071 | -0.128 |
| | | (0.320) | (0.328) | (0.299) | (0.258) | (0.222) |
| | 4 | 0.156 | 0.155 | 0.055 | 0.259 | 0.149 |
| | | (0.371) | (0.344) | (0.362) | (0.369) | (0.353) |
| | 1 | 0.116 | 0.211 | 0.286 | 0.322* | 0.305* |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | (0.105) | (0.106) | (0.098) | (0.091) | (0.081) |
| Dwelling: Electricity | 2 | 0.184 | 0.084 | 0.127 | 0.153 | 0.180 |
| | | (0.160) | (0.138) | (0.120) | (0.119) | (0.121) |
| | 3 | 0.242 | 0.245 | 0.142 | 0.116 | 0.119 |
| | | (0.178) | (0.206) | (0.175) | (0.156) | (0.133) |
| | 4 | 0.427* | 0.356* | 0.347 | 0.282 | 0.215 |
| | | (0.236) | (0.214) | (0.223) | (0.213) | (0.206) |
| Dwelling: Bed Sharing | 1 | 0.342* | 0.240 | 0.241 | 0.251 | 0.244 |
| | | (0.206) | (0.196) | (0.194) | (0.187) | (0.164) |
| | 2 | 0.234 | 0.360 | 0.278 | 0.252 | 0.324 |
| | | (0.324) | (0.281) | (0.255) | (0.239) | (0.248) |
| | 3 | 0.075 | 0.042 | 0.322 | 0.350 | 0.313 |
| | | (0.390) | (0.402) | (0.368) | (0.333) | (0.281) |
| | 4 | 0.155 | 0.107 | -0.162 | -0.030 | 0.234 |
| | | (0.408) | (0.394) | (0.427) | (0.428) | (0.430) |
| Positive Dwelling Attributes | 1 | 0.518 | 0.626 | 0.857 | 1.137** | 1.064** |
| | | (0.600) | (0.597) | (0.588) | (0.562) | (0.494) |
| | 2 | 1.025 | 0.824 | 0.520 | 0.504 | 0.790 |
| | | (0.990) | (0.862) | (0.762) | (0.712) | (0.737) |
| | 3 | 0.979 | 1.459 | 1.503 | 1.110 | 0.606 |
| | | (1.153) | (1.252) | (1.106) | (0.954) | (0.813) |
| | 4 | 1.921 | 1.667 | 1.490 | 1.957 | 2.054 |
| | | (1.350) | (1.255) | (1.330) | (1.318) | (1.322) |
| Number of observations | | 140 | 168 | 192 | 215 | 245 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | (0.194) | (0.187) | (0.188) | (0.183) | (0.164) |
| Durable Goods: Water Heater | 2 | 0.285 | 0.141 | 0.100 | 0.142 | 0.225 |
| | | (0.332) | (0.276) | (0.245) | (0.229) | (0.242) |
| | 3 | 0.320 | 0.393 | 0.314 | 0.243 | 0.153 |
| | | (0.442) | (0.449) | (0.375) | (0.327) | (0.272) |
| | 4 | 0.451 | 0.460 | 0.462 | 0.454 | 0.438 |
| | | (0.470) | (0.460) | (0.490) | (0.479) | (0.461) |
| Food Insecurity | 1 | -0.091 | -0.019 | 0.000 | 0.049 | 0.087 |
| | | (0.166) | (0.165) | (0.166) | (0.165) | (0.144) |
| | 2 | -0.497* | -0.341 | -0.216 | -0.156 | -0.106 |
| | | (0.289) | (0.236) | (0.211) | (0.200) | (0.210) |
| | 3 | -0.680* | -0.658 | -0.576* | -0.461 | -0.364 |
| | | (0.387) | (0.404) | (0.335) | (0.296) | (0.244) |
| | 4 | -0.829* | -0.695* | -0.707 | -0.721 | -0.658 |
| | | (0.420) | (0.382) | (0.446) | (0.445) | (0.426) |
| Food Insecurity: Adult | 1 | -0.166 | -0.143 | -0.151 | -0.120 | -0.059 |
| | | (0.173) | (0.168) | (0.168) | (0.167) | (0.147) |
| | 2 | -0.451 | -0.281 | -0.200 | -0.189 | -0.191 |
| | | (0.288) | (0.238) | (0.213) | (0.204) | (0.211) |
| | 3 | -0.477 | -0.559 | -0.449 | -0.349 | -0.278 |
| | | (0.377) | (0.403) | (0.333) | (0.297) | (0.244) |
| | 4 | -0.692* | -0.495 | -0.569 | -0.599 | -0.515 |
| | | (0.410) | (0.373) | (0.445) | (0.447) | (0.426) |
| Food Insecurity: Minor | 1 | 0.094 | 0.146 | 0.110 | 0.065 | -0.007 |
| | | (0.183) | (0.178) | (0.176) | (0.172) | (0.154) |
| | 2 | -0.158 | -0.076 | 0.040 | 0.063 | 0.120 |
| | | (0.280) | (0.238) | (0.218) | (0.205) | (0.220) |
| | 3 | -0.555 | -0.322 | -0.269 | -0.167 | -0.134 |
| | | (0.363) | (0.357) | (0.309) | (0.274) | (0.231) |
| | 4 | -0.463 | -0.634* | -0.532 | -0.624 | -0.520 |
| | | (0.318) | (0.355) | (0.396) | (0.410) | (0.389) |
| Number of observations | | 140 | 168 | 192 | 215 | 245 |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

## Table A16. Effect of Double TUS on Household Outcomes, Medium-Term 2013

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 |
| Roof: Poured Concrete, Not Protected | 1 | 0.295 | 0.629** | 0.362* | 0.200 | 0.232 |
| | | (0.293) | 0.255 | (0.255) | (0.167) | (0.146) |
| | 2 | 0.292 | 0.273 | 0.620** | 0.575** | 0.367 |
| | | (0.605) | 0.352 | (0.352) | (0.248) | (0.227) |
| | 3 | 0.221 | 0.156 | 0.310 | 0.526 | 0.656** |
| | | (0.598) | 0.361 | (0.361) | (0.342) | (0.295) |
| | 4 | -0.650 | 0.199 | 0.035 | 0.275 | 0.402 |
| | | (0.619) | 0.581 | (0.580) | (0.425) | (0.369) |
| Roof: Light Roof with Ceiling | 1 | -1.318** | -0.633** | -0.076 | -0.050 | -0.104 |
| | | (0.590) | 0.319 | (0.318) | (0.219) | (0.192) |
| | 2 | -1.677 | -1.405* | -0.954** | -0.442 | -0.209 |
| | | (1.540) | 0.740 | (0.740) | (0.303) | (0.291) |
| | 3 | -1.733 | -1.719* | -1.719* | -1.329** | -0.842** |
| | | (1.809) | 0.968 | (0.967) | (0.611) | (0.401) |
| | 4 | -1.363 | -1.653 | -1.612* | -1.764* | -1.534** |
| | | (1.304) | 1.593 | (1.592) | (1.067) | (0.778) |
| Roof: Light Roof with No Ceiling | 1 | 1.085* | 0.189 | -0.086 | -0.016 | -0.028 |
| | | (0.590) | 0.328 | (0.328) | (0.246) | (0.214) |
| | 2 | 1.388 | 1.302* | 0.505 | 0.144 | 0.061 |
| | | (1.467) | 0.772 | (0.771) | (0.326) | (0.322) |
| | 3 | 1.114 | 1.381 | 1.557 | 0.879 | 0.446 |
| | | (1.509) | 0.912 | (0.911) | (0.567) | (0.398) |
| | 4 | 1.837 | 1.316 | 1.385 | 1.581 | 1.099 |
| | | (1.602) | 1.488 | (1.487) | (1.062) | (0.714) |
| Roof: Waste Material | 1 | -0.110 | -0.203 | -0.136 | -0.077 | -0.055 |
| | | (0.182) | 0.128 | (0.127) | (0.089) | (0.077) |
| | 2 | -0.111 | -0.201 | -0.209 | -0.244* | -0.163 |
| | | (0.462) | 0.247 | (0.247) | (0.132) | (0.122) |
| | 3 | -0.216 | 0.057 | -0.264 | -0.172 | -0.286* |
| | | (0.561) | 0.275 | (0.275) | (0.201) | (0.166) |
| | 4 | -0.185 | -0.155 | 0.123 | -0.212 | -0.084 |
| | | (0.427) | 0.503 | (0.502) | (0.328) | (0.232) |
| Bathroom: No Bathroom | 1 | -0.167 | -0.290** | -0.202* | -0.103 | -0.130 |
| | | (0.149) | 0.144 | (0.144) | (0.109) | (0.096) |
| | 2 | -0.189 | -0.198 | -0.279* | -0.297** | -0.153 |
| | | (0.286) | 0.187 | (0.186) | (0.142) | (0.137) |
| | 3 | -0.667 | -0.139 | -0.197 | -0.252 | -0.387** |

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 |
| Conservation: Floods when Rains | 1 | 0.531 | 0.484 | 0.429* | 0.332 | 0.305 |
| | | (0.447) | 0.311 | (0.311) | (0.229) | (0.196) |
| | 2 | 1.105 | 0.619 | 0.404 | 0.421 | 0.388 |
| | | (1.233) | 0.560 | (0.560) | (0.305) | (0.302) |
| | 3 | 0.467 | 0.765 | 0.927 | 0.596 | 0.511 |
| | | (1.159) | 0.679 | (0.679) | (0.474) | (0.365) |
| | 4 | 0.901 | 0.597 | 0.572 | 0.770 | 0.614 |
| | | (1.152) | 1.083 | (1.082) | (0.737) | (0.560) |
| Conservation: In Danger of Collapse | 1 | -0.803** | -0.274 | -0.124 | -0.167 | -0.180 |
| | | (0.401) | 0.201 | (0.201) | (0.146) | (0.126) |
| | 2 | -1.323 | -0.884* | -0.494* | -0.212 | -0.190 |
| | | (1.227) | 0.517 | (0.516) | (0.199) | (0.196) |
| | 3 | -1.340 | -0.954 | -1.061 | -0.833** | -0.476* |
| | | (1.411) | 0.639 | (0.638) | (0.421) | (0.270) |
| | 4 | -0.931 | -1.246 | -0.885 | -1.020 | -0.914* |
| | | (0.970) | 1.249 | (1.248) | (0.706) | (0.525) |
| Conservation: Cracks in Floor | 1 | -0.034 | 0.198 | 0.389 | 0.557** | 0.365* |
| | | (0.460) | 0.324 | (0.324) | (0.264) | (0.220) |
| | 2 | -0.125 | -0.406 | 0.028 | 0.103 | 0.468 |
| | | (1.008) | 0.585 | (0.585) | (0.324) | (0.338) |
| | 3 | 0.738 | 0.367 | -0.375 | -0.120 | -0.094 |
| | | (1.339) | 0.663 | (0.663) | (0.480) | (0.379) |
| | 4 | 1.093 | 0.154 | 0.104 | -0.292 | -0.244 |
| | | (1.319) | 1.054 | (1.053) | (0.711) | (0.568) |
| Conservation: Uneven Floor | 1 | 0.133 | 0.524 | 0.436 | 0.625** | 0.414* |
| | | (0.464) | 0.341 | (0.341) | (0.266) | (0.221) |
| | 2 | -1.269 | -0.093 | 0.382 | 0.292 | 0.597* |
| | | (1.421) | 0.564 | (0.563) | (0.328) | (0.346) |
| | 3 | -1.276 | -0.376 | -0.357 | 0.170 | 0.182 |
| | | (1.592) | 0.671 | (0.671) | (0.479) | (0.378) |
| | 4 | -0.851 | -1.244 | -0.423 | -0.273 | -0.127 |
| | | (1.159) | 1.444 | (1.444) | (0.717) | (0.563) |
| Durable Goods Index | 1 | 0.770 | 1.083* | 0.875* | 0.923** | 0.847** |
| | | (0.804) | 0.603 | (0.602) | (0.448) | (0.385) |
| | 2 | 2.318 | 2.073* | 1.324* | 1.255** | 1.131* |
| | | (2.330) | 1.230 | (1.229) | (0.620) | (0.609) |
| | 3 | 2.177 | 0.543 | 2.197 | 1.149 | 1.360* |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | (0.610) | 0.178 | (0.178) | (0.175) | (0.167) |
| | 4 | -0.008 | -0.212 | -0.004 | -0.187 | -0.089 |
| | | (0.206) | 0.310 | (0.309) | (0.217) | (0.172) |
| Dwelling: Bed Sharing | 1 | -0.115 | -0.170 | -0.388 | -0.401 | -0.405* |
| | | (0.439) | 0.314 | (0.313) | (0.246) | (0.213) |
| | 2 | -0.469 | 0.162 | -0.075 | -0.270 | -0.174 |
| | | (0.984) | 0.548 | (0.548) | (0.315) | (0.310) |
| | 3 | -0.795 | -0.272 | 0.357 | 0.139 | -0.383 |
| | | (1.155) | 0.614 | (0.614) | (0.463) | (0.371) |
| | 4 | -0.552 | -0.779 | -0.308 | 0.257 | 0.648 |
| | | (0.920) | 1.084 | (1.083) | (0.697) | (0.615) |
| Dwelling: Overcrowding (continuous) | 1 | 1.283 | 1.279* | 0.627 | 0.030 | -0.016 |
| | | (1.078) | 0.777 | (0.776) | (0.533) | (0.463) |
| | 2 | 3.282 | 0.957 | 1.184 | 0.974 | 0.542 |
| | | (3.248) | 1.268 | (1.267) | (0.751) | (0.723) |
| | 3 | 2.911 | 1.935 | 2.019 | 1.902 | 1.554* |
| | | (3.409) | 1.601 | (1.601) | (1.226) | (0.930) |
| | 4 | 0.880 | 3.282 | 0.928 | 1.397 | 1.863 |
| | | (1.928) | 3.352 | (3.351) | (1.630) | (1.411) |
| HH Type: Couple | 1 | 0.671 | 1.046** | 0.459 | 0.498* | 0.413* |
| | | (0.500) | 0.407 | (0.406) | (0.259) | (0.220) |
| | 2 | 1.821 | 1.098 | 1.195** | 0.699* | 0.628* |
| | | (1.616) | 0.694 | (0.694) | (0.359) | (0.350) |
| | 3 | 1.409 | 0.651 | 1.180 | 1.422** | 1.103** |
| | | (1.535) | 0.683 | (0.682) | (0.669) | (0.475) |
| | 4 | 0.228 | 1.077 | 0.709 | 1.257 | 1.282* |
| | | (0.944) | 1.278 | (1.278) | (0.910) | (0.737) |
| HH Type: Single Parent | 1 | -0.364 | -0.969** | -0.600** | -0.599** | -0.557** |
| | | (0.443) | 0.390 | (0.389) | (0.260) | (0.221) |
| | 2 | -0.591 | -0.760 | -1.017** | -0.749** | -0.693** |
| | | (0.999) | 0.607 | (0.607) | (0.357) | (0.350) |
| | 3 | -0.650 | 0.056 | -0.619 | -1.054* | -0.970** |
| | | (1.100) | 0.576 | (0.576) | (0.580) | (0.446) |
| | 4 | 0.687 | -0.019 | 0.007 | -0.626 | -0.848 |
| | | (1.020) | 0.930 | (0.929) | (0.708) | (0.621) |
| Positive Dwelling Attributes | 1 | 1.895 | 2.158** | 1.817** | 1.699** | 1.596** |
| | | (1.247) | (0.929) | (0.756) | (0.672) | (0.574) |
| | 2 | 4.569 | 3.687* | 2.575** | 2.488** | 2.176** |
| | | (4.049) | (1.953) | (1.097) | (0.972) | (0.933) |
| | 3 | 4.483 | 1.863 | 3.999 | 2.506* | 2.784** |
| | | (4.421) | (1.700) | (2.525) | (1.406) | (1.168) |
| | 4 | -2.471 | 3.434 | 2.005 | 4.576* | 2.729 |
| | | (2.461) | 1.047 | (1.047) | (0.876) | (0.730) |
| | 4 | -1.194 | 1.396 | 0.765 | 2.579 | 1.370 |
| | | (1.747) | 1.927 | (1.927) | (1.695) | (1.057) |
| Durable Goods: Refrigerator | 1 | 0.182 | 0.255 | 0.339* | 0.339* | 0.383** |
| | | (0.283) | 0.222 | (0.221) | (0.178) | (0.156) |
| | 2 | 0.174 | 0.253 | 0.266 | 0.293 | 0.274 |
| | | (0.620) | 0.362 | (0.361) | (0.222) | (0.221) |
| | 3 | 0.315 | -0.013 | 0.189 | 0.236 | 0.292 |
| | | (0.725) | 0.396 | (0.396) | (0.309) | (0.252) |
| | 4 | -0.845 | 0.330 | 0.020 | 0.146 | 0.193 |
| | | (0.928) | 0.674 | (0.673) | (0.431) | (0.351) |
| Durable Goods: Water Heater | 1 | 0.845 | 0.634* | 0.615** | 0.535** | 0.449** |
| | | (0.517) | 0.347 | (0.346) | (0.259) | (0.220) |
| | 2 | 2.508 | 1.561* | 0.875** | 0.850** | 0.854** |
| | | (2.017) | 0.808 | (0.807) | (0.371) | (0.373) |
| | 3 | 2.164 | 1.284 | 1.675 | 0.958* | 0.851** |
| | | (1.980) | 0.815 | (0.814) | (0.553) | (0.425) |
| | 4 | 0.541 | 2.021 | 1.370* | 1.992* | 1.342* |
| | | (0.890) | 1.756 | (1.756) | (1.167) | (0.736) |
| Durable Goods: Washing Machine | 1 | 0.248 | 0.667* | 0.532* | 0.643** | 0.521** |
| | | (0.456) | 0.356 | (0.356) | (0.271) | (0.228) |
| | 2 | 0.628 | 0.866 | 0.758* | 0.644* | 0.685* |
| | | (1.094) | 0.643 | (0.642) | (0.353) | (0.358) |
| | 3 | 1.134 | -0.126 | 0.819 | 0.659 | 0.776* |
| | | (1.408) | 0.619 | (0.618) | (0.515) | (0.426) |
| | 4 | -1.328 | 0.409 | 0.036 | 0.936 | 0.503 |
| | | (1.399) | 1.062 | (1.061) | (0.819) | (0.577) |
| Food Insecurity | 1 | 1.069* | 0.411 | 0.143 | 0.220 | 0.182 |
| | | (0.601) | 0.342 | (0.341) | (0.250) | (0.216) |
| | 2 | 0.961 | 1.227 | 0.577 | 0.322 | 0.303 |
| | | (1.312) | 0.765 | (0.764) | (0.337) | (0.333) |
| | 3 | -0.400 | 1.104 | 1.621 | 0.853 | 0.491 |
| | | (1.163) | 0.849 | (0.848) | (0.575) | (0.408) |
| | 4 | 1.144 | 0.136 | 1.021 | 1.633 | 1.223 |
| | | (1.307) | 1.072 | (1.072) | (1.114) | (0.765) |
| Number of observations | | 710 | 1,435 | 2,102 | 2,807 | 3,536 |

| | | | | | |
|---|---|---|---|---|---|
| | (3.125) | (3.514) | (1.695) | (2.767) | (1.683) |
| Number of observations | 710 | 1,435 | 2,102 | 2,807 | 3,536 |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

## Table A17. Effect of Double TUS on Household Outcomes, Medium-Term 2015

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| Housing Tenure: Owner | 1 | 0.068 | 0.018 | 0.003 | 0.035 | -0.028 |
| | | (0.095) | (0.095) | (0.099) | (0.093) | (0.099) |
| | 2 | 0.118 | 0.144 | 0.103 | 0.060 | 0.111 |
| | | (0.107) | (0.105) | (0.101) | (0.107) | (0.099) |
| | 3 | 0.287 | 0.146 | 0.199 | 0.203* | 0.114 |
| | | (0.207) | (0.143) | (0.126) | (0.115) | (0.108) |
| | 4 | 0.118 | 0.323 | 0.183 | 0.184 | 0.240 |
| | | (0.215) | (0.279) | (0.213) | (0.188) | (0.159) |
| Conservation: Cracks in Floor | 1 | -0.278 | -0.310 | -0.312 | -0.382* | -0.397* |
| | | (0.224) | (0.227) | (0.224) | (0.213) | (0.223) |
| | 2 | 0.024 | -0.049 | -0.136 | -0.148 | -0.197 |
| | | (0.301) | (0.271) | (0.256) | (0.264) | (0.243) |
| | 3 | -0.085 | -0.077 | -0.005 | -0.038 | -0.015 |
| | | (0.472) | (0.398) | (0.344) | (0.297) | (0.298) |
| | 4 | 0.125 | 0.076 | -0.068 | -0.088 | -0.075 |
| | | (0.702) | (0.652) | (0.560) | (0.499) | (0.408) |
| Conservation: Uneven Floor | 1 | 0.309 | 0.031 | 0.008 | -0.026 | -0.073 |
| | | (0.213) | (0.212) | (0.206) | (0.197) | (0.205) |
| | 2 | 0.407 | 0.572** | 0.366 | 0.312 | 0.232 |
| | | (0.297) | (0.273) | (0.247) | (0.252) | (0.228) |
| | 3 | -0.148 | 0.080 | 0.508 | 0.493 | 0.525* |
| | | (0.464) | (0.386) | (0.352) | (0.299) | (0.303) |
| | 4 | 0.290 | -0.212 | -0.336 | 0.102 | 0.266 |
| | | (0.681) | (0.655) | (0.583) | (0.486) | (0.403) |
| Conservation: Medium Problem | 1 | 0.231* | 0.217* | 0.119 | 0.074 | 0.058 |
| | | (0.124) | (0.125) | (0.117) | (0.107) | (0.111) |
| | 2 | 0.093 | 0.152 | 0.293* | 0.293* | 0.247* |
| | | (0.182) | (0.170) | (0.166) | (0.169) | (0.148) |
| | 3 | -0.052 | -0.020 | -0.045 | 0.080 | 0.181 |
| | | (0.302) | (0.257) | (0.209) | (0.187) | (0.198) |
| | 4 | 0.118 | -0.007 | 0.042 | -0.093 | -0.013 |
| | | (0.518) | (0.441) | (0.383) | (0.318) | (0.260) |

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| Floor: Tiles, Parquet or Carpet | 1 | 0.151 | 0.248 | 0.297 | 0.371** | 0.367** |
| | | (0.178) | (0.179) | (0.180) | (0.174) | (0.179) |
| | 2 | 0.279 | 0.130 | 0.101 | 0.102 | 0.174 |
| | | (0.237) | (0.206) | (0.195) | (0.202) | (0.185) |
| | 3 | 0.524 | 0.457 | 0.347 | 0.241 | 0.136 |
| | | (0.396) | (0.326) | (0.267) | (0.225) | (0.225) |
| | 4 | 0.041 | 0.412 | 0.457 | 0.540 | 0.452 |
| | | (0.550) | (0.521) | (0.451) | (0.416) | (0.327) |
| Floor: Cement or Subfloor | 1 | -0.198 | -0.256 | -0.280 | -0.306* | -0.327* |
| | | (0.189) | (0.191) | (0.192) | (0.184) | (0.190) |
| | 2 | -0.336 | -0.193 | -0.155 | -0.178 | -0.183 |
| | | (0.250) | (0.219) | (0.207) | (0.216) | (0.195) |
| | 3 | -0.709 | -0.585* | -0.454 | -0.303 | -0.266 |
| | | (0.433) | (0.350) | (0.283) | (0.239) | (0.238) |
| | 4 | -0.458 | -0.707 | -0.647 | -0.717 | -0.546 |
| | | (0.585) | (0.594) | (0.495) | (0.458) | (0.346) |
| Bathroom: With Flush | 1 | 0.435** | 0.465 | 0.354* | 0.419 | 0.400 |
| | | (0.216) | (0.220) | (0.212)** | (0.201) | (0.208) |
| | 2 | 0.415 | 0.425 | 0.510 | 0.408 | 0.435 |
| | | (0.296) | (0.264) | (0.256) | (0.255) | (0.236) |
| | 3 | 0.232 | 0.361 | 0.331 | 0.514 | 0.422 |
| | | (0.446) | (0.385) | (0.327) | (0.297) | (0.293) |
| | 4 | -0.288 | -0.016 | 0.185 | 0.063 | 0.350 |
| | | (0.642) | (0.595) | (0.528) | (0.458) | (0.389) |
| Bathroom: No Flush | 1 | -0.394* | -0.394* | -0.251 | -0.321 | -0.349* |
| | | (0.212) | (0.214) | (0.209) | (0.197) | (0.207) |
| | 2 | -0.663** | -0.595** | -0.585** | -0.437* | -0.382* |
| | | (0.301) | (0.265) | (0.253) | (0.250) | (0.230) |
| | 3 | -0.301 | -0.559 | -0.602* | -0.733** | -0.645** |
| | | (0.419) | (0.374) | (0.329) | (0.301) | (0.298) |
| | 4 | -0.032 | -0.109 | -0.273 | -0.316 | -0.600 |
| | | (0.612) | (0.562) | (0.495) | (0.437) | (0.387) |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dwelling: Running Water | 1 | -0.174 | -0.199* | -0.207* | -0.163 | -0.237** | Bathroom: No Bathroom | 1 | -0.040 | -0.069 | -0.102 | -0.097 | -0.050 |
| | | (0.107) | (0.114) | (0.114) | (0.105) | (0.112) | | | (0.125) | (0.129) | (0.130) | (0.123) | (0.126) |
| | 2 | -0.156 | -0.128 | -0.133 | -0.197 | -0.121 | | 2 | 0.248* | 0.170 | 0.075 | 0.029 | -0.052 |
| | | (0.120) | (0.112) | (0.113) | (0.124) | (0.111) | | | (0.149) | (0.138) | (0.134) | (0.140) | (0.131) |
| | 3 | -0.227 | -0.213 | -0.191 | -0.113 | -0.215* | | 3 | 0.069 | 0.199 | 0.272 | 0.219 | 0.223 |
| | | (0.188) | (0.149) | (0.135) | (0.114) | (0.129) | | | (0.231) | (0.191) | (0.170) | (0.144) | (0.151) |
| | 4 | -0.036 | -0.135 | -0.157 | -0.248 | -0.119 | | 4 | 0.260 | 0.125 | 0.088 | 0.253 | 0.250 |
| | | (0.205) | (0.228) | (0.203) | (0.201) | (0.143) | | | (0.386) | (0.345) | (0.285) | (0.247) | (0.199) |
| Food Insecurity: Minor | 1 | -0.367* | -0.424** | -0.255 | -0.232 | -0.214 | Durable Goods: Computer | 1 | 0.112 | 0.108 | 0.169** | 0.121 | 0.120 |
| | | (0.208) | (0.206) | (0.206) | (0.195) | (0.203) | | | (0.073) | (0.072) | (0.081) | (0.076) | (0.076) |
| | 2 | -0.792** | -0.572** | -0.555** | -0.506* | -0.424* | | 2 | 0.104 | 0.111 | 0.071 | 0.137 | 0.128 |
| | | (0.341) | (0.274) | (0.255) | (0.258) | (0.230) | | | (0.070) | (0.068) | (0.073) | (0.084) | (0.079) |
| | 3 | -0.480 | -0.771* | -0.783* | -0.735** | -0.692** | | 3 | -0.013 | 0.038 | 0.105 | 0.018 | 0.070 |
| | | (0.520) | (0.465) | (0.399) | (0.334) | (0.328) | | | (0.065) | (0.063) | (0.069) | (0.061) | (0.078) |
| | 4 | -0.624 | -0.490 | -0.438 | -0.640 | -0.766 | | 4 | -0.088 | -0.085 | -0.023 | 0.143 | 0.055 |
| | | (0.848) | (0.730) | (0.619) | (0.576) | (0.489) | | | (0.123) | (0.099) | (0.082) | (0.109) | (0.080) |
| Number of Observations | | 294 | 339 | 404 | 454 | 508 | Number of Observations | | 294 | 339 | 404 | 454 | 508 |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

## Table A18. Effect of Double TUS on Household Outcomes, Long-Term 2013

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 |
| Roof: Poured Concrete, Protected | 1 | -0.127 | -0.045 | -0.051 | -0.026 | -0.010 |
| | | (0.081) | (0.043) | (0.044) | (0.035) | (0.033) |
| | 2 | -0.127 | -0.270 | -0.152 | -0.134* | -0.119* |
| | | (0.108) | (0.188) | (0.106) | (0.080) | (0.070) |
| | 3 | -0.143 | -0.106 | -0.213 | -0.197 | -0.184 |
| | | (0.121) | (0.095) | (0.168) | (0.152) | (0.135) |
| | 4 | 0.053 | -0.045 | -0.071 | -0.129 | -0.157 |
| | | (0.055) | (0.075) | (0.084) | (0.116) | (0.133) |
| Roof: Waste Material | 1 | -0.170 | -0.117* | -0.122* | -0.102* | -0.105* |
| | | (0.115) | (0.071) | (0.067) | (0.061) | (0.057) |
| | 2 | -0.270 | -0.358 | -0.221 | -0.191 | -0.162 |
| | | (0.173) | (0.266) | (0.152) | (0.120) | (0.105) |
| | 3 | -0.407 | -0.264 | -0.337 | -0.324 | -0.306 |
| | | (0.259) | (0.167) | (0.252) | (0.233) | (0.209) |
| | 4 | 0.015 | -0.278 | -0.256 | -0.294 | -0.330 |
| | | (0.172) | (0.209) | (0.181) | (0.209) | (0.233) |
| Floor: No Floor | 1 | 0.024 | -0.002 | 0.023 | 0.040 | 0.038 |
| | | (0.094) | (0.063) | (0.060) | (0.054) | (0.050) |
| | 2 | -0.194 | -0.032 | -0.019 | -0.019 | 0.001 |
| | | (0.141) | (0.189) | (0.119) | (0.097) | (0.086) |
| | 3 | -0.043 | -0.230* | -0.194 | -0.117 | -0.126 |
| | | (0.136) | (0.139) | (0.188) | (0.169) | (0.154) |
| | 4 | 0.110 | 0.082 | -0.059 | -0.148 | -0.112 |
| | | (0.096) | (0.119) | (0.116) | (0.143) | (0.156) |
| Durable Goods Index | 1 | 0.176 | 0.193 | 0.194 | 0.435* | 0.356 |
| | | (0.471) | (0.304) | (0.287) | (0.256) | (0.235) |
| | 2 | 1.332* | 1.178 | 0.608 | 0.050 | 0.262 |
| | | (0.778) | (1.062) | (0.628) | (0.490) | (0.441) |
| | 3 | 0.898 | 1.087 | 1.473 | 1.534 | 0.760 |
| | | (0.933) | (0.752) | (1.136) | (1.069) | (0.820) |
| | 4 | -0.127 | 0.609 | 0.875 | 1.131 | 1.591 |
| | | (0.728) | (0.846) | (0.777) | (0.929) | (1.089) |
| Durable Goods: Refrigerator | 1 | 0.159 | 0.028 | -0.002 | 0.044 | 0.058 |
| | | (0.232) | (0.148) | (0.139) | (0.125) | (0.115) |
| | 2 | 0.165 | 0.304 | 0.183 | 0.018 | 0.024 |
| | | (0.319) | (0.459) | (0.289) | (0.233) | (0.210) |
| | 3 | 0.238 | 0.223 | 0.305 | 0.358 | 0.185 |
| | | (0.442) | (0.333) | (0.464) | (0.435) | (0.369) |
| | 4 | 0.078 | 0.043 | 0.118 | 0.241 | 0.393 |
| | | (0.333) | (0.380) | (0.345) | (0.408) | (0.457) |

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 |
| Conservation: In Danger of Collapse | 1 | -0.278 | -0.203 | -0.101 | -0.153 | -0.195** |
| | | (0.206) | (0.129) | (0.120) | (0.107) | (0.098) |
| | 2 | -0.747** | -0.788 | -0.619** | -0.299 | -0.191 |
| | | (0.349) | (0.501) | (0.303) | (0.212) | (0.185) |
| | 3 | -0.598 | -0.614** | -0.688 | -0.943* | -0.796* |
| | | (0.389) | (0.310) | (0.462) | (0.506) | (0.418) |
| | 4 | -0.315 | -0.483 | -0.572* | -0.553 | -0.809* |
| | | (0.271) | (0.333) | (0.319) | (0.362) | (0.456) |
| Dwelling: Bed Sharing | 1 | 0.439 | 0.253 | 0.133 | -0.044 | -0.009 |
| | | (0.335) | (0.206) | (0.192) | (0.172) | (0.158) |
| | 2 | -0.074 | 0.445 | 0.533 | 0.614* | 0.362 |
| | | (0.451) | (0.642) | (0.432) | (0.359) | (0.302) |
| | 3 | 0.412 | -0.076 | -0.109 | 0.050 | 0.470 |
| | | (0.587) | (0.451) | (0.630) | (0.572) | (0.541) |
| | 4 | 0.549 | 0.520 | 0.169 | 0.083 | -0.030 |
| | | (0.463) | (0.539) | (0.472) | (0.544) | (0.582) |
| Dwelling: Overcrowding (dicothomous) | 1 | -0.318 | -0.380* | -0.444** | -0.337** | -0.321** |
| | | (0.322) | (0.204) | (0.193) | (0.169) | (0.154) |
| | 2 | -0.579 | -0.482 | -0.356 | -0.537 | -0.503 |
| | | (0.495) | (0.662) | (0.418) | (0.351) | (0.307) |
| | 3 | -0.193 | -0.345 | -0.495 | -0.280 | -0.478 |
| | | (0.608) | (0.474) | (0.671) | (0.592) | (0.555) |
| | 4 | 0.058 | -0.227 | -0.229 | -0.336 | -0.185 |
| | | (0.483) | (0.556) | (0.493) | (0.573) | (0.592) |
| Dwelling: Overcrowding (continuous) | 1 | -1.191 | -1.004** | -0.887** | -1.112** | -1.029** |
| | | (0.738) | (0.455) | (0.428) | (0.392) | (0.357) |
| | 2 | -1.061 | -1.424 | -1.255 | -0.865 | -1.082 |
| | | (1.002) | (1.442) | (0.937) | (0.739) | (0.672) |
| | 3 | -0.837 | -0.814 | -1.304 | -1.390 | -1.100 |
| | | (1.276) | (0.977) | (1.411) | (1.338) | (1.185) |
| | 4 | -0.153 | -0.631 | -0.350 | -0.952 | -1.162 |
| | | (1.000) | (1.142) | (1.015) | (1.205) | (1.301) |
| HH Type: Couple | 1 | 0.236 | 0.157 | 0.023 | 0.090 | 0.050 |
| | | (0.310) | (0.195) | (0.182) | (0.164) | (0.151) |
| | 2 | 0.458 | 0.624 | 0.531 | 0.170 | 0.183 |
| | | (0.452) | (0.656) | (0.416) | (0.317) | (0.284) |
| | 3 | 1.153 | 0.560 | 0.676 | 0.983 | 0.676 |
| | | (0.727) | (0.456) | (0.660) | (0.680) | (0.555) |
| | 4 | 1.047* | 1.257* | 0.818 | 0.593 | 0.851 |
| | | (0.583) | (0.701) | (0.522) | (0.558) | (0.647) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Durable Goods: Water Heater | 1 | 0.245 | 0.060 | 0.041 | 0.194 | 0.147 |
| | | (0.314) | (0.196) | (0.185) | (0.167) | (0.153) |
| | 2 | 1.235** | 1.394 | 0.665 | 0.146 | 0.225 |
| | | (0.601) | (0.884) | (0.441) | (0.322) | (0.290) |
| | 3 | 1.474* | 1.241** | 1.676* | 1.679* | 0.991 |
| | | (0.853) | (0.598) | (0.987) | (0.914) | (0.636) |
| | 4 | 0.763 | 1.273* | 1.334** | 1.483* | 1.892* |
| | | (0.527) | (0.722) | (0.658) | (0.800) | (0.995) |
| Durable Goods: Cable TV | 1 | 0.231 | 0.257 | 0.239 | 0.283* | 0.233* |
| | | (0.290) | (0.184) | (0.174) | (0.154) | (0.141) |
| | 2 | 0.417 | 0.311 | 0.311 | 0.196 | 0.294 |
| | | (0.418) | (0.567) | (0.375) | (0.297) | (0.268) |
| | 3 | 0.365 | 0.453 | 0.459 | 0.478 | 0.261 |
| | | (0.530) | (0.418) | (0.586) | (0.540) | (0.471) |
| | 4 | 0.337 | 0.300 | 0.384 | 0.389 | 0.531 |
| | | (0.419) | (0.475) | (0.433) | (0.499) | (0.546) |
| Durbale Goods: Landline | 1 | -0.111 | -0.100 | -0.042 | -0.007 | -2.589 |
| | | (0.165) | (0.107) | (0.100) | (0.088) | (0.083) |
| | 2 | 0.158 | 0.114 | -0.122 | -0.128 | -0.113 |
| | | (0.208) | (0.302) | (0.204) | (0.166) | (0.152) |
| | 3 | 0.024 | 0.091 | 0.305 | 0.106 | 0.021 |
| | | (0.230) | (0.192) | (0.320) | (0.268) | (0.244) |
| | 4 | -0.368* | -0.078 | -0.060 | 0.161 | 0.135 |
| | | (0.211) | (0.206) | (0.193) | (0.241) | (0.260) |
| Durable Goods: Cellphone | 1 | -0.244* | -0.107 | -0.063 | -0.052 | -0.071 |
| | | (0.141) | (0.082) | (0.075) | (0.067) | (0.061) |
| | 2 | -0.357 | -0.578 | -0.359* | -0.239 | -0.147 |
| | | (0.230) | (0.377) | (0.203) | (0.149) | (0.124) |
| | 3 | -0.242 | -0.239 | -0.470 | -0.509 | -0.499* |
| | | (0.289) | (0.219) | (0.348) | (0.332) | (0.295) |
| | 4 | -0.172 | -0.203 | -0.172 | -0.294 | -0.380 |
| | | (0.227) | (0.260) | (0.228) | (0.276) | (0.305) |
| Number of observations | | 816 | 1046 | 1254 | 1487 | 1679 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Positive Dwelling Attributes | 1 | 0.426 | 0.212 | 0.183 | 0.608 | 0.509 |
| | | (0.724) | (0.460) | (0.439) | (0.398) | (0.366) |
| | 2 | 2.333* | 2.364 | 1.067 | -0.024 | 0.332 |
| | | (1.221) | (1.716) | (0.939) | (0.730) | (0.660) |
| | 3 | 1.986 | 2.066* | 3.011 | 3.121* | 1.476 |
| | | (1.449) | (1.143) | (1.885) | (1.797) | (1.246) |
| | 4 | 0.366 | 1.407 | 1.682 | 2.223 | 3.392* |
| | | (0.926) | (1.195) | (1.128) | (1.422) | (1.876) |
| Negative Dwelling Attributes | 1 | -1.094 | -1.193 | -0.566 | -0.635 | -0.968 |
| | | (1.740) | (1.091) | (1.006) | (0.904) | (0.833) |
| | 2 | -4.833* | -3.081 | -2.778 | -1.345 | -0.693 |
| | | (2.923) | (3.655) | (2.337) | (1.807) | (1.584) |
| | 3 | -4.576 | -5.583* | -5.201 | -5.692 | -4.698 |
| | | (3.717) | (3.059) | (4.103) | (3.951) | (3.349) |
| | 4 | 0.800 | -1.581 | -3.947 | -4.099 | -5.383 |
| Number of observations | | 816 | 1046 | 1254 | 1487 | 1679 |

Source: Computations using MIDES data on TUS and AFAM-PE, and SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

**Table A19. Effect of Double TUS on Individual Outcomes, Short-Term 2013**

**Individual Outcomes**

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.01** | **0.02** | **0.03** | **0.04** | **0.05** |
| Formal Work: Short Term | 1 | 0.403 | 0.369 | 0.463* | 0.062 | 0.076 |
| | | (0.476) | (0.353) | (0.242) | (0.172) | (0.143) |
| | 2 | 0.179 | 0.673 | 0.236 | 0.386 | 0.218 |
| | | (0.476) | (0.585) | (0.378) | (0.266) | (0.211) |
| | 3 | 0.738 | 0.108 | 0.795 | 0.622* | 0.354 |
| | | (0.690) | (0.490) | (0.513) | (0.343) | (0.290) |
| | 4 | 0.738 | 0.108 | 0.162 | 0.292 | 0.597* |
| | | (0.690) | (0.490) | (0.526) | (0.430) | (0.344) |
| Number of observations | | 3,960 | 7,118 | 14,566 | 28,264 | 42,536 |

**Education Outcomes**

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.003** | **0.005** | **0.01** | **0.02** | **0.03** |
| Six to Eleven | 1 | 0.058 | 0.025 | 0.009 | -0.034 | -0.032* |
| | | (0.081) | (0.056) | (0.032) | (0.022) | (0.018) |
| | 2 | 0.115 | 0.079 | 0.039 | -0.010 | -0.020 |
| | | (0.083) | (0.099) | (0.061) | (0.037) | (0.027) |
| | 3 | 0.261 | 0.137 | 0.067 | 0.051 | -0.003 |
| | | (0.166) | (0.093) | (0.081) | (0.050) | (0.042) |
| | 4 | 0.261 | 0.137 | 0.087 | 0.070 | -0.036 |
| | | (0.166) | (0.093) | (0.092) | (0.071) | (0.051) |
| Twelve to Thirteen | 1 | 0.044 | -0.093 | -0.103 | -0.025 | 0.026 |
| | | (0.144) | (0.101) | (0.078) | (0.057) | (0.045) |
| | 2 | 0.114 | 0.083 | -0.126 | -0.080 | -0.070 |
| | | (0.142) | (0.190) | (0.101) | (0.081) | (0.069) |
| | 3 | 0.019 | 0.061 | -0.054 | -0.174* | -0.094 |
| | | (0.136) | (0.123) | (0.158) | (0.101) | (0.084) |
| | 4 | 0.019 | 0.061 | 0.129 | -0.051 | -0.168* |

| | | | | | |
|---|---|---|---|---|---|
| | (0.136) | (0.123) | (0.174) | (0.112) | (0.101) |
| Number of observations (Six to Eleven) | 837 | 1450 | 2954 | 5793 | 8692 |
| Number of observations (Twelve to Thirteen) | 285 | 522 | 1121 | 2155 | 3211 |

Source: Computations using SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

**Table A20. Effect of Double TUS on Individual Outcomes, Short-Term 2015**

**Individual Outcomes**

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.003** | **0.005** | **0.01** | **0.02** | **0.03** |
| Formal Work: Short Term | 1 | 0.527 | 0.227 | 0.341* | 0.220 | 0.074 |
| | | (0.328) | (0.264) | (0.189) | (0.134) | (0.107) |
| | 2 | 0.710 | 0.711* | 0.424 | 0.394* | 0.253 |
| | | (0.477) | (0.366) | (0.282) | (0.202) | -0.162 |
| | 3 | 0.483 | 0.544 | 0.327 | 0.441* | 0.546** |
| | | (0.712) | (0.492) | (0.361) | (0.258) | (0.217) |
| | 4 | 0.483 | 0.544 | 0.701* | 0.291 | 0.397 |
| | | (0.712) | (0.492) | (0.414) | (0.323) | (0.263) |
| Health Coverage: Short Term | 1 | 0.068** | 0.015 | 0.004 | -0.005 | -0.003 |
| | | (0.031) | (0.024) | (0.017) | (0.012) | (0.009) |
| | 2 | 0.124** | 0.089** | 0.023 | 0.001 | -0.004 |
| | | (0.050) | (0.035) | (0.026) | (0.018) | (0.014) |
| | 3 | 0.120 | 0.130** | 0.072** | 0.021 | 0.008 |
| | | (0.085) | (0.051) | (0.034) | (0.023) | (0.020) |
| | 4 | 0.120 | 0.130** | 0.097** | 0.048 | 0.019 |
| | | (0.085) | (0.051) | (0.041) | (0.030) | (0.024) |
| Number of Observations | | 1435 | 2567 | 5555 | 10870 | 16210 |

**Education Outcomes**

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.02** | **0.03** | **0.04** | **0.05** | **0.06** |
| Fourteen to Fifteen | 1 | 0.101 | 0.060 | 0.101* | 0.088* | 0.062 |
| | | (0.081) | (0.064) | (0.055) | (0.050) | (0.046) |
| | 2 | 0.022 | 0.103 | 0.053 | 0.087 | 0.111 |
| | | (0.134) | (0.109) | (0.091) | (0.077) | (0.069) |
| | 3 | 0.248 | 0.070 | 0.112 | 0.066 | 0.069 |
| | | (0.173) | (0.147) | (0.129) | (0.117) | (0.102) |
| | 4 | 0.233 | 0.213 | 0.096 | 0.137 | 0.092 |

| | | | | | |
|---|---|---|---|---|---|
| | (0.211) | (0.180) | (0.164) | (0.151) | (0.138) |
| Number of Observations | 464 | 706 | 954 | 1201 | 1418 |

Source: Computations using SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

**Table A21. Effect of Double TUS on Individual Outcomes, Short-Term 2017**

**Individual Outcomes**

| Outcomes | Polynomials | Bandwidths | | | | |
|---|---|---|---|---|---|---|
| | | **0.003** | **0.005** | **0.01** | **0.02** | **0.03** |
| Formal Work: Short Term | 1 | 0.390 | 0.216 | 0.109 | 0.120 | 0.054 |
| | | (0.246) | (0.189) | (0.129) | (0.084) | (0.067) |
| | 2 | 0.238 | 0.467* | 0.233 | 0.095 | 0.148 |
| | | (0.331) | (0.267) | (0.200) | (0.136) | (0.107) |
| | 3 | 1.091*** | 0.362 | 0.410 | 0.183 | 0.130 |
| | | (0.386) | (0.341) | (0.254) | (0.186) | (0.151) |
| | 4 | 1.091*** | 0.362 | 0.408 | 0.296 | 0.161 |
| | | (0.386) | (0.341) | (0.299) | (0.232) | (0.189) |
| Number of observations | | 1238 | 2363 | 5629 | 10723 | 15344 |

**Education Outcomes**

| Outcomes | Polynomials | Bandwidths | | | | |
|---|---|---|---|---|---|---|
| | | **0.003/0.02** | **0.005/0.03** | **0.01/0.04** | **0.02/0.05** | **0.030.06** |
| Younger than Six | 1 | -0.209** | -0.059 | -0.032 | 0.015 | 0.025 |
| | | (0.105) | (0.082) | (0.058) | (0.038) | (0.030) |
| | 2 | -0.067 | -0.140 | -0.065 | -0.060 | -0.018 |
| | | (0.132) | (0.115) | (0.084) | (0.060) | (0.048) |
| | 3 | 0.022 | -0.094 | -0.138 | -0.048 | -0.043 |
| | | (0.163) | (0.139) | (0.105) | (0.081) | (0.066) |
| | 4 | 0.022 | -0.094 | -0.032 | -0.069 | -0.089 |
| | | (0.163) | (0.139) | (0.121) | (0.098) | (0.082) |
| Twelve to Thirteen | 1 | -0.042 | -0.052 | -0.038 | -0.048* | -0.036 |
| | | (0.042) | (0.032) | (0.029) | (0.027) | (0.025) |
| | 2 | -0.134** | -0.044 | -0.063 | -0.044 | -0.057 |
| | | (0.067) | (0.054) | (0.045) | (0.039) | (0.035) |
| | 3 | -0.160 | -0.155** | -0.074 | -0.072 | -0.044 |
| | | (0.099) | (0.076) | (0.064) | (0.056) | (0.051) |
| | 4 | -0.228* | -0.19* | -0.1749** | -0.113 | -0.102 |

| | | | | | |
|---|---|---|---|---|---|
| | (0.129) | (0.102) | (0.086) | (0.072) | (0.066) |
| Number of observations (Younger than Six) | 308 | 593 | 1570 | 2937 | 4147 |
| Number of observations (Twelve to Thirteen) | 388 | 592 | 759 | 934 | 1137 |

**Infant Outcomes**

| **Outcomes** | **Polynomials** | **Bandwidths** | | | | |
|---|---|---|---|---|---|---|
| | | **0.06** | **0.07** | **0.08** | **0.09** | **0.1** |
| Late First Prenatal Appointment | 1 | -0.163 | -0.187 | -0.171 | -0.135 | -0.154 |
| | | (0.123) | (0.114) | (0.107) | (0.098) | (0.094) |
| | 2 | -0.244 | -0.179 | -0.199 | -0.230 | 0.192 |
| | | (0.182) | (0.170) | (0.159) | (0.152) | (0.145) |
| | 3 | -0.325 | -0.352 | -0.316 | -0.260 | -0.306 |
| | | (0.251) | (0.225) | (0.210) | (0.200) | (-0.26) |
| | 4 | -0.719** | -0.483 | -0.361 | -0.316 | -0.269 |
| | | (0.352) | (0.302) | (0.275) | (0.255) | (0.239) |
| Number of Observations | | 307 | 355 | 399 | 452 | 487 |

Source: Computations using SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented. Education Outcomes are computed using different bandwidths depending upon the age range, with the first bandwidths used in "Younger than Six" and the second used in "Sixteen to Seventeen."

**Table A22. Effect of Double TUS on Individual Outcomes, Medium-Term 2015**

**Individual Outcomes**

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.003** | **0.005** | **0.01** | **0.02** | **0.03** |
| Formal Work: Medium Term | 1 | 1.870** | 1.045 | 0.834* | 0.653* | 0.281 |
| | | (0.813) | (0.650) | (0.483) | (0.346) | (0.274) |
| | 2 | 2.693** | 2.311** | 1.581** | 0.910* | 0.795* |
| | | (1.177) | (0.901) | (0.732) | (0.518) | (0.419) |
| | 3 | 3.019* | 2.511** | 1.612* | 1.360** | 1.295** |
| | | (1.708) | (1.221) | (0.893) | (0.656) | (0.558) |
| | 4 | 3.019* | 2.511** | 2.372** | 1.543* | 1.145* |
| | | (1.708) | (1.221) | (1.038) | (0.813) | (0.661) |
| Number of Observations | | 1357 | 2428 | 5299 | 10371 | 15414 |

**Education Outcomes**

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.005/0.02** | **0.01/0.03** | **0.02/0.04** | **0.03/0.05** | **0.04/0.06** |
| Younger than Six | 1 | 0.113* | 0.011 | -0.005 | -0.002 | -0.021 |
| | | (0.063) | (0.044) | (0.030) | (0.024) | (0.021) |
| | 2 | 0.137 | 0.105 | 0.009 | -0.002 | 0.003 |
| | | (0.093) | (0.070) | (0.047) | (0.038) | (0.032) |
| | 3 | 0.290** | 0.175** | 0.075 | 0.015 | 0.007 |
| | | (0.119) | (0.083) | (0.062) | (0.053) | (0.045) |
| | 4 | 0.290** | 0.186* | 0.151* | 0.070 | 0.015 |
| | | (0.119) | (0.103) | (0.081) | (0.063) | (0.057) |
| Sixteen to Seventeen | 1 | 0.069 | 0.025 | -0.000 | -0.005 | -0.049 |
| | | (0.119) | (0.086) | (0.075) | (0.067) | (0.063) |
| | 2 | 0.186 | 0.085 | 0.050 | 0.020 | 0.053 |
| | | (0.180) | (0.154) | (0.126) | (0.104) | (0.093) |
| | 3 | 0.465** | 0.330* | 0.181 | 0.128 | 0.021 |
| | | (0.221) | (0.191) | (0.174) | (0.154) | (0.135) |
| | 4 | 0.401* | 0.287 | 0.333 | 0.235 | 0.224 |
| | | (0.241) | (0.219) | (0.219) | (0.199) | (0.188) |

| | | | | | |
|---|---|---|---|---|---|
| Number of Observations (Younger than Six) | 585 | 1322 | 2547 | 3753 | 5050 |
| Number of Observations (Sixteen to Seventeen) | 412 | 614 | 826 | 1038 | 1226 |

**Infant Outcomes**

| **Outcomes** | **Polynomial** | **Bandwidth** | | | | |
|---|---|---|---|---|---|---|
| | | **0.06** | **0.07** | **0.08** | **0.09** | **0.1** |
| Late First Prenatal Appointment | 1 | 0.067 | 0.056 | 0.076 | 0.081 | 0.072 |
| | | (0.054) | (0.052) | (0.051) | (0.051) | (0.050) |
| | 2 | 0.056 | 0.058 | 0.073 | 0.069 | 0.058 |
| | | (0.062) | (0.062) | (0.061) | (0.058) | (0.057) |
| | 3 | 0.084 | 0.099 | 0.111* | 0.111* | 0.075 |
| | | (0.069) | (0.068) | (0.065) | (0.065) | (0.064) |
| | 4 | 0.077 | 0.094 | 0.093 | 0.115 | 0.088 |
| | | (0.074) | (0.073) | (0.071) | (0.071) | (0.070) |
| Number of Observations | | 672 | 763 | 863 | 967 | 1053 |

Source: Computations using SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented. Education Outcomes are computed using different bandwidths depending upon the age range, with the first bandwidths used in "Younger than Six" and the second used in "Sixteen to Seventeen."

**Table A23. Effect of Double TUS on Individual Outcomes, Long-Term 2013**

**Individual Outcomes**

| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.01** | **0.02** | **0.03** | **0.04** | **0.05** |
| Health Coverage: Long Term | 1 | -0.04 | -0.01 | -0.05** | -0.02* | -0.02* |
| | | (0.038) | (0.030) | (0.020) | (0.014) | (0.011) |
| | 2 | -0.13** | -0.08** | -0.02 | -0.05** | -0.03* |
| | | (0.048) | (0.040) | (0.030) | (0.021) | (0.017) |
| | 3 | -0.21** | -0.11** | -0.06 | -0.03 | -0.05** |
| | | (0.078) | (0.052) | (0.042) | (0.029) | (0.023) |
| | 4 | -0.21** | -0.11** | -0.09** | -0.04 | -0.04 |
| | | (0.078) | (0.052) | (0.047) | (0.036) | (0.030) |
| Number of observations | | 3,308 | 5,953 | 12,236 | 24,012 | 35,965 |

**Infant Outcomes**

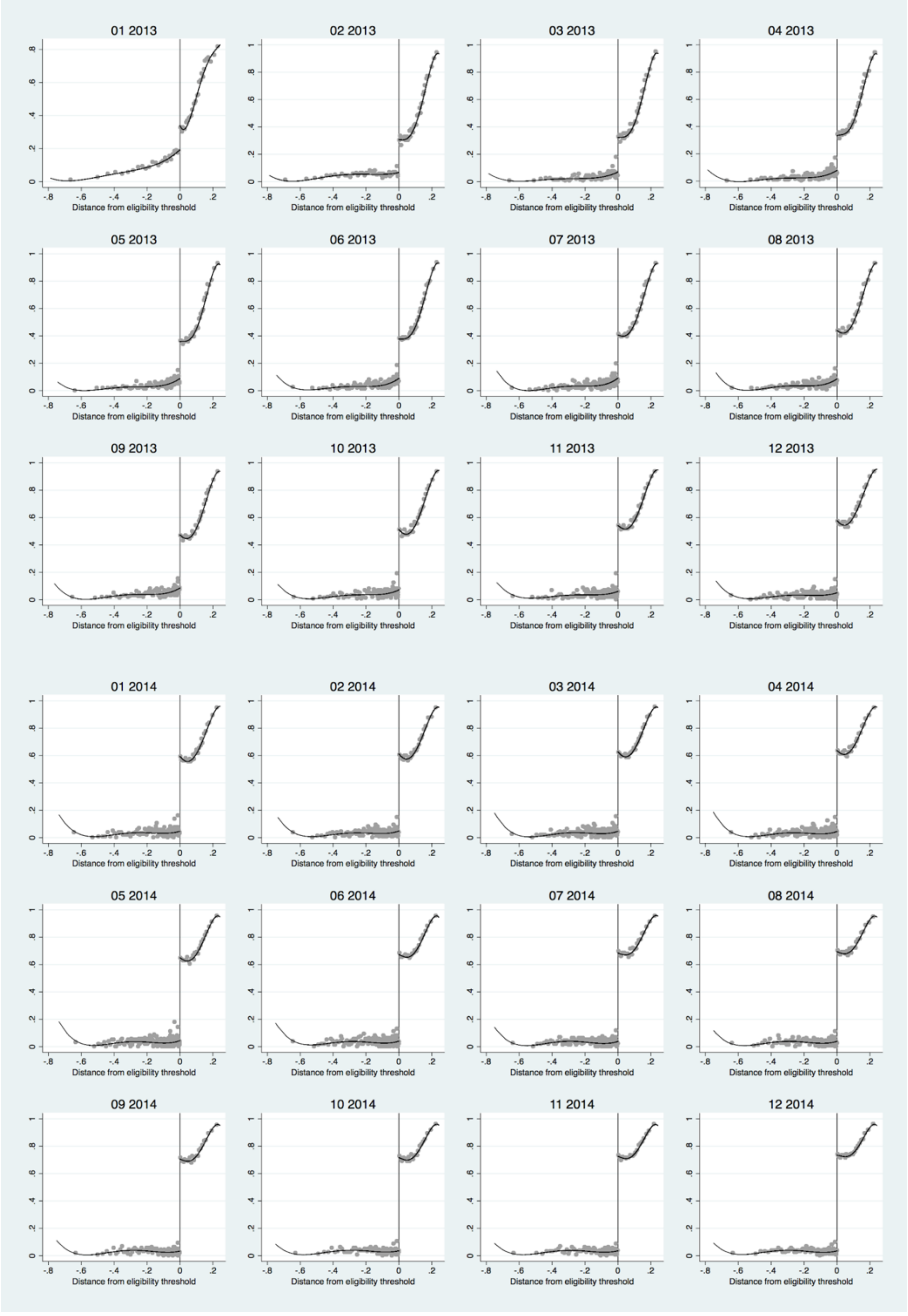
| Outcomes | Polynomial | Bandwidth | | | | |
|---|---|---|---|---|---|---|
| | | **0.06** | **0.07** | **0.08** | **0.09** | **0.1** |
| Birthweight | 1 | 0.044 | 0.082 | 0.095 | 0.073 | 0.063 |
| | | (0.085) | (0.078) | (0.075) | (0.072) | (0.070) |
| | 2 | 0.088 | 0.092 | 0.099 | 0.073 | 0.074 |
| | | (0.087) | (0.083) | (0.081) | (0.077) | (0.075) |
| | 3 | 0.069 | 0.078 | 0.097 | 0.080 | 0.083 |
| | | (0.090) | (0.086) | (0.084) | (0.082) | (0.080) |
| | 4 | 0.099 | 0.138 | 0.160* | 0.121 | 0.143 |
| | | (0.098) | (0.095) | (0.095) | (0.089) | (0.088) |
| Late First Prenatal Appointment | 1 | -0.10 | -0.08 | -0.10* | -0.09 | -0.09 |
| | | (0.071) | (0.067) | (0.064) | (0.062) | (0.060) |
| | 2 | -0.14* | -0.13* | -0.15** | -0.15** | -0.15** |
| | | (0.072) | (0.068) | (0.067) | (0.065) | (0.063) |
| | 3 | -0.15** | -0.14** | -0.16** | -0.17** | -0.16** |
| | | (0.075) | (0.073) | (0.071) | (0.070) | (0.068) |

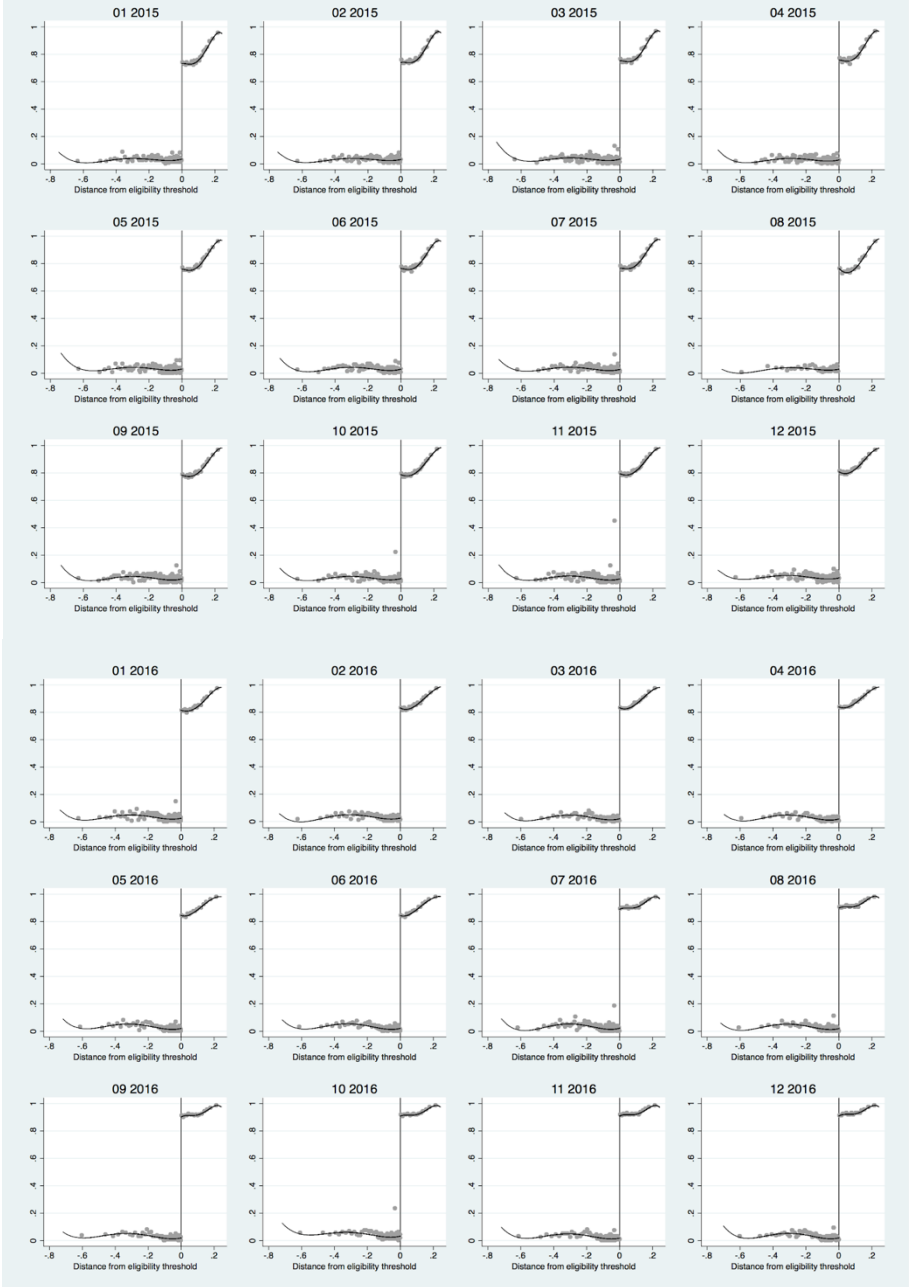
| | | | | | | |
|---|---|---|---|---|---|---|
| | 4 | -0.10 | -0.11 | -0.11 | -0.15** | -0.15** |
| | | (0.081) | (0.079) | (0.078) | (0.076) | (0.075) |
| Number of observations | | 783 | 938 | 1074 | 1190 | 1341 |

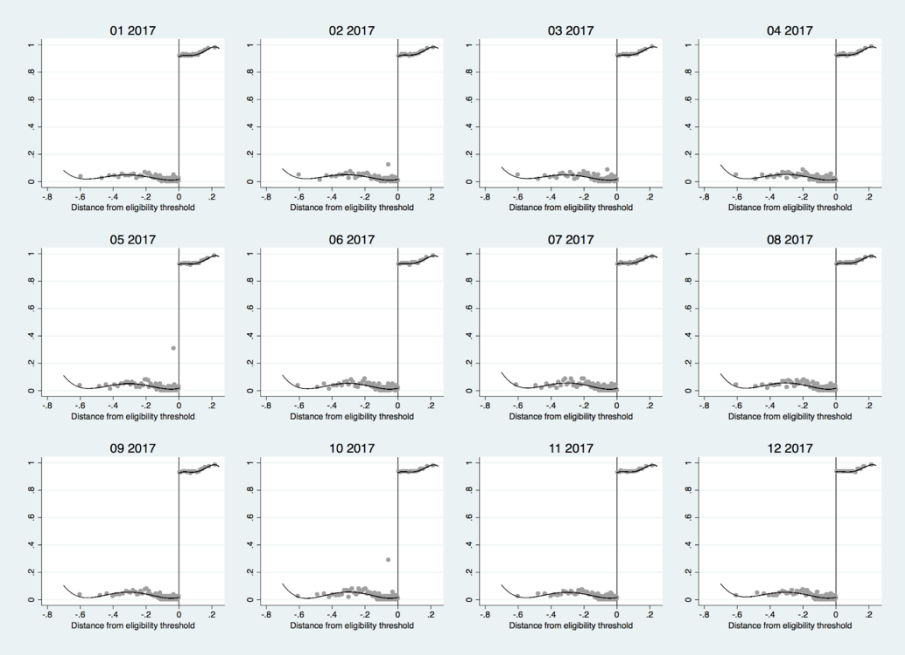
Source: Computations using SIIAS data (2013-2017).

Notes: Each row presents the results for the second stage of the Two-Stage Least Square regressions for estimating the effect of receiving the double TUS benefit. Coefficients with *** are significant at the 1%, with ** at the 5% level and with * at the 10%. Standard errors are in parentheses. Only outcomes with a significant effect in at least one specification are presented.

**Figure A1. Probability of Receiving Double TUS According to Distance from Eligibility Threshold by Month and Year, 2013-2017**



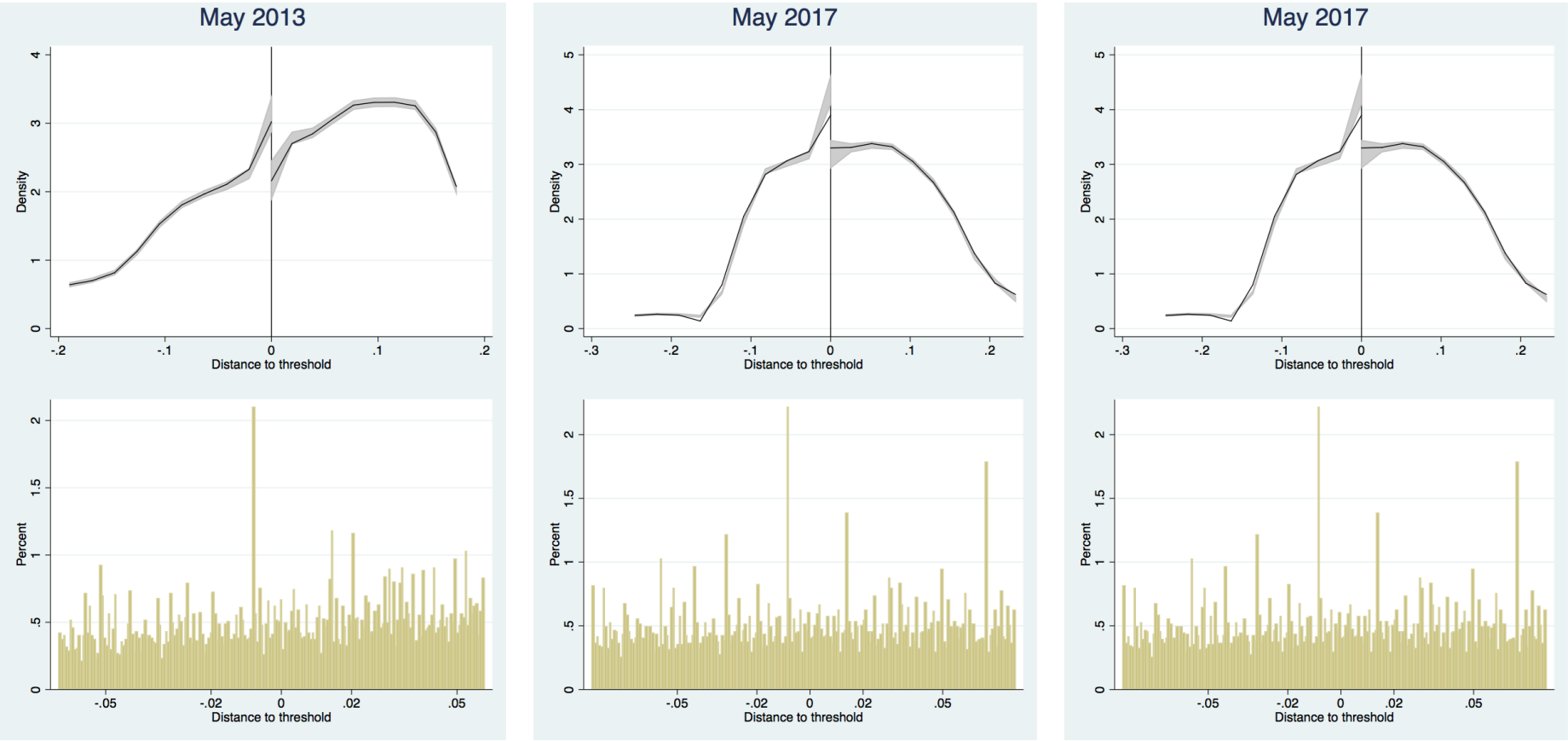

01 2015
02 2015
03 2015
04 2015
05 2015
06 2015
07 2015
08 2015
09 2015
10 2015
11 2015
12 2015
01 2016
02 2016
03 2016
04 2016
05 2016
06 2016
07 2016
08 2016
09 2016
10 2016
11 2016
12 2016
Distance from eligibility threshold




Source: Computations using MIDES data on TUS and AFAM-PE (2013-2017).

Notes: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of double TUS, which ranges from 0 to 1. The distance from the eligibility threshold is grouped into percentiles, with each point on the graph corresponding to the average of a dichotomous treatment variable. Computed using the *rdrobust* command (STATA).

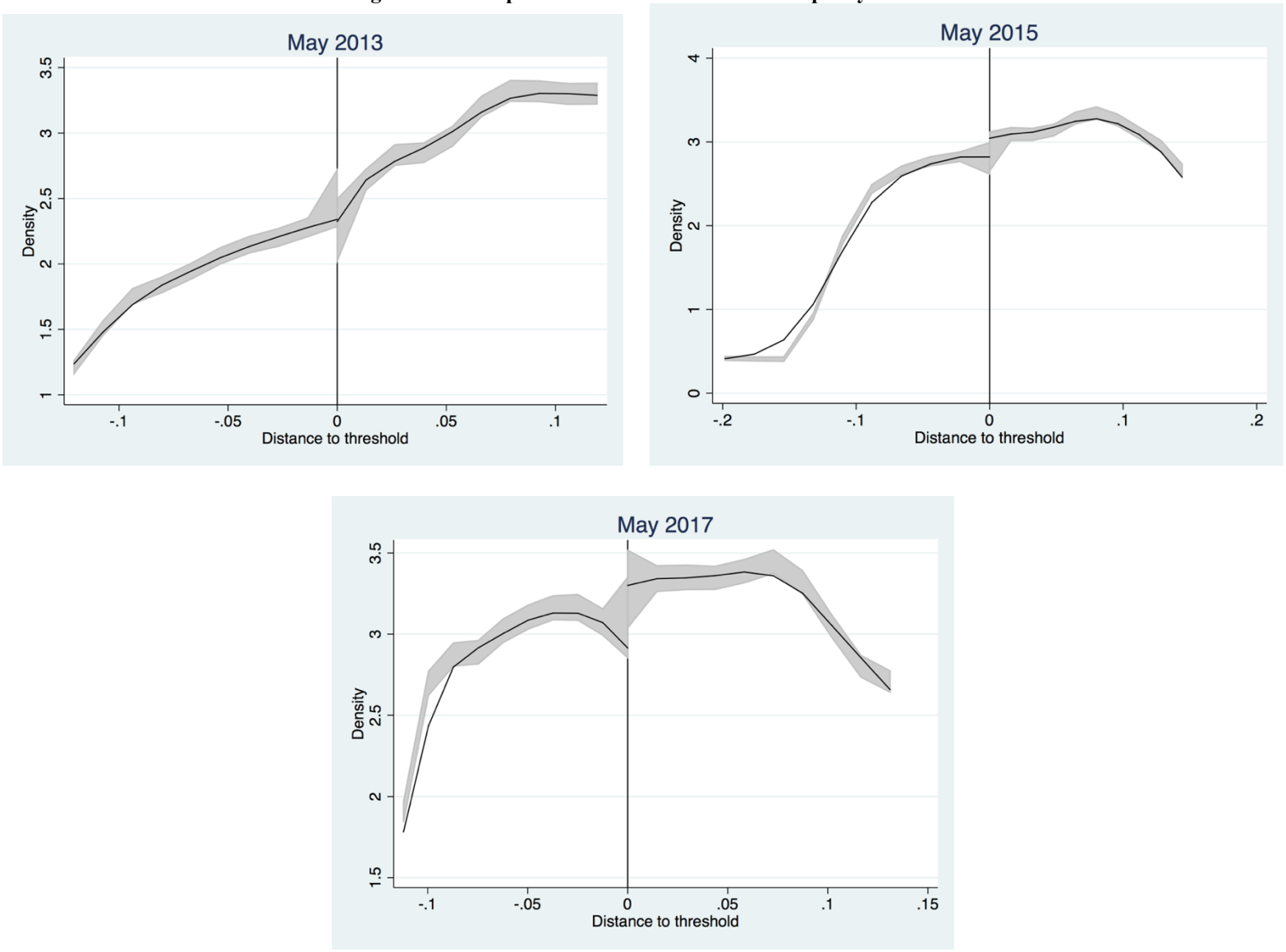
**Figure A2. Manipulation Test and Histogram at the Eligibility Threshold by Period**




Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Notes: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of double TUS, which ranges from 0 to 1. The y-axis corresponds to the density for each value of the distance to the threshold in side of the bandwidth. The top graph for each year presents the local polynomial density test computed using the Stata *rddensity* command developed by Cattaneo, Jansson and Ma (2018) using a third-degree polynomial. The bandwidths are computed using the "comb" bandwidth selection method. The bandwidths used are 0.063 to the left and 0.058 to the right of the cut-off in 2013, 0.065 to the left and 0.059 to the right in 2015 and 0.082 to the left and 0.077 to the right in 2017. The bottom graph for each year presents a histogram of distance to CNI using the same bandwidths as for the manipulability test. Each histogram is constructed using 200 bins.

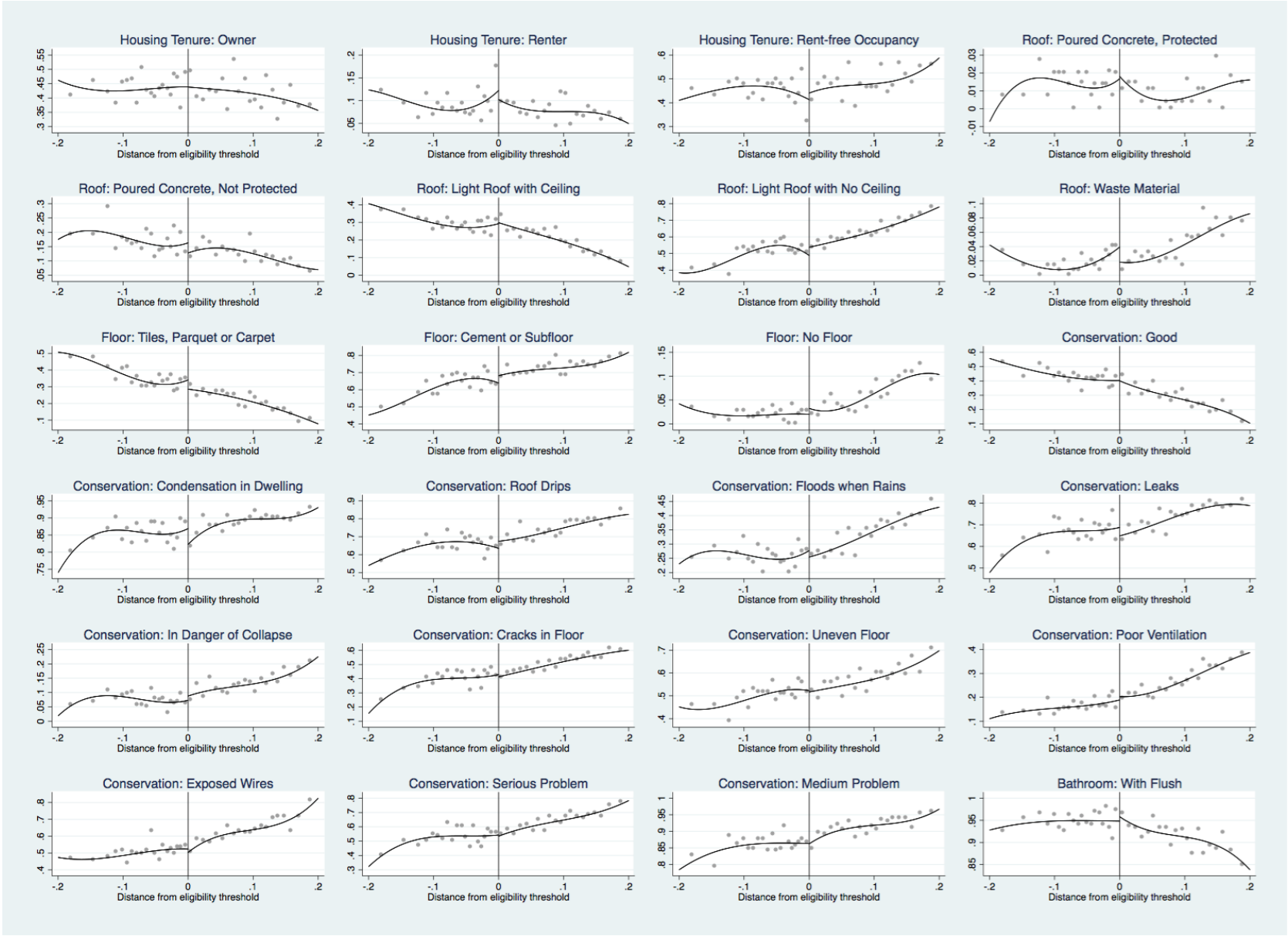
**Figure A3. Manipulation Test for Restricted Sample by Period**

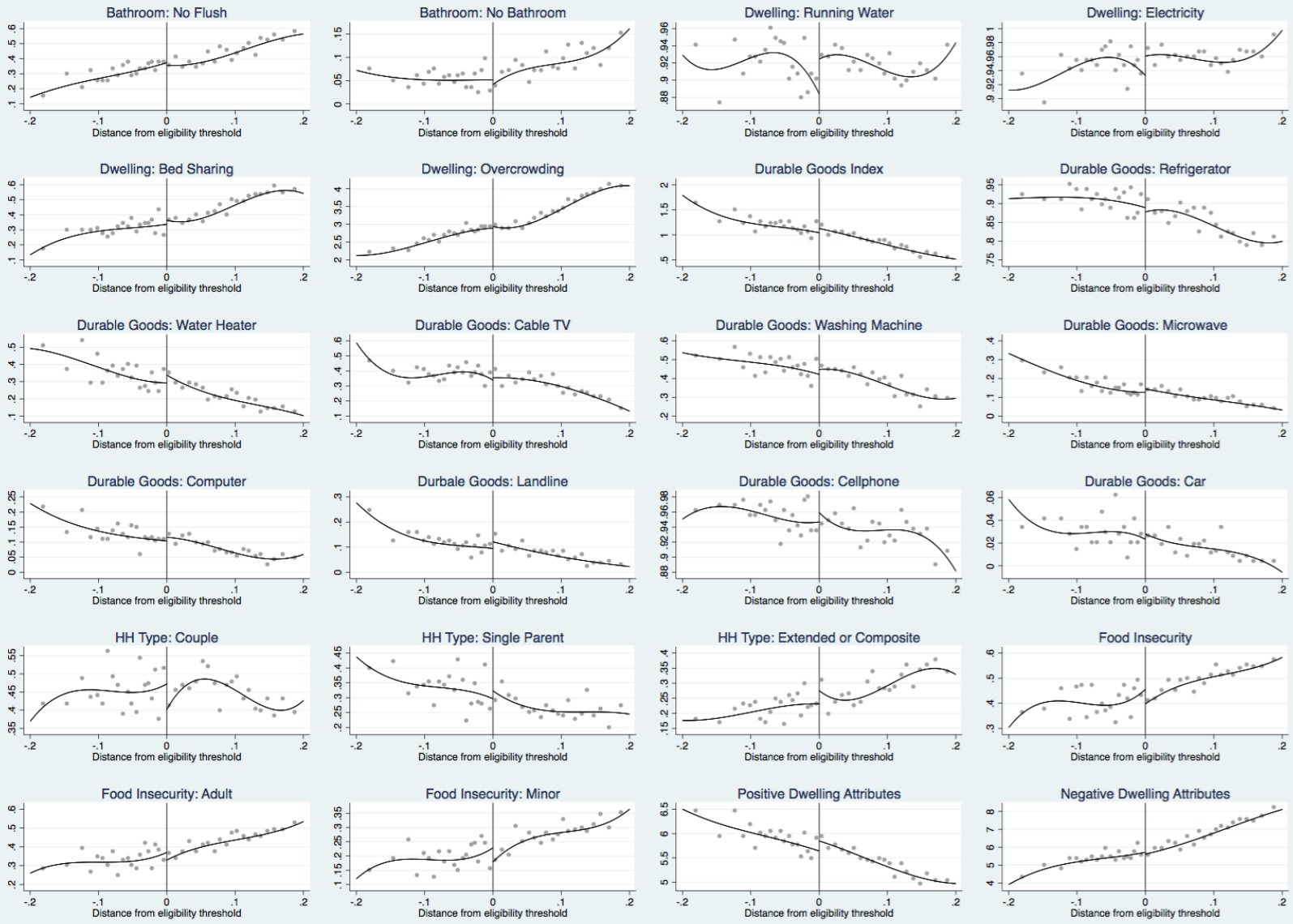


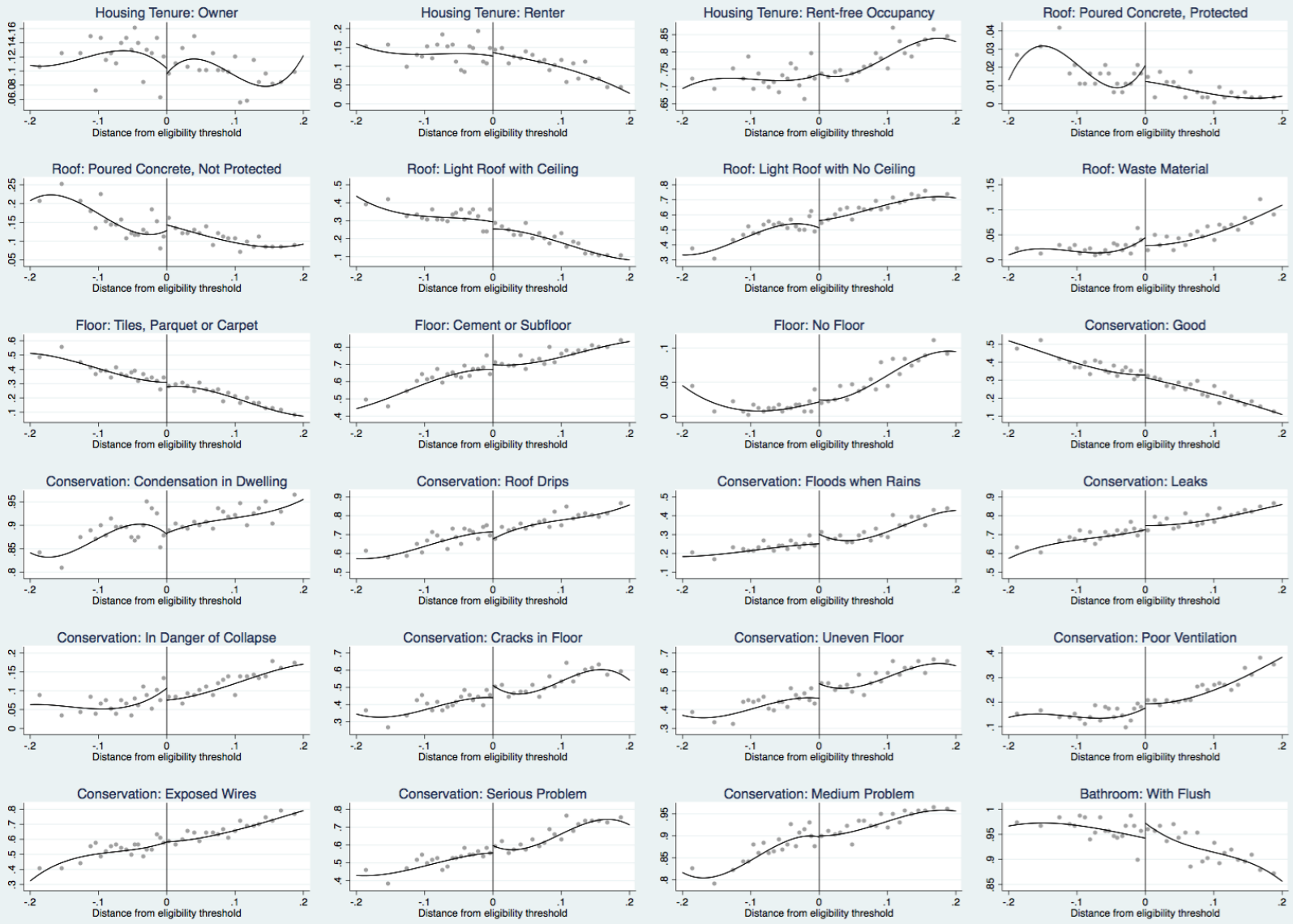

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

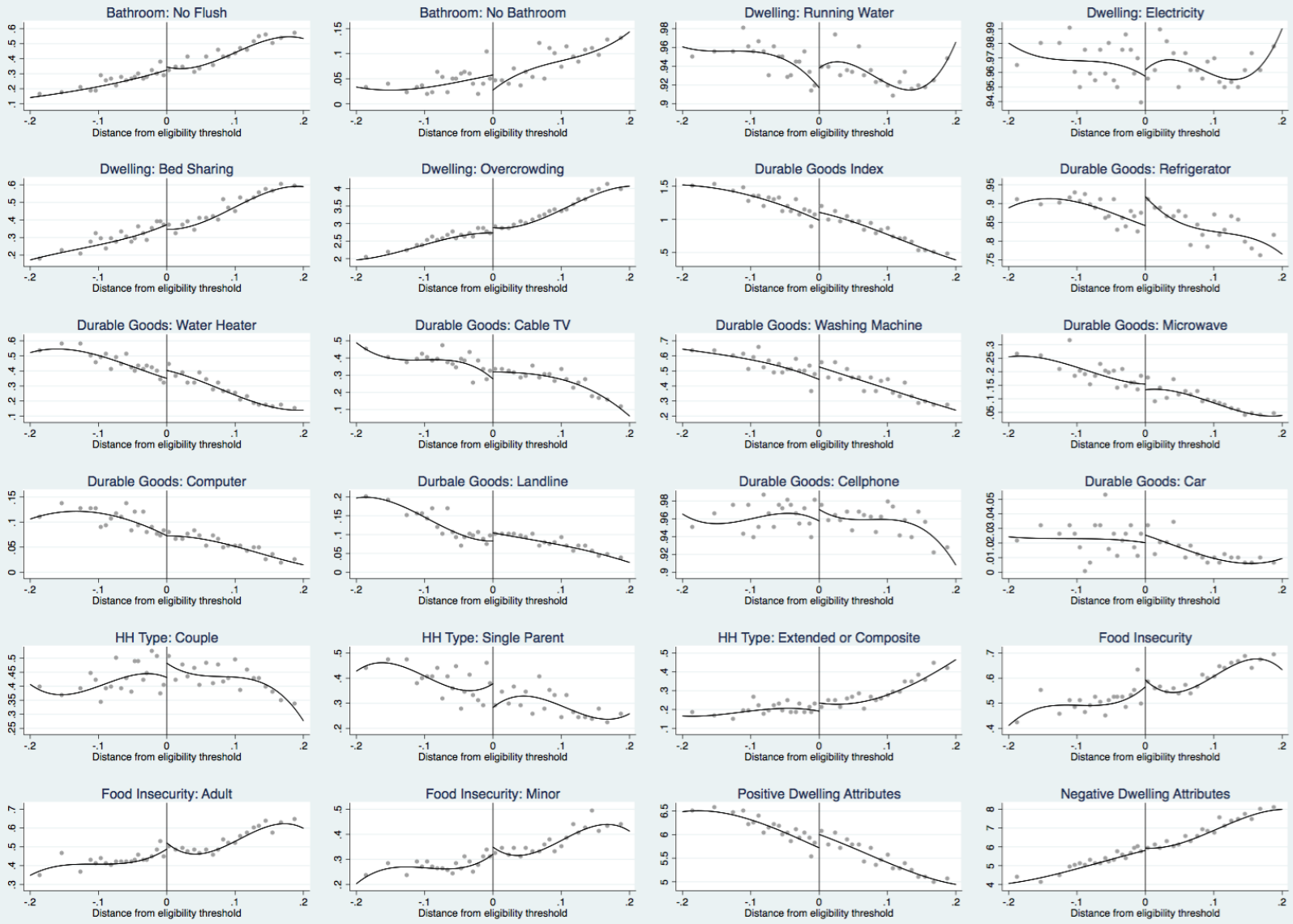
Notes: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of double TUS, which ranges from 0 to 1. The y-axis corresponds to the density for each values of the distance to the threshold inside of the bandwidth. Each graph corresponds to a local polynomial density test computed using the Stata *rddensity* command developed by Cattaneo, Jansson and Ma (2018) using a second order polynomial. The bandwidths are computed using the "comb" bandwidth selection method. The bandwidths are 0.04 on each side in 2013, 0.066 to the left and 0.048 to the right in 2015 and 0.037 to the left and 0.044 to the right in 2017. The shaded area is at the 95 % confidence interval of the robust estimation of the difference in density, it should be noted that it does not correspond the confidence interval of the plotted line.

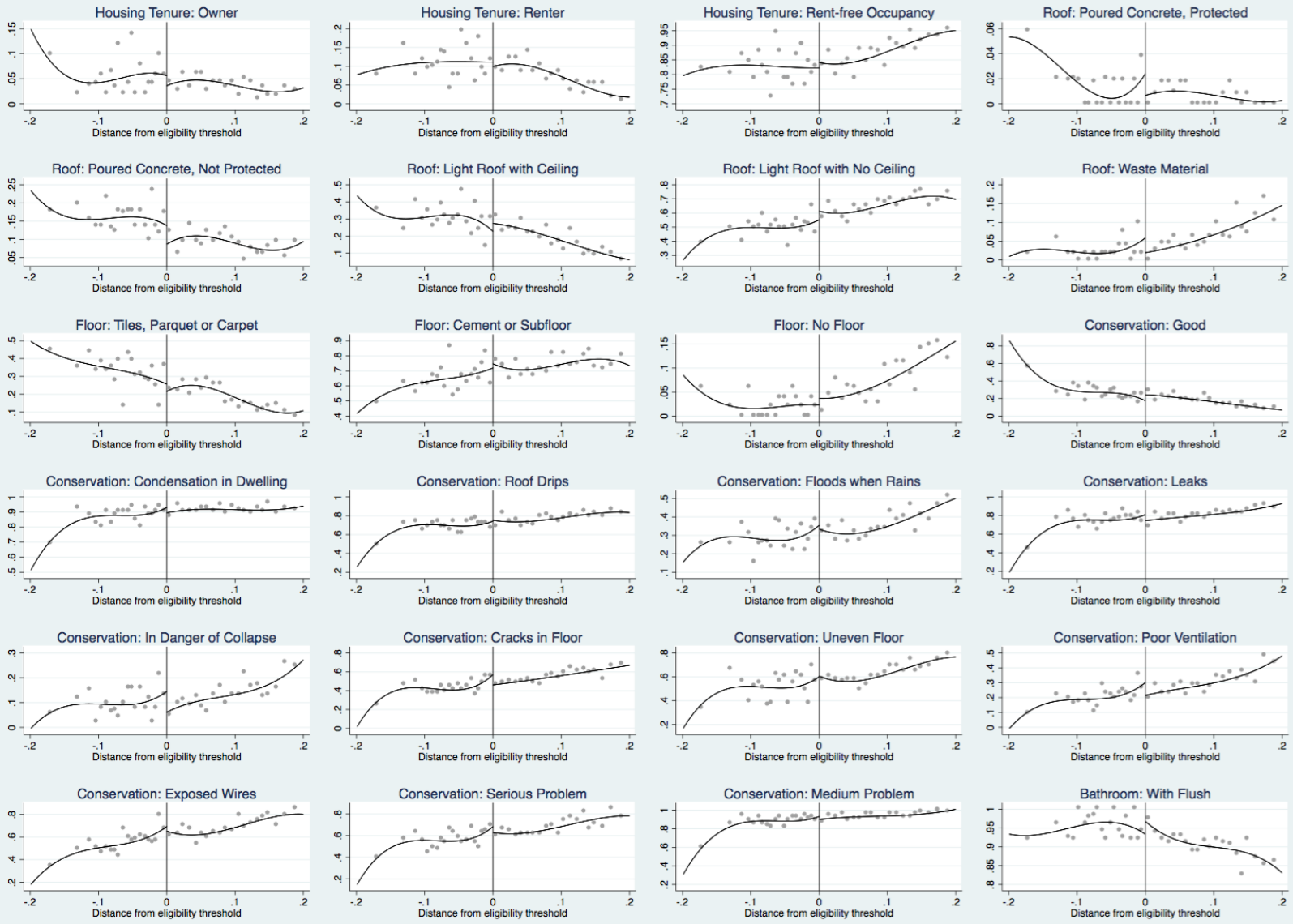
**Figure A4. Household Outcomes Plots by Distance to the Threshold for May 2013 (Short, Medium and Long-term)**

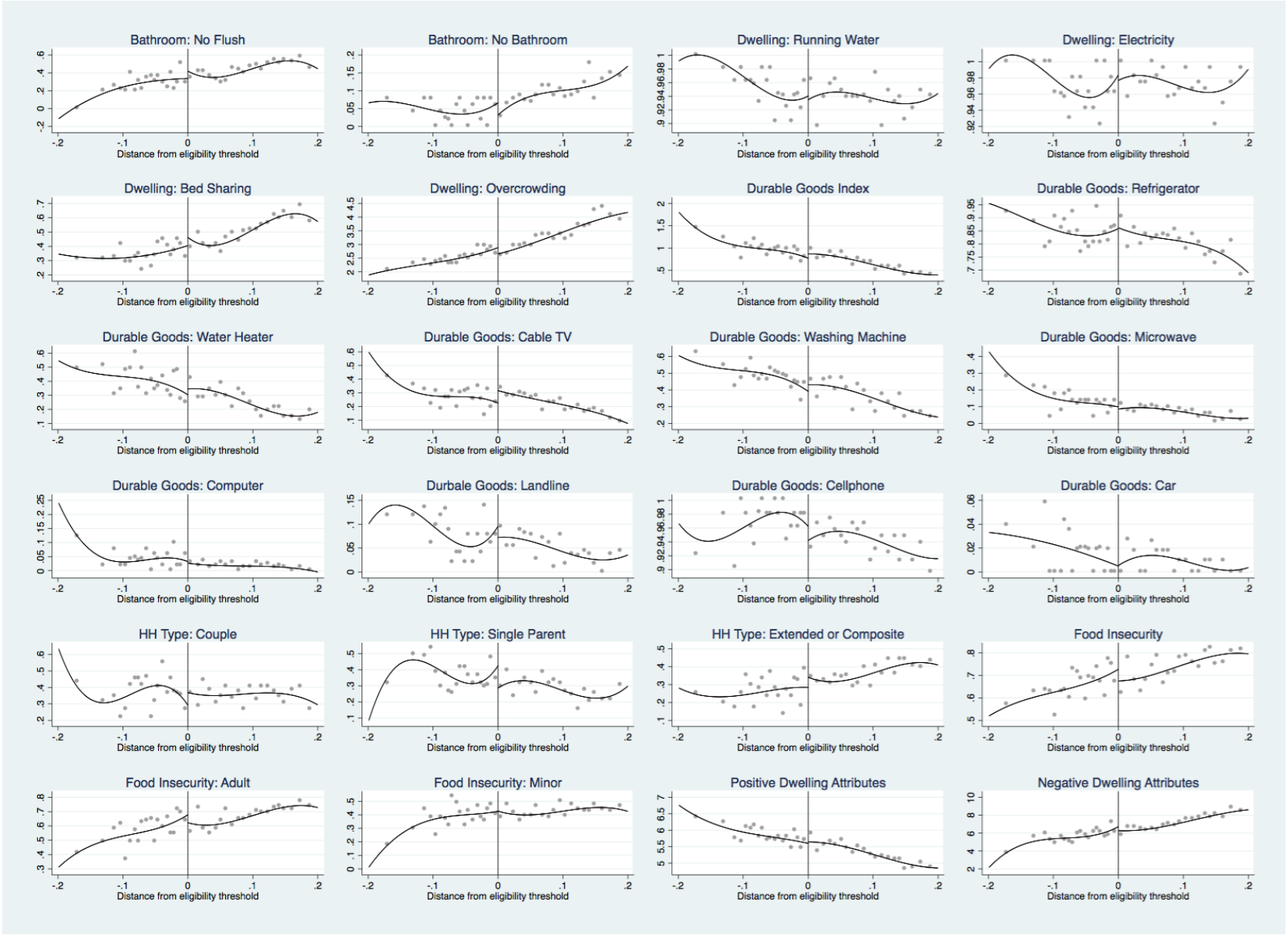



Bathroom: No Flush
Bathroom: No Bathroom
Dwelling: Running Water
Dwelling: Electricity
Dwelling: Bed Sharing
Dwelling: Overcrowding
Durable Goods Index
Durable Goods: Refrigerator
Durable Goods: Water Heater
Durable Goods: Cable TV
Durable Goods: Washing Machine
Durable Goods: Microwave
Durable Goods: Computer
Durbale Goods: Landline
Durable Goods: Cellphone
Durable Goods: Car
HH Type: Couple
HH Type: Single Parent
HH Type: Extended or Composite
Food Insecurity
Food Insecurity: Adult
Food Insecurity: Minor
Positive Dwelling Attributes
Negative Dwelling Attributes
Distance from eligibility threshold


Housing Tenure: Owner
Housing Tenure: Renter
Housing Tenure: Rent-free Occupancy
Roof: Poured Concrete, Protected
Roof: Poured Concrete, Not Protected
Roof: Light Roof with Ceiling
Roof: Light Roof with No Ceiling
Roof: Waste Material
Floor: Tiles, Parquet or Carpet
Floor: Cement or Subfloor
Floor: No Floor
Conservation: Good
Conservation: Condensation in Dwelling
Conservation: Roof Drips
Conservation: Floods when Rains
Conservation: Leaks
Conservation: In Danger of Collapse
Conservation: Cracks in Floor
Conservation: Uneven Floor
Conservation: Poor Ventilation
Conservation: Exposed Wires
Conservation: Serious Problem
Conservation: Medium Problem
Bathroom: With Flush
Distance from eligibility threshold


Bathroom: No Flush
Bathroom: No Bathroom
Dwelling: Running Water
Dwelling: Electricity
Dwelling: Bed Sharing
Dwelling: Overcrowding
Durable Goods Index
Durable Goods: Refrigerator
Durable Goods: Water Heater
Durable Goods: Cable TV
Durable Goods: Washing Machine
Durable Goods: Microwave
Durable Goods: Computer
Durbale Goods: Landline
Durable Goods: Cellphone
Durable Goods: Car
HH Type: Couple
HH Type: Single Parent
HH Type: Extended or Composite
Food Insecurity
Food Insecurity: Adult
Food Insecurity: Minor
Positive Dwelling Attributes
Negative Dwelling Attributes
Distance from eligibility threshold

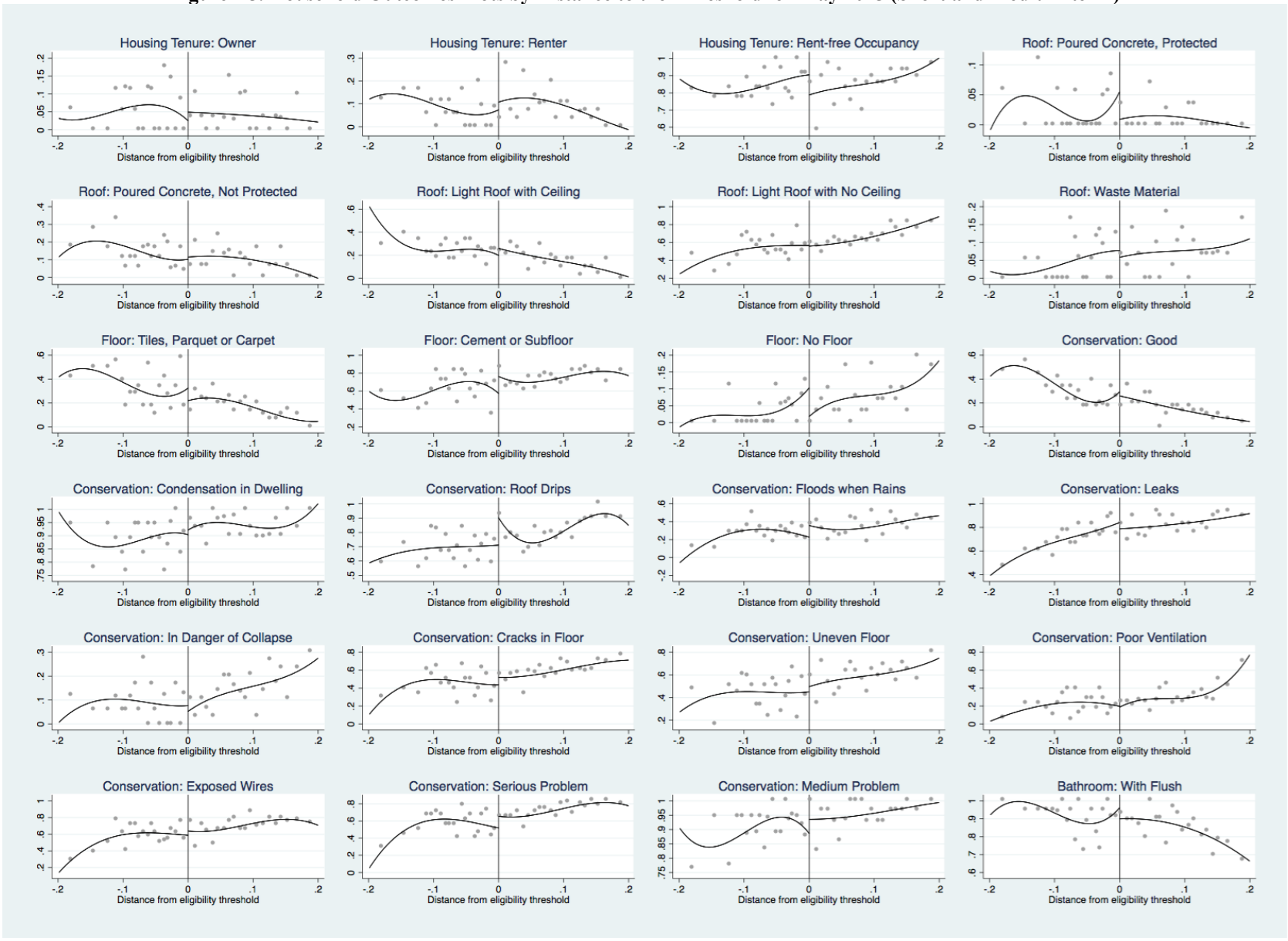

Housing Tenure: Owner
Housing Tenure: Renter
Housing Tenure: Rent-free Occupancy
Roof: Poured Concrete, Protected
Roof: Poured Concrete, Not Protected
Roof: Light Roof with Ceiling
Roof: Light Roof with No Ceiling
Roof: Waste Material
Floor: Tiles, Parquet or Carpet
Floor: Cement or Subfloor
Floor: No Floor
Conservation: Good
Conservation: Condensation in Dwelling
Conservation: Roof Drips
Conservation: Floods when Rains
Conservation: Leaks
Conservation: In Danger of Collapse
Conservation: Cracks in Floor
Conservation: Uneven Floor
Conservation: Poor Ventilation
Conservation: Exposed Wires
Conservation: Serious Problem
Conservation: Medium Problem
Bathroom: With Flush
Distance from eligibility threshold

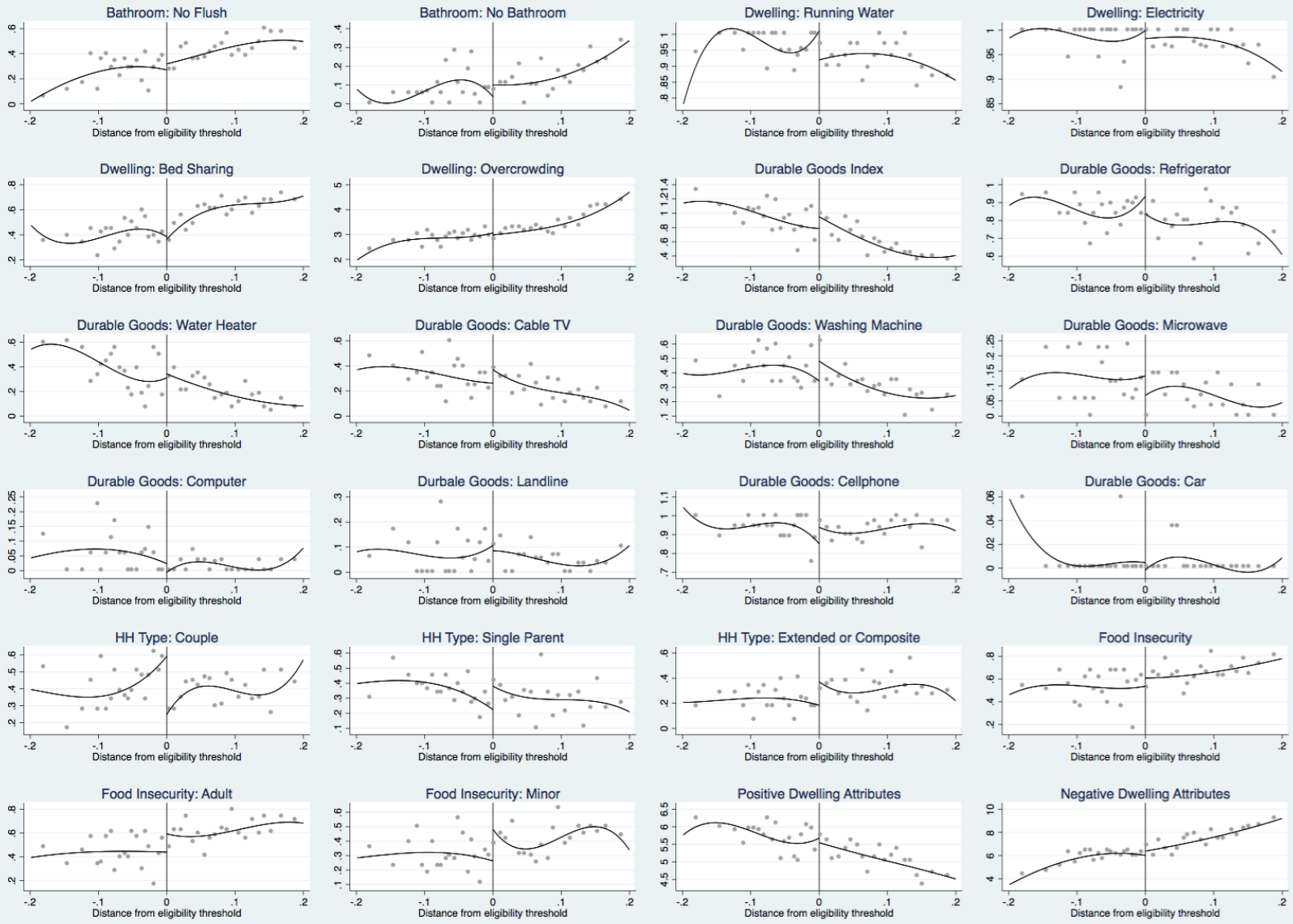


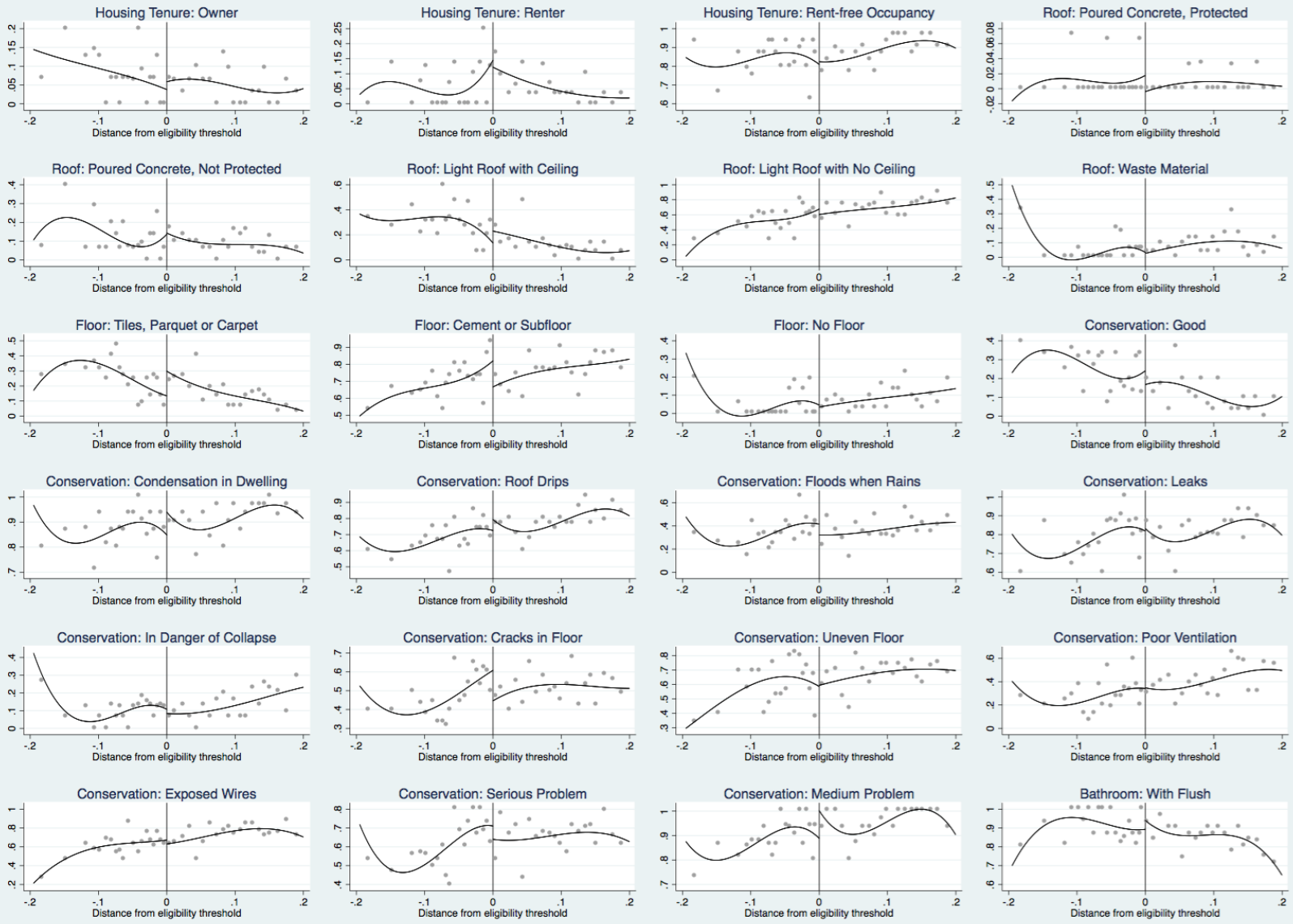

Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

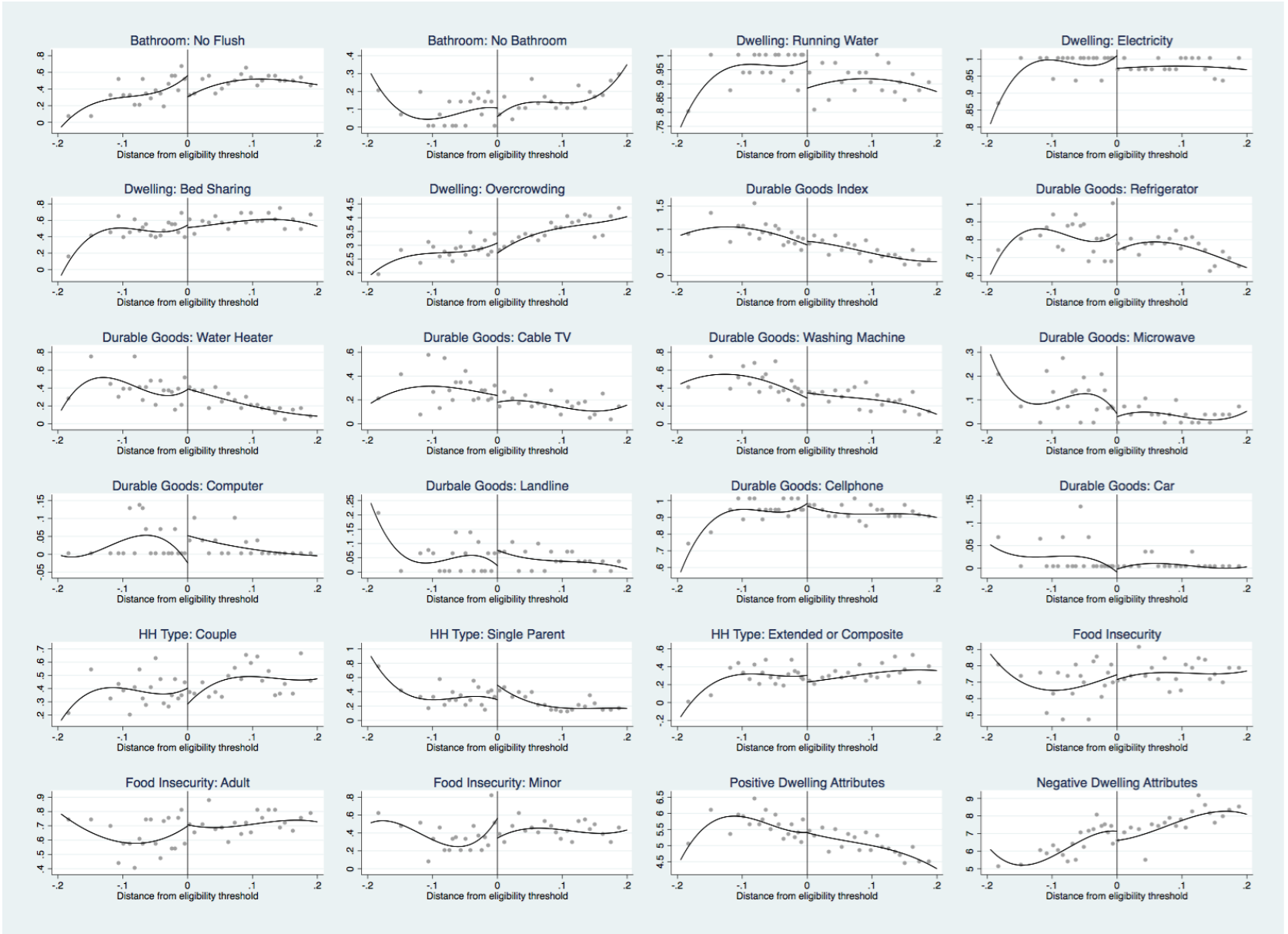
Note: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of TUS, which ranges from 0 to 1.The distance from the eligibility threshold is grouped into 20 quantiles at each side of the threshold. The x-axis is restricted to show observations between -0.2 and 0.2 points from the threshold. Each point shows the average for each variable in each group. The plots are constructed using the *rdplot* command developed by Calonico et al. (2017) using a third order polynomial specification of the CNI. The first two set of graphs present the plots for the short-term household outcomes, the next two sets for the medium-term household outcomes and the last two sets for the long term household outcomes of May 2013.

**Figure A5. Household Outcomes Plots by Distance to the Threshold for May 2015 (Short and Medium-term)**




Bathroom: No Flush
Bathroom: No Bathroom
Dwelling: Running Water
Dwelling: Electricity
Dwelling: Bed Sharing
Dwelling: Overcrowding
Durable Goods Index
Durable Goods: Refrigerator
Durable Goods: Water Heater
Durable Goods: Cable TV
Durable Goods: Washing Machine
Durable Goods: Microwave
Durable Goods: Computer
Durbale Goods: Landline
Durable Goods: Cellphone
Durable Goods: Car
HH Type: Couple
HH Type: Single Parent
HH Type: Extended or Composite
Food Insecurity
Food Insecurity: Adult
Food Insecurity: Minor
Positive Dwelling Attributes
Negative Dwelling Attributes
Distance from eligibility threshold

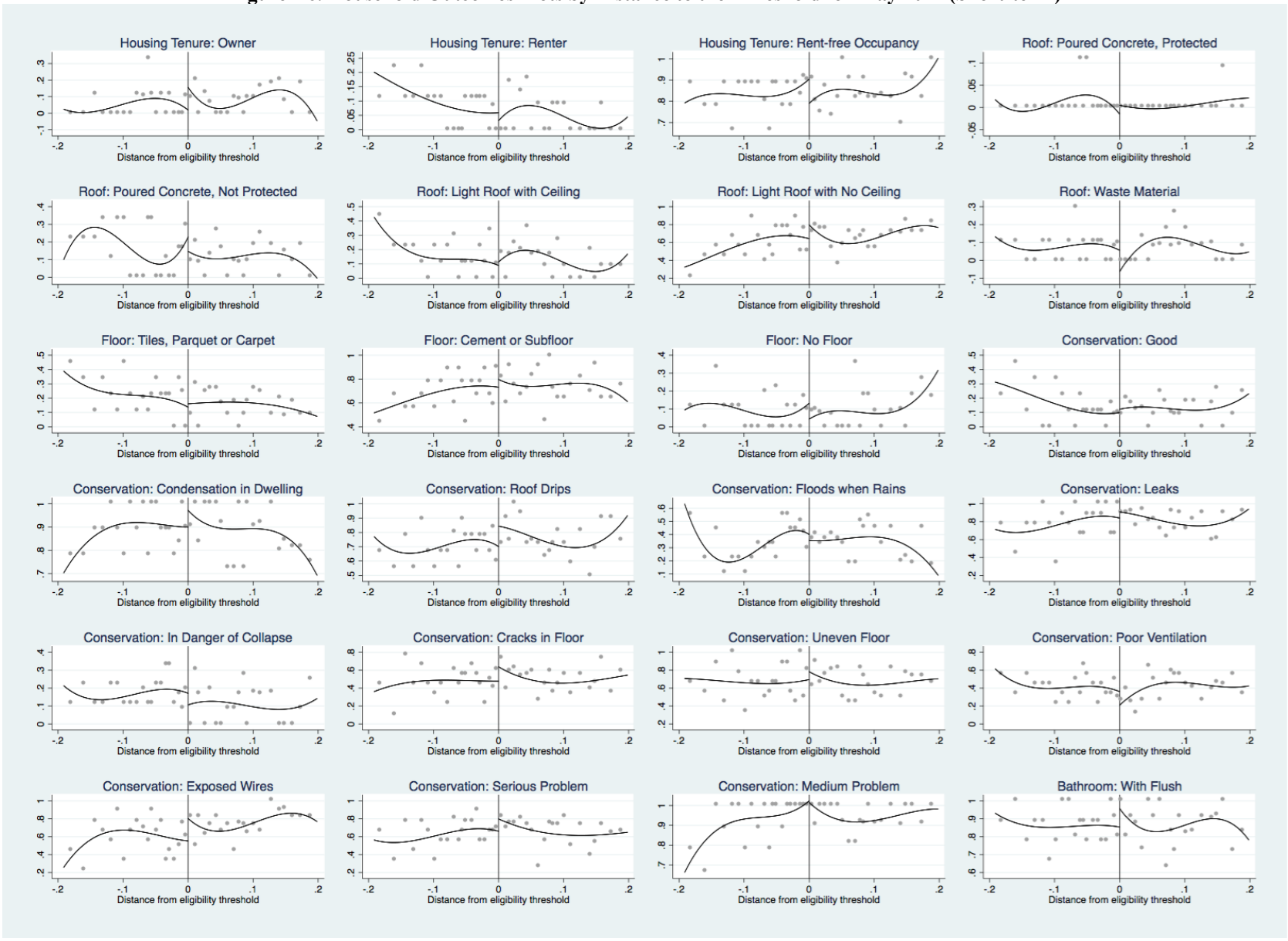

Housing Tenure: Owner
Housing Tenure: Renter
Housing Tenure: Rent-free Occupancy
Roof: Poured Concrete, Protected
Roof: Poured Concrete, Not Protected
Roof: Light Roof with Ceiling
Roof: Light Roof with No Ceiling
Roof: Waste Material
Floor: Tiles, Parquet or Carpet
Floor: Cement or Subfloor
Floor: No Floor
Conservation: Good
Conservation: Condensation in Dwelling
Conservation: Roof Drips
Conservation: Floods when Rains
Conservation: Leaks
Conservation: In Danger of Collapse
Conservation: Cracks in Floor
Conservation: Uneven Floor
Conservation: Poor Ventilation
Conservation: Exposed Wires
Conservation: Serious Problem
Conservation: Medium Problem
Bathroom: With Flush
Distance from eligibility threshold

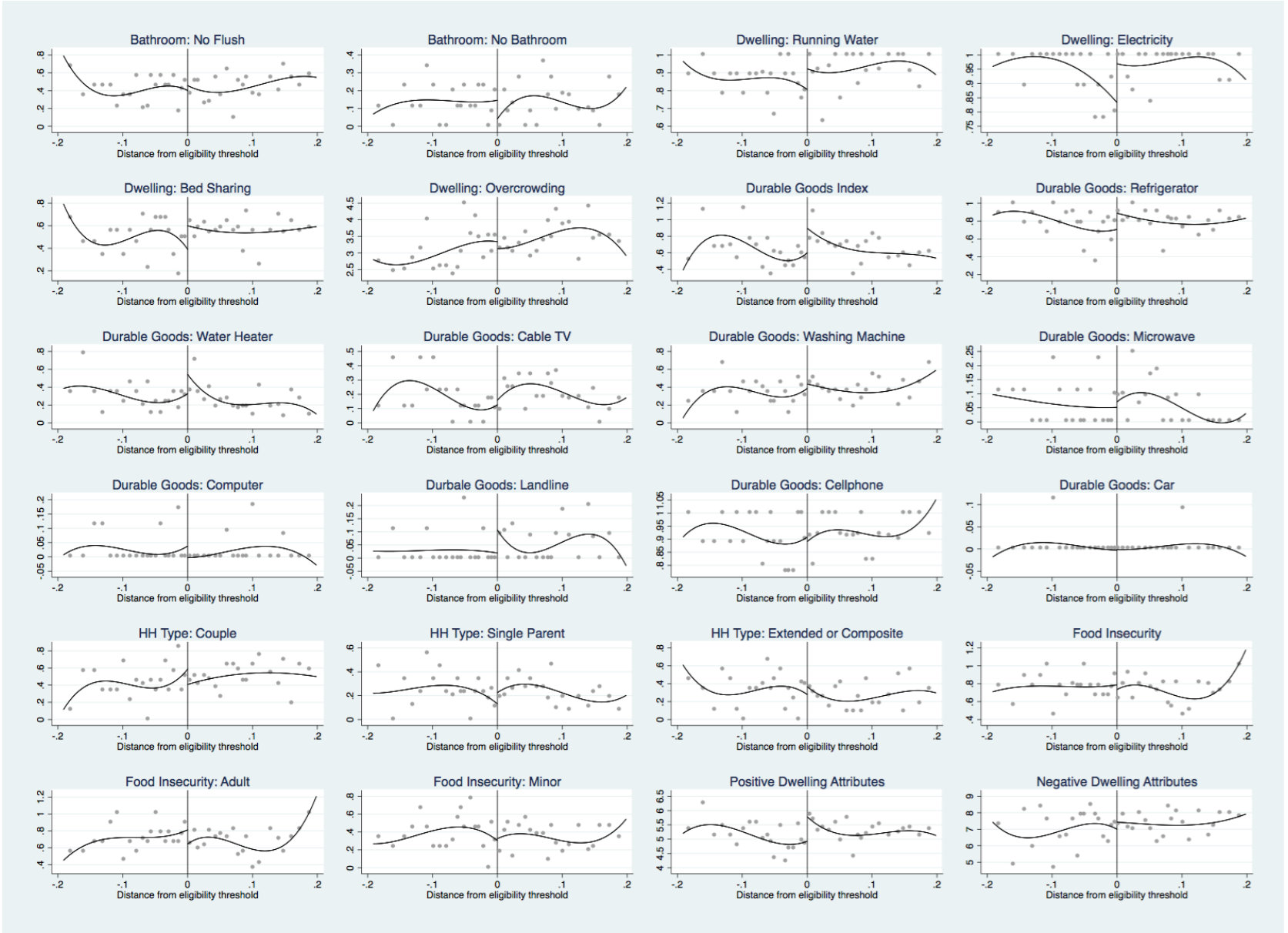



Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of TUS, which ranges from 0 to 1. The distance from the eligibility threshold is grouped into 20 quantiles at each side of the threshold. The x-axis is restricted to show observations between -0.2 and 0.2 points from the threshold. Each point shows the average for each variable in each group. The plots are constructed using the *rdplot* command developed by Calonico et al. (2017) using a third order polynomial specification of the CNI. The first two set of graphs present the plots for the short-term household outcomes and the last two sets for the medium-term household outcomes of May 2015.

**Figure A6. Household Outcomes Plots by Distance to the Threshold for May 2017 (Short-term)**

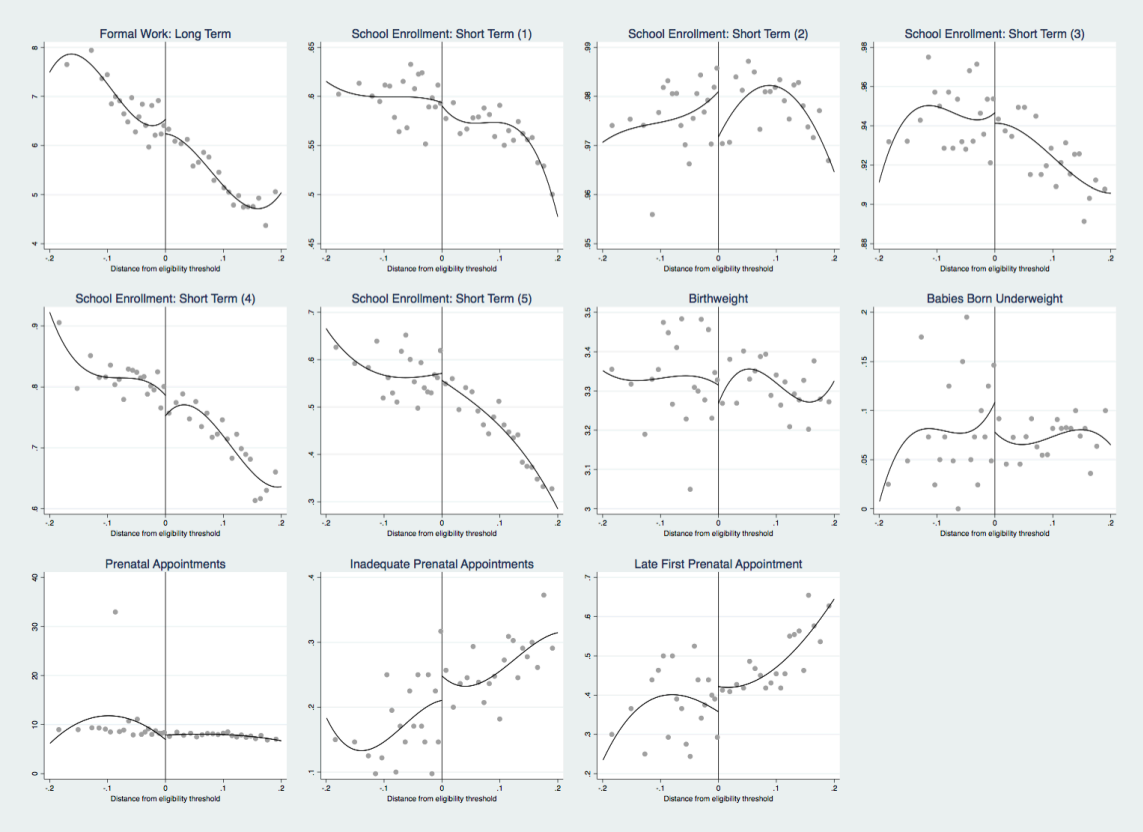





Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of TUS, which ranges from 0 to 1.The distance from the eligibility threshold is grouped into 20 quantiles at each side of the threshold. The x-axis is restricted to show observations between -0.2 and 0.2 points from the threshold. Each point shows the average for each variable in each group. The plots are constructed using the *rdplot* command developed by Calonico et al. (2017) using a third order polynomial specification of the CNI. The two set of graphs present the plots of the Household outcomes for short-Term of May 2017.

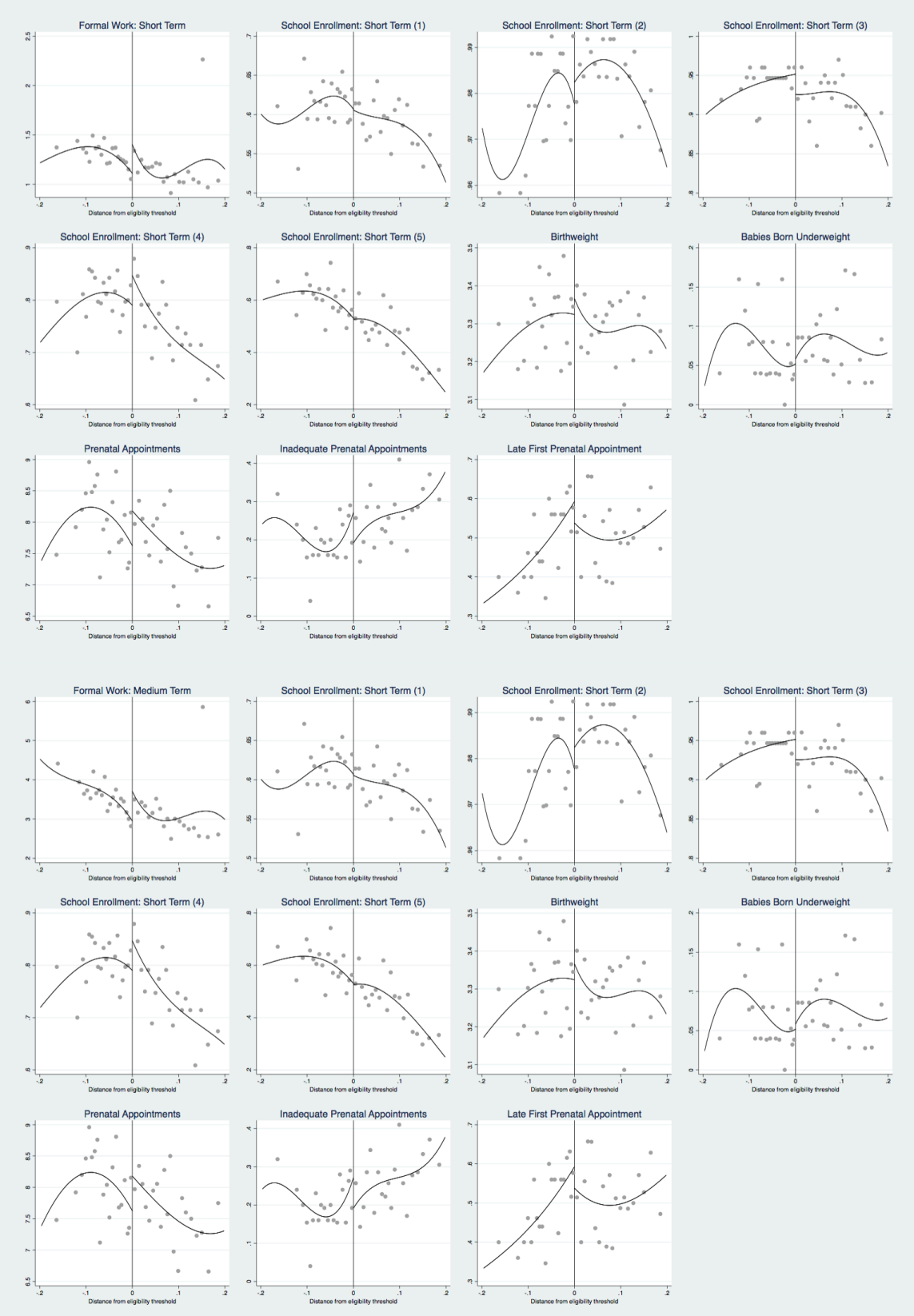
**Figure A7. Household Outcomes Plots by Distance to the Threshold for May 2013 (Short, Medium and Long-term)**




Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of TUS, which ranges from 0 to 1. The distance from the eligibility threshold is grouped into 20 quantiles at each side of the threshold. The x-axis is restricted to show observations between -0.2 and 0.2 points from the threshold. Each point shows the average for each variable in each group. The plots are constructed using the *rdplot* command developed by Calonico et al. (2017) using a third order polynomial specification of the CNI. The first set of plots present the individual outcomes by distance to the threshold for the short-term, the second set of plots presents the results for the medium-term and the last set for the long-term individual outcomes of May 2013.

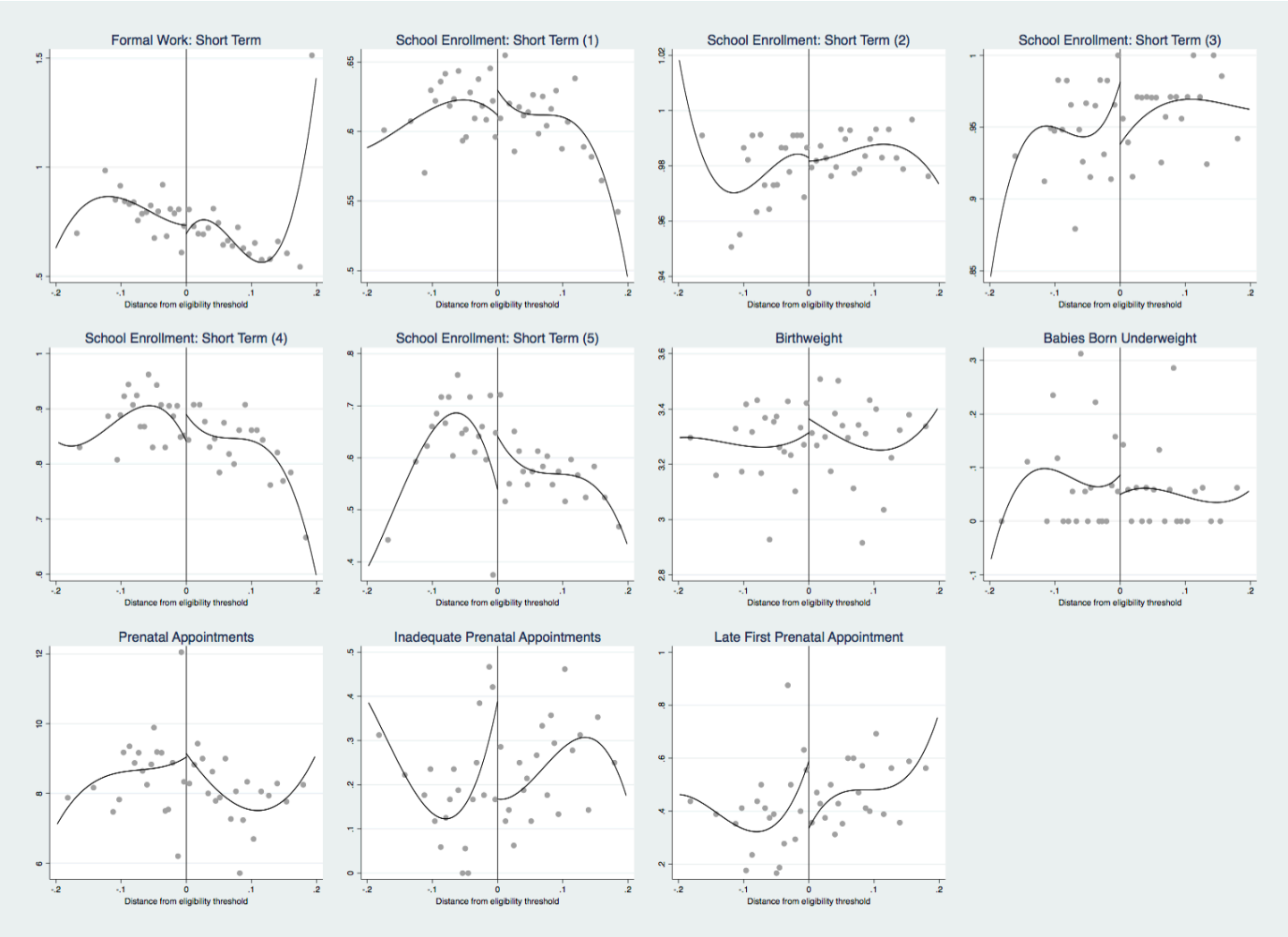
**Figure A8 Individual Outcomes Plots by Distance to the Threshold for May 2015 (Short and Medium-term)**




Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of TUS, which ranges from 0 to 1. The distance from the eligibility threshold is grouped into 20 quantiles at each side of the threshold. The x-axis is restricted to show observations between -0.2 and 0.2 points from the threshold. Each point shows the average for each variable in each group. The plots are constructed using the *rdplot* command developed by Calonico et al. (2017) using a third order polynomial specification of the CNI. The first set of plots present the individual outcomes by distance to the threshold for the short-term and the second set of plots presents the results for the medium-term individual outcomes of May 2015.

**Figure A9 Individual Outcomes Plots by Distance to the Threshold for May 2017 (Short-term)**




Source: Computations using MIDES data on TUS and AFAM-PE (2013, 2015, 2017).

Note: The x-axis of each graph corresponds to the distance of the CNI from the eligibility threshold of TUS, which ranges from 0 to 1. The distance from the eligibility threshold is grouped into 20 quantiles at each side of the threshold. The x-axis is restricted to show observations between -0.2 and 0.2 points from the threshold. Each point shows the average for each variable in each group. The plots are constructed using the *rdplot* command developed by Calonico et al. (2017) using a third order polynomial specification of the CNI. The set of plots presents the individual outcomes by distance to the threshold for the short-term of May 2017.