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Benazir Income Support Programme

First follow-up impact evaluation report

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Executive Summary

This report presents findings from the quantitative and qualitative research conducted for the first follow-up round of the independent impact evaluation of the Benazir Income Support Programme (BISP). Its purpose is to provide an analysis of impact of the BISP in the 2 years since the baseline study was conducted.

The impact evaluation has both a quantitative and qualitative component and will be conducted over four rounds: baseline, two midline rounds and an endline. The research presented in this report reflects the combined findings of the baseline and the first midline rounds of research, which were undertaken in April – July 2011 and April – July 2013 respectively.

The evaluation is based on a mixed methods approach. The core of the evaluation is based on a household survey targeted at beneficiary households and a sub-set of non-beneficiary households with BISP poverty scores just above the eligibility threshold, which will provide statistically robust estimates of impact of the BISP on its beneficiaries. This will be combined with a qualitative component that will provide a broader understanding of the context in which the programme is operating and to inform an understanding of potential impacts that are difficult to cover comprehensively and sensitively using only a quantitative survey, as well as providing more nuanced data to help explain the quantitative findings.

Structure of the report

The report is structured in 4 parts. Part A provides a background to the BISP and the purpose of the evaluation as well as the methods used for the evaluation. Part B provides an analysis of the operational performance of the BISP over the years of the evaluation between 2011 and 2013. Part C provides a situational analysis of BISP beneficiaries drawn from the full evaluation sample. Part D presents in the impact evaluation results focussing on the evaluation treatment and control groups relevant for the Regression Discontinuity approach described in Part B. Part E offers concluding thoughts and implications for policy.

Overview of the Benazir Income Support Programme

The BISP was launched in 2008 as the Government of Pakistan's main national social safety net programme and is the largest and most systematic social protection initiative ever launched in the country. The immediate objective of the programme was to cushion the negative effects of the food, fuel and financial crises on the poor, but its longer term objectives are to provide a minimum income package to the poor to protect the vulnerable population against chronic and transient poverty.

The programme provides eligible families with unconditional cash transfers (UCT) of a monthly value of PKR 1,000[1]. This is delivered to beneficiaries in quarterly transfers of PKR 3,000. Recognising the goal of promoting women's empowerment the transfer is paid **directly to any ever-married woman**.

BISP beneficiaries are targeted based on a Proxy Means Test (PMT) that was developed in conjunction with the World Bank. A PMT provides an objective and cost effective method of approximating a household's level of welfare and poverty status and uses a sub-set of indicators

[1] The Government of Pakistan has recently announced that the monthly value of the transfer will increase to PKR 1,500. However, for the duration of this study the monthly value of the transfer was set at PKR 1,000.

correlated with measures of welfare and combines them into a unique index in such a way as to most accurately identify the poorest households.

Armed with this PMT a national poverty census was conducted, visiting all households in Pakistan and assigning each household with the BISP poverty score. An eligibility threshold score was assigned to target the poorest 25% of the population, and all households with a poverty score below this threshold were deemed to be eligible for the BISP.

Beneficiaries are paid through two main payment mechanisms. The majority of beneficiaries (77% of beneficiaries in the sample) are paid through the BISP debit card and collected via the ATM network of the partner banks. A further 16% of BISP beneficiaries in the sample continue to receive the transfer via money orders delivered directly to the doorstep by the Pakistan Post. The remaining 7% of BISP beneficiaries in the sample were receiving their payments at the time of evaluation through two alternative mechanisms that had been piloted in a small number of districts: the Benazir Smart Card and Mobile Phone Banking[2].

Conceptual framework

The main rationale behind a poverty targeted UCT is that the main constraint faced by poor households is simply a lack of money, rather than an inability to make productive investments. A cash transfer, by providing regular additional income, would allow beneficiary households at their own discretion to make 'desirable' investments in nutrition, education, health, and productive assets amongst others. Certainly there is an ever growing body of evidence on the effectiveness of UCTs in addressing not only poverty mitigation but also long-term poverty reduction and human development goals[3].

However, the ability of an UCT such as the BISP to move beyond poverty mitigation to achieve long-term poverty reduction and human development goals depends on a range of contextual, design and implementation features that are fully discussed in Section 1.2 (adapted from *DFID, 2011*), and include the:

- Value of the transfer;
- Targeting effectiveness;
- Duration and trust in the programme;
- Functioning public services and complementary interventions; and
- Functioning markets

The evaluation

The BISP includes an evaluation component and the Government of Pakistan has contracted Oxford Policy Management (OPM) to undertake a rigorous evaluation of programme impact. The evaluation component will help to determine the effectiveness of the programme in delivering its broad aims. The evaluation component will also help to inform stakeholders of the programme's performance and enable lessons to be drawn to improve future practice and policy.

[2] The Benazir Smart Card was piloted in 4 test districts and operates in practice similarly to the Benazir Debit Card, with the addition of the card storing various Biometric Information. Mobile Phone Banking was piloted in 5 test districts. BISP beneficiaries were provided with a free mobile phone and Sim card, attached to a virtual account created by the partner banks and telecom company.
[3] *Hanlon, Barrientos and Hulme (2010)* provide a useful summary of the evidence of impact of UCTs

The evaluation gathers and presents data on the targeting and operational effectiveness of the BISP as well as on the following potential impacts:

Key intended impacts

- Increased consumption expenditure and poverty reduction;
- Women's empowerment;
- Increased household and child nutrition security; and
- Increased asset retention and accumulation.

Secondary impacts

- Increased household investment in health and education;
- Changes to informal inter-household transfers; and
- Changes to household livelihood strategies

Evaluation methods

The evaluation adopts a mixed methods approach to provide an assessment of the impact of the BISP on its beneficiaries across a range of impact areas and indicators that were identified collaboratively with the BISP and its key stakeholders.

The core of the evaluation is based on a large scale household survey across the four evaluation provinces; Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan. The **quantitative study is complemented by qualitative research to provide contextual information as well as to provide some insight into potential impacts that are less easily quantifiable**.

The impact evaluation is based on a comparison between a set of treatment households against a set of control households. These households have been interviewed multiple times, once at baseline with the very same households being visited two years later. Treatment households are defined as households who have been identified as beneficiaries of the programme. Control households are defined as non-beneficiaries of the programme, but who have BISP poverty scores that are just above the programme's eligibility threshold.

The quantitative estimates of impact are determined by the quasi-experimental Regression Discontinuity (RD) design. Essentially this requires the comparison of treatment and control households who have BISP poverty scores in the very close neighbourhood of the BISP eligibility threshold. It can be assumed that households who have very similar poverty scores but lie on either side of the BISP eligibility threshold will make good comparator households on which to base the evaluation. A brief description of the method can be found in Section 2.2, whilst full details of the method, its assumptions and their implications can be found in Annex A.

Impact results presented are a Local Average Treatment Effect

Given its focus on households in the close neighbourhood of the eligibility threshold, the RD design provides a Local Average Treatment Effect (LATE). This means that whilst it has strong *internal validity*, in that it provides robust estimates of impact for households close to the eligibility threshold, it has weaker *external validity* in terms of its applicability to beneficiary households at the very bottom of the BISP poverty score distribution. The similarities and dissimilarities of the RD treatment group as compared to all BISP beneficiary households is discussed in Section 2.2.3.

Experience of beneficiaries with BISP operations

The value of the transfer has been purposively set at a low level to prevent dependency. We find that average per adult equivalent monthly value of the transfer is PKR 164 by design, assuming that households received the full complement of quarterly payments. In terms of the baseline value of the household budget for beneficiary households we find that this is just less than 10% of the monthly per adult equivalent consumption expenditure.

Some households have not received all four quarterly payments. BISP beneficiaries have received on average just under PKR 7,000 rather than the planned PKR 12,000 in the period 12 months preceding the first follow-up evaluation survey[4]. This means that per adult equivalent monthly value of the transfer actually received by households is PKR 92. This finding is likely to mitigate the level of impact the BISP can be expected to have on key indicators, but also indicates where the performance of the BISP could be improved that is likely to have significant returns in terms of its impact on beneficiaries.

There is **some beneficiary frustration about inadequate communication at the local level** particularly in the context of delays to payments, with beneficiaries unable to understand when a delayed payment will be made.

We find low user costs associated with accessing the transfer. On average beneficiaries have to travel only 46 minutes to the BISP payment point at a cost of just 3% of the value of the quarterly transfer. **Additionally we find very little downstream leakage** through the payment of 'fees' to access the transfer this level is minimal and appears to have fallen even further in the transition to the BISP debit card.

Situational analysis of beneficiary households

Given that the impact evaluation is based on a regression discontinuity design that focuses on households closest to the eligibility threshold, we present in Section 4 a concise situational analysis of all beneficiary households in the sample. The purpose of this section is to provide the reader with a snapshot of the experience of the average beneficiary and is not used to determine the impact of the BISP on key impact indicators.

We find BISP beneficiary households are characterised by **high rates of poverty** with 68% of beneficiary households under the poverty line or just above it and vulnerable to falling back into poverty. BISP beneficiary households are exposed to a variety of shocks and in particular cite **rising food prices as the main exogenous shock** providing justification for one of the central objectives of the BISP.

We observe an **on-going crisis in terms of infant and child nutrition** with rates of wasting and stunting that would be classified as *very high* in terms of WHO classifications.

BISP beneficiary households are largely dependent on vulnerable livelihoods particularly **casual labour which is subject to cyclical and seasonal variation**. This is likely driven by low levels of human, physical and financial capital exhibited by BISP beneficiary households.

Almost **half of children aged 5-12 years in BISP beneficiary households are not attending school**. A variety of factors are associated with this result, including the cost of education, cultural norms and the proximity of schools.

[4] The first follow-up evaluation survey was conducted in the period April – June 2013.

Impact evaluation results

The impact evaluation results are based on a sub-sample of households with BISP poverty scores in a close neighbourhood of the BISP eligibility cut-off score. The similarities and dissimilarities of this sub-sample to all beneficiaries in our sample are described in Section 2.2.3.

Poverty

The BISP is having an impact on increasing consumption expenditure and reducing poverty[5] for households within the relevant RD treatment sub-sample. The evaluation indicates that per adult equivalent monthly consumption expenditure has induced a net increase for the RD treatment sub-sample of PKR 318, with similar increases in Punjab and Khyber Pakhtunkhwa.

This has led to a decrease in poverty for the RD treatment group and the Khyber Pakhtunkhwa sub-sample. We find that the BISP causes a 22 percentage point reduction in poverty for the RD treatment group. This impact seems high and is explained by the focus of the RD design on beneficiary households just below the eligibility threshold and are households with a lower poverty gap than the average BISP beneficiary

The BISP has induced a fall in the depth of poverty, and we find that the BISP has reduced the poverty gap by 6 percentage points for the RD treatment group. This means that the BISP has led to an improvement in the welfare of beneficiary households such that they are not only less likely to be under the poverty line, but also that those who remain in poverty are closer to the poverty line.

Food expenditure and Nutrition

Overall we do not find that the BISP has an impact on food consumption expenditure. However, when regularity of consumption of specific items is investigated a positive impact of the BISP is found on the consumption of fish, eggs and wheat for households within the relevant RD treatment sub-sample.

The BISP has reduced rates of malnutrition amongst girls (aged 0-59 months) as measured by wasting, a measure of short-term malnutrition. We do not observe a similar effect on boys. Despite this success we find **rates of malnutrition that are indicative of an on-going child nutrition crisis**, with rates of wasting above 15% and rates of stunting at 40%[6]. This is illustrative that a cash transfer cannot address all underlying determinants of child malnutrition and we find high incidence of diarrhoea (indicative of an unsanitary environment) and low immunisation rates (indicative of low access to child health services).

Women's empowerment

There are many definitions of empowerment, in its broadest sense empowerment can be seen as the expansion of freedom of choice and action. We define **empowerment as the ability of an individual to set her own goals and act upon them**. This ability to exercise choice can be thought of in three inter-related dimensions: (1) resources, or the pre-conditions necessary to

[5] Estimates of poverty are measured using the Pakistan national poverty line set by the Pakistan Bureau of Statistics. The poverty line is set as the minimum level of per adult equivalent consumption expenditure necessary to provide a food basket of at least 2,350 calories daily.

[6] The WHO classification for the degree of malnutrition within a population of children aged 0-59 months indicates that rates of wasting higher than 15% and rates of stunting higher than 30% are considered to be *very high,* indicating a child nutrition crisis *World Bank (2008)*.

exercise choice; (2) agency, or the ability to define goals and act upon them; and (3) achievements, or the outcomes from the empowerment of women.

A necessary pre-condition for increased agency is control over the BISP cash transfer. **We find that 64% of female beneficiaries report that they retain control over the cash transfer**, in terms of how the transfer is spent. This result appears to hold regardless of whether the beneficiary actually collects the transfer herself.

We find a subtle shift in intra-household relations with the qualitative research indicating that **women can feel empowered by their contributions to the household budget and their decreased dependency on their husbands**.

The evaluation suggests a small shift **in community perceptions regarding the mobility of women**, with communities accepting that women can travel to collect the transfer themselves. This is supported by quantitative evidence suggesting that receipt of the BISP cash transfer has increased the likelihood of women being permitted to visit friends' houses alone.

The BISP is associated with increased proportions of women in beneficiary households voting. There are likely to be a number of factors related to the BISP driving this result, including the requirement of possession of a CNIC to access the transfer.

Secondary impacts

Livelihoods

Overall we do not find that receipt of the BISP cash transfer reduces labour participation. We find that BISP reduces the labour participation of men in beneficiary households. However, we find that this is likely to be driven by more vulnerable members (the old and the sick) reducing their labour participation.

The BISP has caused a change in the livelihood strategies adopted in beneficiary households. We find that the BISP has decreased the proportion of working aged men engaged in casual labour but increased the proportion of men who are self-employed[7]. This indicates that the BISP may be supporting the adoption of less vulnerable livelihood strategies.

Child labour remains a significant livelihood strategy for many households with 14% of boys and 6% of girls aged 5-14 years in beneficiary households engaged in some form of child labour. We find that the **BISP reduces the proportion of boys who engage in child labour but there is no impact for girls**. The heterogeneous impact is explained by the differing composition of child labour is explained by the differing composition of the type of labour boys and girls are engaged in. The significant majority of hours girls spend on child labour is engaged in domestic chores. A cash transfer is unlikely to change this without a change in cultural norms that place the burden of such activities on girls.

The BISP does not increase the likelihood of owning assets such as land and livestock. This is likely reflective of the low value of the transfer relative to household consumption expenditure. The qualitative research indicates that many beneficiaries view the transfer value as suitable to supplement basic household requirements but not to be used for asset accumulation.

[7] Self-employment is defined as someone who *performed some work for family profit in his/her own economic enterprise, shop, profession or trade where the remuneration is directly dependent upon the profits or potential profits derived from goods or services produced.*

Education

Accumulation of human capital is one of the most significant factors that can help to break the inter-generational transmission of poverty. However, enrolment rates are dependent on a number of demand and supply side factors. The ability of a cash transfer to have an impact on enrolment depends on two key factors: (1) the value of the transfer relative to the cost of schooling; and (2) the level of education service provision.

We find that the **BISP does not have an impact on school enrolment** for primary school aged children. This result is likely to be driven by the low value of the transfer relative to basic household needs in addition low public expenditure on education, at just 2% of GDP[8]. Low public expenditure contributes to poor infrastructure, widespread teacher absenteeism and high drop-out rates.

Additionally we find that **enrolment rates amongst children in beneficiary households to be low**, with just 55% of children aged 5-14 years currently enrolled in school.

Health

As with education, public expenditure in Pakistan remains low at just 0.35% of GDP *(Government of Pakistan, 2013)*. Consequently household health care is mostly financed by out-of-pocket health expenditures.

We find that the **BISP is associated with an increase in the reported expenditure on health**, increasing per adult equivalent health expenditure by around PKR 50. This result appears to be driven by beneficiary households in Sindh 32% of whom lived in districts affected by flooding in the evaluation period.

Finance

Lack of access to financial services can be a key restricting factor preventing poor households from stepping on the path out of poverty. Poor households often lack access to secure means of saving. This in turn contributes to them struggling to save for improved physical and human capital.

We find that the BISP has induced **an increase in the propensity to save amongst beneficiary households in Khyber Pakhtunkhwa**. We do not report a similar increase at the national level or in any of the other evaluation provinces and it is worth noting that beneficiaries in Khyber Pakhtunkhwa received an above average number of payments in the 12 months preceding the interview.

The payment mechanism also presents an (untapped) potential to improve the financial access of beneficiary households. *CGAP (2013)* indicates that there is a willingness amongst partner banks to transition beneficiaries to *Level 0 branchless banking accounts*, which would allow beneficiaries to not only withdraw but to make deposits. Accompanied by appropriate financial information and training and this could improve the potential for impact on saving.

We do not find an impact on the level of borrowing. However, the level of debt amongst beneficiary households remains high with 81% of beneficiary households with outstanding debt. **Debt is accumulated to finance basic household needs**, such as for food, indicative of a profile of households that are unable to fully finance regular household consumption.

[8] *World Development indicators*

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List of Abbreviations

BISP	Benazir Income Support Programme
CCT	Conditional Cash Transfer
CNIC	Computerised National Identity Card
FCS	Food Consumption Score
LATE	Local Average Treatment Effect
MDE	Minimum Detectable Effect
MDGs	Millennium Development Goals
MGRS	Multicentre Growth Reference Study
MNA	Member of the National Assembly
OPM	Oxford Policy Management
PMT	Proxy Means Test
PPS	Probability Proportional to Size
PSLM	Pakistan Social and Living Standards Measurement Survey
PRSP	Poverty Reduction Strategy Paper
PSM	Propensity Score Matching
PSU	Primary Sampling Unit
RD	Regression Discontinuity
SRS	Simple Random Sampling
UCT	Unconditional Cash Transfer
WHO	World Health Organisation

Part A: Background and methods

1 Introduction

This report presents findings from the quantitative and qualitative research conducted for the first follow-up round of the independent impact evaluation of the Benazir Income Support Programme (BISP). Its purpose is to provide an analysis of impact of the BISP in the 2 years since the baseline study was conducted.

The impact evaluation has both a quantitative and qualitative component and will be conducted over four rounds: baseline, two midline rounds and an endline. The research presented in this report reflects the combined findings of the baseline and the first midline rounds of research, which were undertaken in April – July 2011 and April – July 2013 respectively.

The evaluation is based on a mixed methods approach. The core of the evaluation based on a household survey targeted at beneficiary households and a sub-set of non-beneficiary households with BISP poverty scores just above the eligibility threshold that will provide statistically robust estimates of impact of the BISP on its beneficiaries. This will be combined with a qualitative component that will provide a broader understanding of the context in which the programme is operating and to enable an assessment of impacts that are difficult to cover with comprehensively using only a quantitative survey, as well as providing more nuanced data to help explain the quantitative findings.

1.1 Overview of the BISP

The BISP was launched in 2008 as the Government of Pakistan's main national social safety net programme and is the largest and most systematic social protection initiative to be launched in Pakistan. The **immediate objective of the programme was to cushion the negative effects of the food, fuel and financial crises on the poor, but its longer term objectives are to provide a minimum income package to the poor and to protect the vulnerable population against chronic and transient poverty**.

The programme provides eligible families with unconditional cash transfers of a monthly value of PKR 1,000[9]. This is delivered to beneficiaries in quarterly transfers of PKR 3,000. Recognising the goal of promoting women's empowerment the transfer is paid directly to the female head of the family, where the female head is defined as **every ever-married woman in the household in possession of a valid Computerised National Identity Card (CNIC)**.

When BISP was originally rolled out in 2008 eligible families were targeted through the Members of the National Assembly (MNA), who were each assigned a set number of BISP application forms. Whilst the selection criteria included reference to a family's monthly income – that it should be less than PKR 6,000 – the need for a more objective and transparent targeting mechanism was quickly recognised.

A new targeting mechanism was developed in conjunction with the World Bank and Proxy Means Test (PMT) was constructed. A PMT provides an objective and cost effective method of approximating a household's level of welfare and poverty, and uses a sub-set of indicators correlated with measures of welfare and combines them into a unique index in such a way as to most accurately identify the poorest households.

Armed with this PMT, the Government of Pakistan conducted a national poverty census which attempted to visit every household in Pakistan for the purposes of implementing the BISP poverty

[9] The Government of Pakistan has recently announced that the monthly value of the transfer will increase to PKR 1,200. However, for the duration of this study the monthly value of the transfer was set at PKR 1,000.

scorecard and assigned each household with a poverty score. An eligibility threshold was set to target the poorest 25% of the population. Households with a **PMT score below this threshold containing at least one ever-married woman in possession of a valid CNIC were deemed to be eligible for the BISP**.

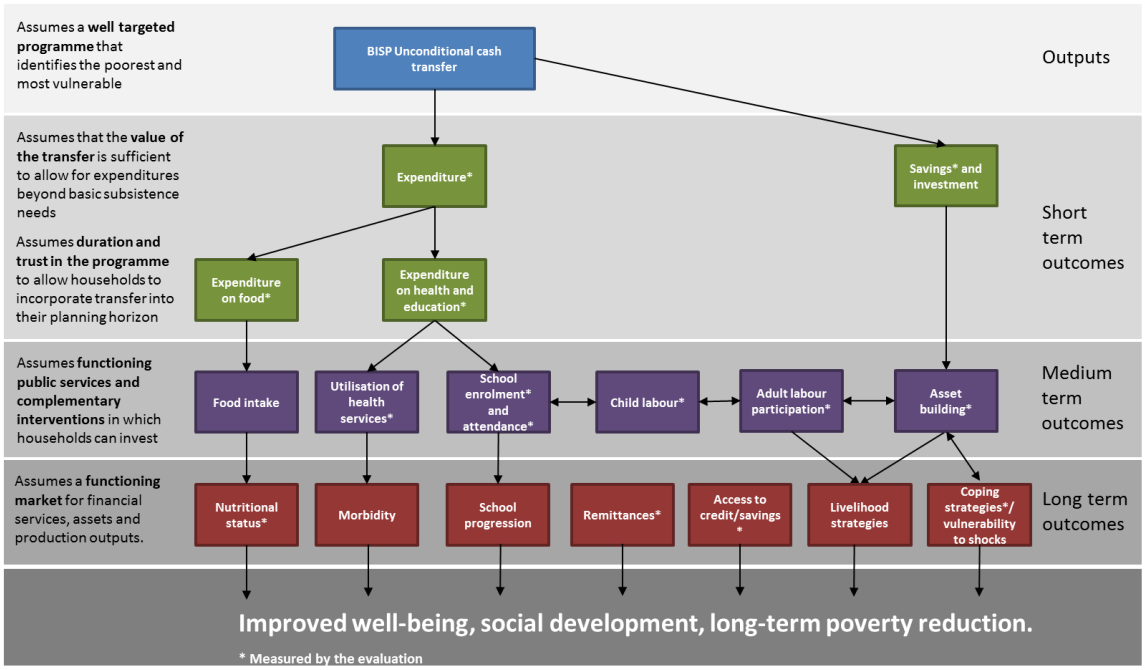
Beneficiaries are paid through two main payment mechanisms. The majority of BISP beneficiaries are paid through the BISP debit card, a magstripe card that can be used in any ATM in Pakistan or at any of the network of Point of Sale machines maintained by banking agents. Some BISP beneficiaries, particularly in remote communities with little financial access, continue to receive the transfer via money orders delivered directly to the doorstep by the Pakistan Post.

1.2 Cash transfers: a conceptual framework

The theory of change supporting the two main objectives of the BISP is presented in Figure 1 below. In the short term, through the provision of a regular and supplementary cash income, BISP would support basic consumption needs, and protect households from fluctuations in prices of necessities.

In the longer term BISP payments would allow beneficiary households at their own discretion to make 'desirable' investments in nutrition, education, health, productive assets, among others. These investments in human and physical capital in turn would be expected to support poor households to permanently graduate out of poverty. There is an ever growing body of evidence on the effectiveness of UCTs in addressing not only poverty mitigation but also long-term poverty reduction and human development goals (such as increased school attendance, child nutrition and women's empowerment)[10].

Figure 1 BISP theory of change[11]



[10] *Hanlon, Barrientos and Hulme (2010)* provide a useful summary of the evidence of impact of unconditional cash transfers

[11] Adapted by authors from *DSD, SASSA and UNICEF(2012)* and *DFID (2012)*

However, the ability of an unconditional cash transfer such as the BISP to move beyond poverty mitigation to achieve long-term poverty reduction and human development goals depends crucially on a range of contextual, design and implementation features (adapted from *DFID, 2011*):

- **Value of the transfer** relative to the initial incidence and depth of poverty. To enable households to use the transfer for anything more than poverty mitigation it must be of sufficient value that allows them to not only meet their basic subsistence needs but also to leave some left over for savings and for investment in human and productive capital.

- **Targeting effectiveness** in terms of how successful the transfer is in actually identifying the poorest and most vulnerable. Impact on poverty and human development will be diluted if there is significant leakage to non-poor households.

- **Duration and trust in the programme**. The cash transfer should be delivered for sufficient time for households to make the step-wise changes needed for a permanent graduation from poverty. In addition the programme should be sufficiently well implemented such that households can trust in a regular and reliable transfer and allow them to incorporate it into the planning of their household budget and their planning of future investments.

- **Functioning public services and complementary interventions** in which households can invest. Even if households are knowledgeable of the returns to investment in human capital such as education, a cash transfer can have only limited impact if beneficiaries do not have access to functioning public services or other interventions complementary to poverty reduction. This emphasises that a cash transfer such as the BISP is not a 'magic bullet' for poverty reduction and human development, but must be considered as one pillar of a broader set of services provided to a population.

- **Functioning markets** including for financial services, assets and production outputs. Beneficiary households may be expected to leverage a cash transfer to make stepwise changes that allow their level poverty to not only be mitigated but to escape poverty all together. However, this is crucially dependent on such households having access to functioning markets that enable the opportunity to save, borrow and sell home-production, amongst others. Key market failures will prevent households from diversifying into potentially higher return activities and stepping on to the path of graduation from poverty.

This evaluation will provide some understanding of the impact of the BISP as well as the potential influence of contextual, design and implementation factors that drive or hinder this impact.

1.3 The evaluation

The BISP includes an evaluation component and the Government of Pakistan has contracted Oxford Policy Management (OPM) to undertake a rigorous evaluation of the programme's impact. The evaluation component will help to determine the relevance and effectiveness of the programme in delivering its broad aims of cushioning the negative effects of recent economic crises as well as protecting Pakistan's vulnerable population from chronic and transient poverty. The evaluation component will also help to inform stakeholders of the programme's performance and enable lessons to be drawn to improve future practice and policy.

To provide context to the estimates of programme impact, the evaluation gathers data on the beneficiary experience with the programme operations including community perception of targeting, the beneficiary experience with payments mechanism and user costs of accessing the payments.

The core of the report is focused on determining BISP programme impact on the following:

Key intended impacts

- Increased consumption expenditure and poverty reduction;
- Women's empowerment;
- Increased household food consumption and child nutrition; and
- Increased asset retention and accumulation.

Secondary impacts

- Increased household investment in health and education;
- Decreased vulnerability to shocks;
- Changes to informal inter-household transfers; and
- Changes to household livelihood strategies

In order to assess these impacts, the evaluation collects quantitative and qualitative information over a number of years on a range of key indicators and supporting data. The impact analysis is conducted using a mixed methods approach, combining qualitative research with a quasi-experimental quantitative survey design.

The quantitative survey is implemented in 488 clusters (villages & neighbourhoods) across 90 districts of the four evaluation provinces: Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan. A sample of 8,675 households were randomly selected and interviewed at baseline (prior to the programme roll-out) which was completed in July 2011. These households are panelled such that the same households are then interviewed on an annual basis, with the first follow-up round completed in July 2013. A further two rounds of survey will be completed in July 2014 and July 2015.

Qualitative research has taken place in eight districts in each round of study, purposively selected from the four evaluation provinces to provide a range of different contexts. Data collection for the first follow-up round was conducted in May and June of 2013. There will be two further rounds of qualitative research to be conducted in-line with the quantitative surveys.

The measure of programme impact derives from a comparison of baseline and first follow-up data, i.e. the change in situation of beneficiary households across a range of outcome indicators after two years of programme implementation. This is compared to the situation over the same period for a set of non-beneficiary households using the quasi-experimental Regression Discontinuity (RD) approach. Over this period BISP beneficiary households covered by the evaluation had been receiving quarterly transfers of PKR 3,000.

1.4 Structure of this report

This report is structured as follows: Part A includes Section 0 which describes the evaluation methodology. Part B includes Section 3 which presents an analysis of the experience of BISP beneficiaries with BISP operations over the two years between 2011 and 2013.Part C includes Section 4 which presents a situational analysis of BISP beneficiary households based on all beneficiary households in the sample.

Part D presents the impact evaluation results, based on a sub-sample of households matched to the BISP MIS within the relevant regression discontinuity bandwidths. Section 5 analyses the impact of the BISP cash transfer on poverty, household food security, child nutrition security and vulnerability. Section 6 considers programme impact on women's empowerment. Section 7 analyses how beneficiary households have adopted new livelihood strategies with the advent of

the BISP cash transfer. Section 8 considers programme impact on households' access to education, health and financial services.

Part E including Section 9 offers concluding thoughts and implications for policy as well as looking forward to the next round of the evaluation.

A technical annexure is provided detailing the evaluation methodology (Annex A), the sampling strategy (Annex C) as well as technical appendices for the measurement of child anthropometry (Annex D) and consumption expenditure (Annex E).

2 Evaluation method

The evaluation adopts a mixed method approach to provide an assessment of the impact of the BISP on its beneficiaries across a range of impact areas and indicators. These indicators and areas of impact as well as the particular method of evaluation were identified in coordination with BISP and its stakeholders during the inception phase of the evaluation. Below we briefly summarise the key research questions and areas of impact, the quantitative evaluation methods as well as the qualitative assessment of impact.

The quantitative impact assessment will compare a set of treatment households against a set of control households over time to measure the impact of the BISP cash transfer on beneficiary households over a range of indicators described in Table 1.

Treatment households are defined as households who have been identified as beneficiaries of the programme. Control households are defined as non-beneficiary households but who have poverty scores as determined by the BISP poverty scorecard that are just above the programme's eligibility threshold.

2.1 Quantitative measures of impact

The evaluation measures a range of quantitative indicators across a number of different impact areas, which are detailed in Table 1 along with a description of the hypothesis behind which the BISP cash transfer can feasibly induce an impact.

Table 1 Key impact areas and indicators

Area of impact	Hypothesis	Quantitative indicators
Key intended impact		
Consumption expenditure and poverty (Section 5)	BISP programme will reduce the rate of poverty amongst beneficiary households, by directly supplementing monthly household income	• *Proportion of beneficiary households below the poverty line* • *Per adult equivalent consumption expenditure*
Women's empowerment (Section 6)	A transfer targeted directly at women will increase their agency in various domains including: control over household resources, engagement in public life, role in household decision making	• *Percentage of female beneficiaries who retain control over the transfer* • *Percentage of women working outside the home* • *Women's participation in choices relating to household, both relating to short- and long-term decisions.*
Household consumption and child nutrition (Section 5)	Regular and reliable payments will improve access to food by supplementing household incomes, tackling one of the pillars of food insecurity[12].	• *Per adult equivalent food consumption expenditure* • *Food consumption score* • *Child anthropometry*
Asset retention and accumulation (Section 7)	Beyond being used for current consumption households will be able to save some portion of the transfer and use it for asset accumulation	• *Ownership of livestock* • *Ownership of productive household assets*
Secondary impacts		
Investment in health and education (Section 8)	A direct cash transfer will alleviate the economic constraints to the access of health and education services	• *Primary school attendance rate* • *Health seeking behaviour of the sick*

[12] This recognises that the BISP cannot address all root causes of food insecurity including the stability of food supply, the availability of food and the way in which food is utilised.

Area of impact	Hypothesis	Quantitative indicators
Informal transfers (Section 7.5)	BISP may reduce the need for informal transfers by beneficiary households	• *Mean informal transfers paid in and out of the household*
Livelihood strategies (Section 7	BISP will provide households the opportunity to explore alternative livelihood strategies and reduce their dependence on risky options	• *Proportion of working age population economically active* • *Proportion of economically active population by employment status* • *Percentage of children engaged in child labour*

2.2 Quantitative evaluation method: Regression Discontinuity

A key challenge for any impact evaluation is the **identification of a suitable counterfactual** or control group against which to compare impact of a programme on beneficiary households or the treatment group. A valid control group should satisfy three conditions, *Gertler et. al. (2011)*:

- The treatment and control group should share on average the same characteristics;
- Treatment and control groups should react to the programme in the same way if it was indeed offered to both groups; and
- Treatment and control groups should not be differentially exposed to other interventions during the period of the evaluation.

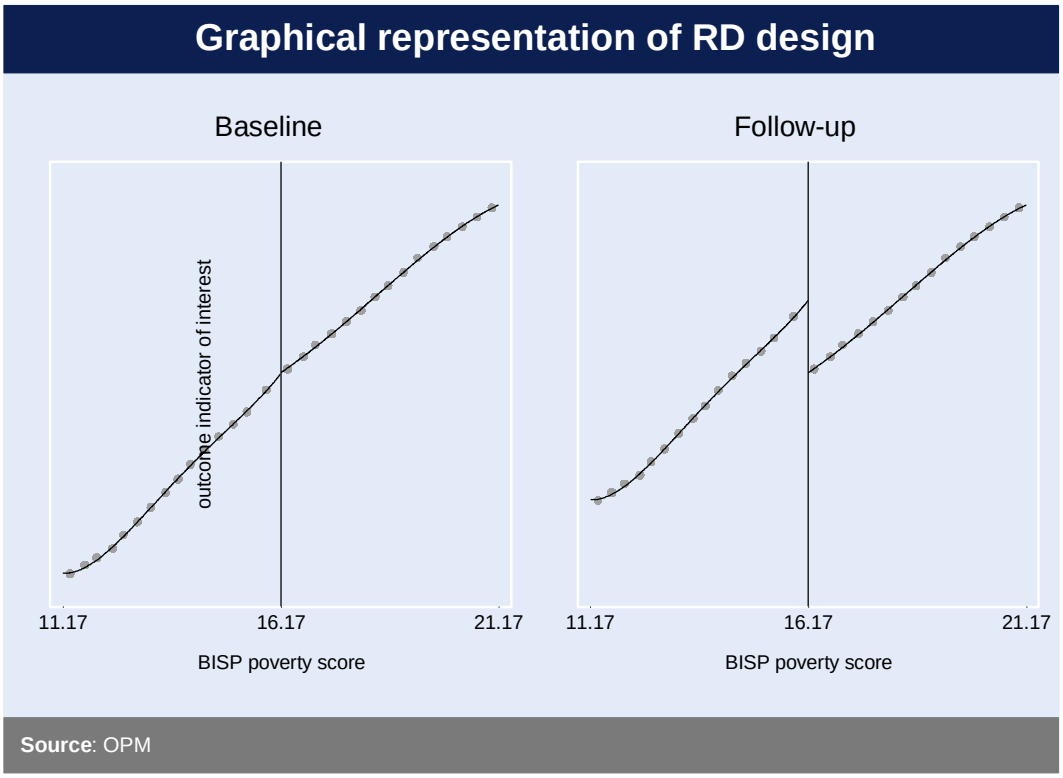
The quantitative evaluation employs the **Regression Discontinuity (RD)** design to meet this challenge. It exploits one of the key design features of the BISP, its beneficiary targeting through the BISP poverty scorecard, to achieve this. BISP beneficiaries have their programme eligibility determined by the BISP poverty score such that treatment will be offered only to households with a score of 16.17 or less. Households with a BISP poverty score above 16.17 are ineligible.

Under the assumption of a continuous relationship between the eligibility score (BISP poverty score) and the outcome variable we exploit the eligibility cut-off to define valid treatment and control groups. Figure 2 graphically presents the logic behind this approach. We compare **households just below the eligibility threshold (treatment households) with households just above the eligibility threshold (control)**.

In the neighbourhood of the eligibility threshold we can expect these households to be very similar at baseline both in terms of outcome variables as well as their household characteristics. At follow-up, assuming that only households below the eligibility threshold receive the transfer, we investigate if there is a **discontinuity in the outcome variable at the eligibility threshold at follow-up**. Such a discontinuity, should it be statistically significant, will represent the impact of the BISP cash transfer on that outcome variable.

A full description of the RD approach and various tests of the validity of the approach for this evaluation can be found in Annex A.

Figure 2 Graphical representation of Regression Discontinuity



2.2.1 'Fuzzy' RD design

The discussion above assumes that a 'sharp' RD is possible, which means that actual treatment status should perfectly match the eligibility of a household, i.e. a household that is determined as eligible for the BISP should actually become a beneficiary and a household that is determined as ineligible for the BISP should not.

However, we find in our sample that this is not the case. For example in some cases programme rules stipulate it is possible to become a beneficiary with a higher eligibility cut-off score, such as in the case of a disability. We therefore implement the **Fuzzy RD (FRD)** approach, where the treatment effect can be recovered by dividing the jump in the relationship between the outcome variable of interest and the BISP poverty score, by the jump in the relationship between the treatment status and the BISP poverty score. FRD will provide an unbiased estimate of the local average treatment effect. Full technical details of this approach can be found in Annex A.

2.2.2 Difference-in-discontinuities approach

We combine the RD approach with differences-in-difference to deliver **difference-in-discontinuities estimates**. This exploits the panelled nature of the data[13] and proves a useful extension to the normal RD approach in that it could help to remove a potential source of bias that may exist from systematic differences between treatment and control groups.

For example if there was a discontinuity observed in the follow-up cross-section, this discontinuity could be either an over- or under-estimate of true programme impact if there is some unobserved

[13] i.e. we visit during the follow-up survey (2013) the very same households that were visited for the baseline survey (2011)

indicator (such as ability) that is driving the discontinuity. Under the assumption of common trends the differences-in-discontinuity approach would remove this potential source of bias.

2.2.3 RD provides a Local Average Treatment Effect as the estimate of impact

Given that the RD approach analyses only households in very close proximity to the eligibility threshold its estimate of impact is a **Local Average Treatment Effect (LATE)**. This means that whilst the RD approach has **strong internal validity**[14]**,** in that it provides robust estimates of impact for the set of households on which it is implemented, it has **weaker external validity**, in terms of its applicability to households further away from the eligibility threshold.

External validity – comparing RD sub-sample to all beneficiaries in the sample

To assess the **strength of the external validity** we must conduct an assessment of whether or not the sub-sample of beneficiary households on which RD is conducted (our evaluation treatment group) has similar characteristics to all beneficiary households in our sample.

To do this we present a comparison of the full sample of beneficiaries in our survey to a sub-sample containing beneficiaries within +/- 5 points of the BISP eligibility cut-off. This provides most relevant comparison, as it relates to the average bandwidth (as calculated using an optimal bandwidth selector discussed in Annex A) used in the estimates of programme impact reported from Section 5 onwards in this report.

Table 2 presents the results of this analysis. We focus first on the comparison between households in the RD treatment sample (bw +/- 5) and the average of all beneficiary households in the sample. In terms of household demographics we find that households in the RD treatment sample (bw +/- 5) were larger, driven primarily by a higher number of children and adult males up to the age of 54. We do not find other statistically significant differences in household demographics. The human capital characteristics seem reasonably similar, whilst we observe a difference in the proportion of household heads who are literate this is only significant at the 90% level.

In terms of asset holdings we do observe differences in living conditions with the RD treatment sample (bw +/-5) exhibiting greater access to flush toilets and lower prevalence of mud floors in the dwelling. Broadly the RD treatment sample (bw +/-5) has similar levels of consumer durable ownership, although they are more likely to own washing machines and cooking stoves. There is a mixed picture with regards to livestock ownership where the ownership rates of cows and sheep are similar, but households in the RD treatment sample (bw +/-5) are less likely to own buffalo or goats. We do not find any differences in financial assets or ownership of agricultural land.

Further differences observed in Table 2 relate to measures of consumption expenditure and poverty, and we find that households in the RD treatment sample (bw +/- 5) have higher levels of consumption expenditure and lower rates of poverty at baseline.

The final differences relate to the location of households where we find that more households in the RD treatment sample (bw +/- 5) are located in Punjab, and less in Sindh. This is likely to be related to the relative poverty status of the two provinces with higher rates of poverty observed in Sindh.

[14] Table 32 in Annex A presents the baseline discontinuities to demonstrate internal validity

Table 2 Household characteristics at baseline by sample

	Average of all beneficiaries in sample	Average of beneficiaries in RD treatment sample (bw +/-5)
Household composition		
Household size	7.47	7.01***
Number of children under 5	0.97	0.88***
Male children, aged 5-14	1.54	1.41***
Female children,, aged 5-14	1.42	1.26***
Male members, aged 15-24	0.62	0.65
Female members, aged 15-24	0.62	0.55***
Male members, aged 25-34	0.27	0.27
Female members, aged 25-34	0.40	0.38
Male members, aged 35-44	0.38	0.34**
Female members, aged 35-44	0.38	0.38
Male members, aged 45-54	0.25	0.28*
Female members, aged 45-54	0.22	0.21
Male members, aged 55-64	0.13	0.14
Female members, aged 55-64	0.08	0.08
Male members, aged 65 and over	0.09	0.08
Female members, aged 65 and over	0.10	0.12
Number of ever-married women	1.26	1.23
Human capital characteristics		
Age of household head	44.73	45.16
Household head is literate	26.89	29.64*
Head is female	8.51	7.46
Housing characteristics		
Number of rooms in household	2.76	2.85
Access to improved water source	90.25	91.14
Toilet: A flush connected to a public sewerage, to a pit or to an open drain	39.75	44.48***
Household has mud floor	77.34	71.10***
Consumer durables owned by household		
Refrigerator	6.01	6.43
Fan	76.57	77.69
Washing machine	13.86	16.61***
Cooking stove	7.87	10.39***
Bicycle	26.68	25.90
Motorcycle	4.12	4.49
TV	25.49	26.72
Sewing machine	21.22	25.86
Livestock ownership		
Cow	17.48	19.01
Buffalo	16.64	13.24***
Sheep	2.43	2.75
Goat	24.72	21.97**
Financial assets		
Household has savings	9.31	9.03
Poverty and livelihood		
Household owns agricultural land	10.56	10.80
Proportion of households below poverty line	67.46	61.99***
Per adult equivalent monthly consumption expenditure	1702.63	1790.26***
Receipts from BISP		
Average value of payments received by beneficiary household in last 12 months (PKR)	7,365	7,695**
Per adult equivalent monthly average value of transfer actually received by household (PKR)	92	104**
Location of households: proportion of households located in…		
Punjab	44.7	52.4***
Sindh	36.2	29.0***
Khyber Pakhtunkhwa	15.1	16.2
Balochistan	4.0	2.4
Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.		

In summary we find that households in the RD treatment sample (bw +/-5) are larger (driven primarily by a higher number of children) and more wealthy as evidenced by better living conditions, higher per adult equivalent consumption expenditure and lower rates of poverty. These outcomes are to be expected given that household composition is an important component of the BISP poverty score and the correlation between consumption expenditure and the poverty score.

The implications for the evaluation are those associated with the drawbacks of the RD design[15] in that it delivers a **Local Average Treatment Effect (LATE)**, which provides robust estimates of impact for treatment households close to the BISP poverty score cut-off. Thus care must be taken in the interpretation of estimates of impact presented in Section 5 onwards, noting that the estimates of impact are relevant for a sub-sample of households that are slightly larger and slightly wealthier than the average BISP beneficiary in the sample.

External validity – comparing evaluation sample of beneficiaries to BISP MIS

To further explore issues of external validity Table 3 presents a similar comparison of all BISP beneficiaries in the evaluation sample to the population of BISP beneficiaries as per the BISP MIS.

In terms of household composition we find that the evaluation sample to be similar to the population of BISP beneficiaries. The exception is the proportion of household heads with no education, where we find that fewer household heads in the evaluation sample of beneficiaries have no education than in the population of beneficiaries as per the BISP MIS.

Table 3 Household characteristics comparison of evaluation sample to BISP MIS

	Average of population of beneficiaries in BISP MIS	Average of all beneficiaries in evaluation sample	Difference
Household composition			
Average household size	7.43	7.47	0.04
Average number of dependents aged 18 - 65 inclusive	4.45	4.65	0.21
Average number of children aged 5-16 per household	3.57	3.38	-0.19
Proportion of households where household head has no education	73.93	69.71	-4.22***
Assets owned by the household			
Motorcycle	0.62	4.12	3.50***
TV	9.44	25.49	16.05***
Buffalo	8.76	16.64	7.88***
Cow	16.48	17.48	1.01
Sheep	4.28	2.43	-1.85***
Goat	22.80	24.72	1.92
Housing characteristics			
Proportion of households with a dry or dry raised latrine	27.40	15.60	-11.80***

Source: BISP impact evaluation surveys (2011-2013), BISP MIS. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

There is a mixed picture when assets owned by the household is considered. The evaluation sample exhibits higher ownership of the two consumer durables investigated. The rates of ownership of motorcycles and TVs seem to be low amongst the population of beneficiaries in the

[15] The RD approach was adopted at baseline as the best available approach given the way the BISP is implemented, following extensive consultation with the main evaluation stakeholders, BISP and the World Bank.

BISP MIS, when it is considered that amongst the poorest 10% of households in Pakistan[16] 5% own motorcycles and 28% own TVs suggesting a certain level of underreporting in the BISP MIS. On the other hand the evaluation sample exhibits similar levels of ownership of cows and goats, but higher ownership of buffalo and lower ownership of sheep.

It is difficult to make a concrete conclusion on the basis of the limited information available, but Table 3 suggests that the evaluation sample of beneficiaries is slightly more educated and may have slightly higher levels of welfare has proxied by their asset ownership. Differences between the evaluation sample and the population of beneficiaries in the BISP MIS should be expected given the focus of the evaluation sample on four provinces, Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan, whilst the population of beneficiaries in the BISP MIS also includes other regions in Pakistan.

Figure 3 provides some final context in by providing a comparison of the distribution of poverty scores of households in the evaluation sample, compared to the distribution of poverty scores of all BISP beneficiaries from the MIS. The comparison reveals a similar distribution of poverty scores in the evaluation sample as compared to the BISP administrative data, although the administrative data exhibits greater clumping just under the BISP eligibility cut-off.

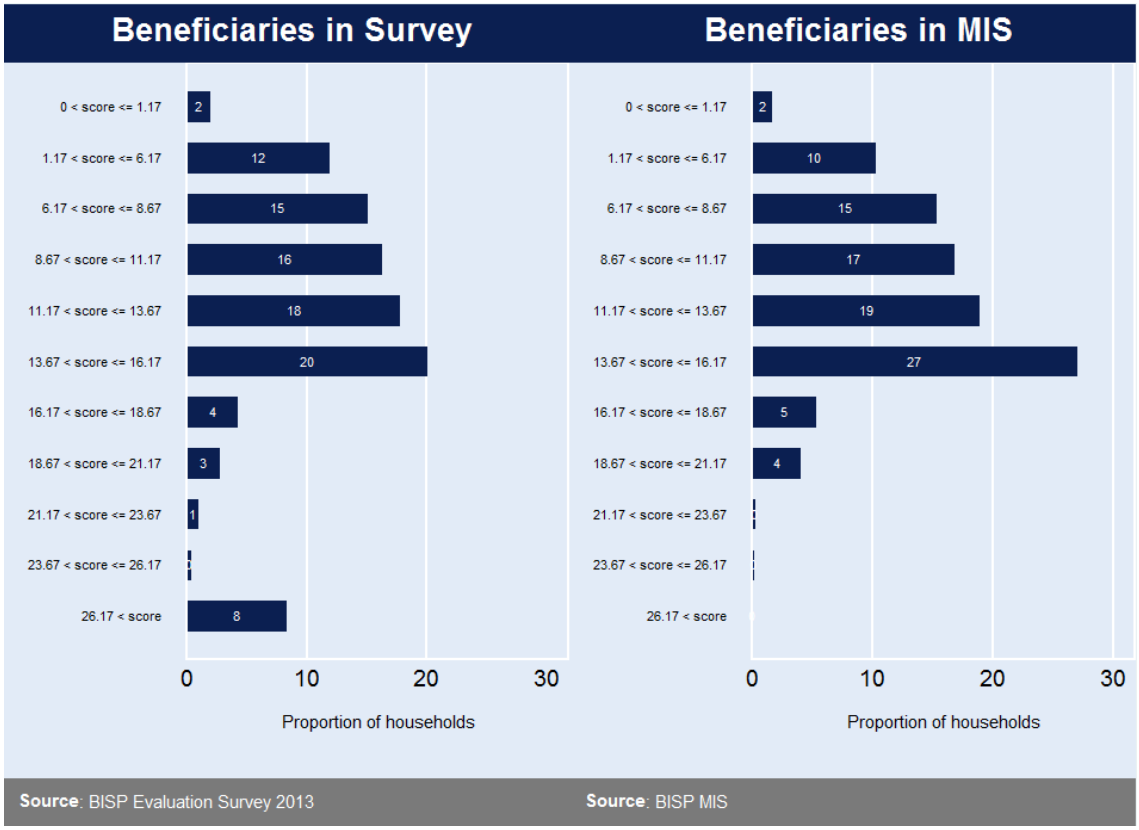
The left panel presents the distribution of the poverty score vs self-reported receipt of the transfer[17] which may explain the 8% of apparently ineligible beneficiaries who self-report receiving the transfer. These households are excluded from estimates of programme impact (given that they sit outside the RD optimal bandwidths).

Nonetheless the administrative data reports that 55% of all BISP beneficiaries have poverty scores within +/- 5 points of the eligibility cut-off.

[16] As per PSLM 2008/09, with the poorest 10% of households measured by per adult equivalent consumption expenditure

[17] For the first follow-up survey administrative data was received for poverty scores but not eligibility status.

Figure 3 Distribution of poverty score comparing survey to administrative data



Internal validity

To assess the **internal validity of the evaluation** we assess whether or not discontinuities are present at baseline (i.e. are households similar in the RD context) on wide range of household characteristics. This analysis is presented in Table 32 in Annex A, which show strong balance between the treatment and control samples relevant to the RD analysis, combined with the verification of the RD assumptions also presented in Annex A, allows us to be confident of the internal validity of the evaluation, i.e. that the results are robust for the sub-sample on which the RD approach is applied.

2.3 Final evaluation sample size and sampling strategy

In order to implement the RD approach a complex multi-stage sampling strategy was required to identify our treatment and control groups. A number of contextual factors at the time of the baseline survey influenced the sampling strategy. Primary amongst these was the requirement to conduct the baseline survey before any payments had been made to BISP beneficiaries.

At the time of the baseline survey the BISP poverty census was still on-going. Under ideal circumstances the evaluation would have waited for the poverty census to complete and sample treatment and control households directly from this census. However, implementation of the poverty census was not synchronised across evaluation provinces with the implication that payments would begin in some districts before the census had been completed in others[18].

[18] The idea of a *rolling baseline* that would follow the delivery was tabled during the inception phase. However, this would have required a detailed and confirmed workplan of the poverty census rollout, which was not possible given that the census was implemented by multiple third party implementers.

This meant that evaluation households were identified separately as *potential* treatment and control households based on a household listing exercise conducted in evaluation communities by OPM prior to the BISP baseline evaluation survey. In this household listing exercise an exact replica of the BISP poverty scorecard was delivered to all households in evaluation communities to approximate as closely as possible their actual BISP poverty score (as determined by the BISP poverty census) and assign them to treatment and control groups.

Whilst this approach was necessary to deliver a *pure baseline* (i.e. to interview households before BISP payments had begun) the danger was always that the household listing exercise would not accurately reflect a households actual BISP poverty score.

Evaluation households have since been matched to the BISP MIS via the number on the Computerised National Identity Card (CNIC) to identify their actual poverty score as determined by the BISP poverty census.

Table 4 Final evaluation sample size

Province	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	*Total*
Follow-up Sample size	**3,017**	**2,327**	**1,908**	**969**	***8,221***
Non-beneficiaries	*2,262*	*1,177*	*1,145*	*753*	*5,337*
Beneficiaries	*755*	*1,150*	*763*	*216*	*2,884*
Total sample matched to BISP MIS	**2,065**	**1,868**	**1,540**	**524**	***5,997***
BISP MIS matched non-beneficiaries	*1,373*	*764*	*809*	*348*	*3,294*
BISP MIS matched beneficiaries	*692*	*1,104*	*731*	*176*	*2,703*
BISP matched sample bw +/- 5	**1,081**	**807**	**723**	**191**	***2,802***
BISP MIS matched RD Control bw+/-5	*632*	*378*	*358*	*136*	*1,504*
BISP MIS matched RD Treatment bw +/-5	*449*	*429*	*365*	*55*	*1,298*
Source: BISP impact evaluation surveys (2011-2013)					

Table 4 presents the **final sample size of 8,221 households** that have been interviewed both in the baseline survey (2011) and in the first follow-up survey (2013). The sample is split between 2,884 beneficiary households and 5,337 non-beneficiary households. The 2**,884 beneficiaries in the sample form the basis of the situational analysis** of beneficiary households reported in Section 4.

Of all households in the sample **5,997 households were successfully matched to the BISP MIS** allowing the evaluation team to determine the actual poverty score of the household. Most relevant to the impact evaluation results presented in Section 5 onwards are the **2,802 households successfully matched to the BISP MIS that are within an RD bandwidth of +/- 5 points from the cut-off**. The exact sample size used for the RD analysis for each indicator is presented in impact tables in Part D.

A full description of the sampling strategy can be found in Annex A, which includes a discussion of sample attrition since the baseline survey, as well as how this is treated in our population sampling weights.

2.3.1 Implications of size of treatment group in Balochistan

Table 4 reports only 216 beneficiary households in Balochistan of which 55 are within the RD bandwidth of +/- 5 from the cut-off, which greatly effects the power of the Balochistan sample, or its ability through the RD approach to detect an impact of the BISP when that impact actually exists. In other words such a small treatment group sample size means that we run the very real risk of mistakenly reporting that there is no evidence of impact of the BISP, when in actuality there is.

To minimise the danger of misleading messaging that would occur from mistakenly reporting that the BISP does not have an effect on key indicators of impact in Balochistan, when in actuality it may, we do not report estimates of impact in that province. A full description of sample power analysis can be found in Annex A.

2.4 Note on the interpretation of impact estimate tables in this report

We present our estimates of BISP impact in Sections 5 to 8. The estimates of impact are presented using the same format as illustrated by Table 5 below. The following estimates are presented:

(1) Baseline value of the outcome indicator for treatment and control groups within the relevant RD bandwidth. These estimates have been weighted using a kernel weight[19] which gives higher weight to observations closest to the BISP eligibility cut-off.

(2) Follow-up value of the outcome indicator for treatment and control groups within the relevant RD bandwidth. These estimates have been weighted using a kernel weight which gives higher weight to observations closest to the BISP eligibility cut-off.

(3) Sample sizes for treatment and control groups within the relevant RD bandwidth

(4) The RD difference-in-discontinuity estimate which provides the measure of BISP impact on key impact indicators.

Table 5 Interpretation of impact estimate tables

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base(2)	Follow-up(2)	N(3)	Base(2)	Follow-up(2)	N(3)	
Outcome indicator	RD weighted baseline value for control group	RD weighted follow-up value for control group	RD control group sample size (size within relevant RD bandwidth)	RD weighted baseline value for treatment group	RD weighted follow-up value for treatment group	RD treatment group sample size (size within relevant RD bandwidth)	Regression Discontinuity impact estimate conducted on households within RD bandwidth

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

We also use stars (*) to present the statistical significance of a particular result. These can be applied to third, sixth, eighth and ninth columns. One star (*) will indicate a 99% level of

[19] Weights for the baseline means, follow-up means and difference-in-difference estimates are meant to replicate the weights used by the regression discontinuity analysis. Following the Kernel weights used by *Caloncio (2003)* for the regression discontinuity analysis, we apply a triangular Kernel weight for the RD treatment/control baseline/follow-up estimates: $K(u) = (1 - |u|)1_{\{|u| \leq 1\}}$. The centre point for the Kernel weight is the BISP poverty score eligibility cut-off

significance in a particular estimate. This would mean that we are 99% sure that an observed difference in our sample (whether it is a change in an indicator over time or an estimate of impact) would actually be observed in reality (i.e. we are 99% sure that the estimate is not a *false positive*).

Therefore if an estimate of programme impact (column 8) on a particular outcome indicator is not highlighted by a star (*) then the BISP does not have a statistically significant impact on that outcome indicator.

2.5 Qualitative research

Alongside the quantitative estimate of programme impact, the evaluation utilises extensive qualitative data both to provide contextual information and triangulation for the quantitative data and to capture impacts that are less easily quantifiable. The qualitative research is designed to be flexible in order to respond to unexpected areas of impact discovered and to investigate further particular areas of interest that emerge from analysis of both the quantitative and qualitative data from previous rounds.

The key evaluation questions of the qualitative study include:

Impact on nutritional status

- What are the perceptions of a balanced diet? Are these currently being met? If not why not?
- Has the BISP had an appreciable impact on the type and level of food that households consume? How and why?

Impact on gender roles and relations

- Does “cash in hand” for women lead to an empowering effect? Do women retain control over the BISP transfer?
- Does BISP transfer allow women greater say in household decision making? Is there an appreciable change in the type of expenditures being made by beneficiary households?
- Does the process of collecting the BISP transfer allow women greater mobility? Is this transferred to other aspects of life?

Impact on health and education

- Has BISP had an impact on the level of enrolment in education? Is this different for boys and girls?
- Does BISP encourage parents to keep their children in school for longer? Do children from BISP households have an improved education experience?
- Has the BISP transfer changed health seeking behaviour?

Impact on asset accumulation

- Has the BISP transfer allowed households to accumulate productive assets? Has this allowed for the diversification of livelihoods? Are these investments controlled by women?
- Has the BISP transfer enabled households to begin saving?

Impact on community relations

- Has the BISP transfer had an impact on established structures of power within communities?
- Hast the BISP transfer had an impact on social cohesion within communities? Has it led to conflict within communities?
- Has the transfer changed the way in which traditional support networks work?

BISP operational performance

- What are the perceptions of BISP targeting? Do communities feel that it is fair? Are certain groups favoured or omitted?
- What is the experience of the beneficiaries with disbursement of BISP funds? Is the transfer easy to access, timely and complete?

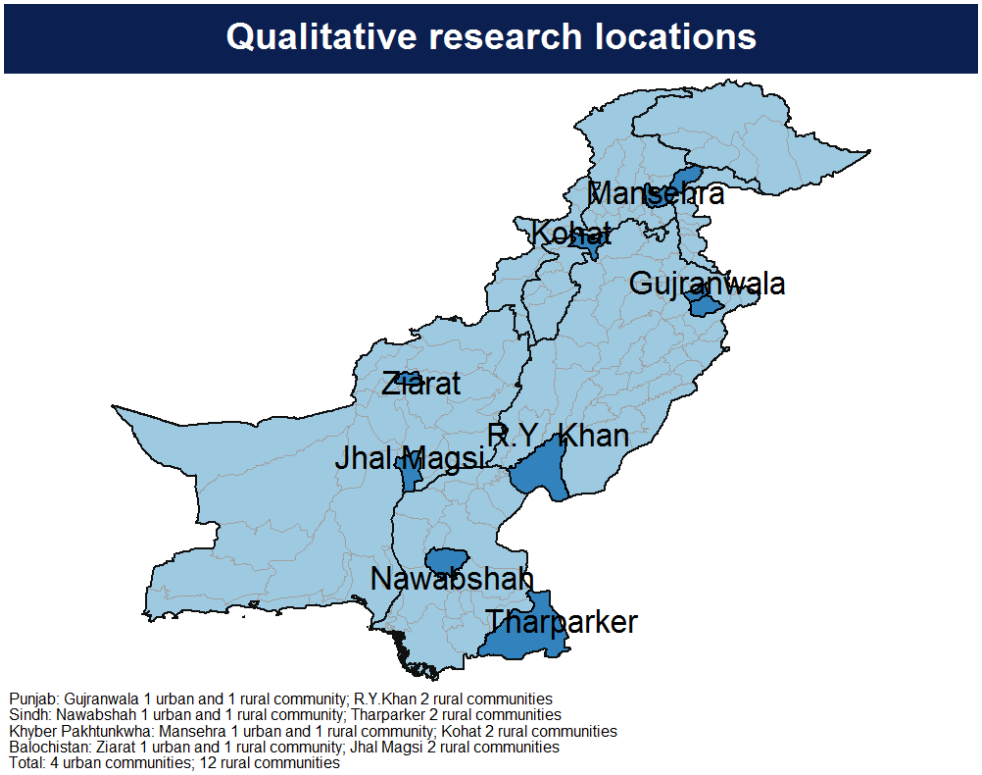
This qualitative findings in this report represents the results from the second year of qualitative fieldwork for the evaluation for the BISP, undertaken in June-July 2013. At the time of this round of research the programme had been operating under the current targeting arrangements for more than two years.

2.5.1 Areas sampled for research

Qualitative research was conducted across the four evaluation provinces: Punjab; Sindh; Khyber Pakhtunkwha; and Balochistan. Whilst in the quantitative study evaluation locations were selected randomly, in the qualitative study evaluation locations (given in Figure 4 below) were purposively selected to reflect a range of geographic, socio-economic and ethnic diversity important for the study, as well as to ensure the inclusion of areas that are part of the Waseela-e-Taleem pilot[20].

In each evaluation province two districts were selected and a total of 1 urban and 3 rural communities were visited. Greater emphasis was given to rural communities considering the higher proportion of beneficiaries in rural areas.

Figure 4 Qualitative research locations



Punjab: Gujranwala 1 urban and 1 rural community; R.Y.Khan 2 rural communities
Sindh: Nawabshah 1 urban and 1 rural community; Tharparker 2 rural communities
Khyber Pakhtunkwha: Mansehra 1 urban and 1 rural community; Kohat 2 rural communities
Balochistan: Ziarat 1 urban and 1 rural community; Jhal Magsi 2 rural communities
Total: 4 urban communities; 12 rural communities

The following categories of respondents formed the qualitative research, and were conducted in each evaluation community:

[20] A separate evaluation of the Waseela-e-Taleem pilot is currently on-going, and thus some locations were chosen so as to be in the WeT pilot areas. WeT is a conditional cash transfer targeted at children of primary school age.

- *Key informant Interview (community female);*
- *Key informant interview (community male);*
- *Focus group with BISP recipient household women;*
- *Focus group with BISP recipient household men;*
- *Focus group with BISP non-recipient household women;*
- *Focus group with BISP non-recipient household men;*
- *In-depth interview with parents of primary school going children; and*
- *Time line interview with BISP recipient women.*

A total of 64 FGDs were conducted in all four regions with 16 recipient women groups, 16 non-recipients women groups and 16 men recipient households and 16 non-recipient household men.

In addition to the focus groups, 2 Key informant interviews were conducted with one male and female each to gather community related information, 2 in-depth interviews with parents of school going children and three timeline interviews were conducted in each selected communities (urban and rural) with BISP recipient women to assess BISP impact overtime (last two years).

A total of 32 KIIs were conducted with 16 women and 16 men, in addition to 48 in-depth interviews with parents of school going children and 48 timeline interviews with BISP recipient women.

Part B: Experience of beneficiaries with BISP operations

3 BISP beneficiary experience

In this section we present findings related to the experience of beneficiaries with BISP operations as related to targeting, payment mechanisms, user costs and the use of the transfer. The key findings are:

- There is minimal low-level leakage of payments with the majority of beneficiaries receiving the full value of transfer. Leakage is particularly low for payments received through the BISP debit card
- We find evidence that suggest many households have not received all four quarterly payments in the 12 months preceding the transfer. On average 2.4 payments have been received by beneficiaries in the sample
- Some frustration at lack of communication and messaging at local levels for beneficiaries, particularly when payments have been delayed
- We find that the most commonly purchased items from the cash transfer are household expenses including *food and nutrition, clothing* and *health care*

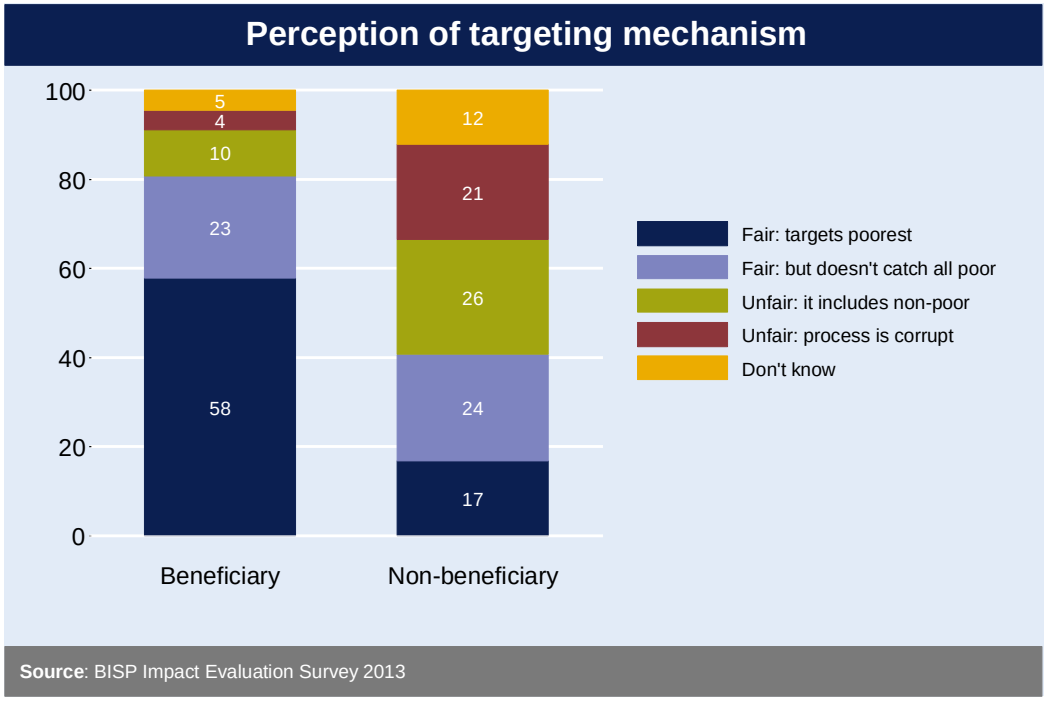
How BISP beneficiaries interact with the programme can have important implications for the way in which the cash transfer is used and the types of impact that can be expected from the programme. Programme operations including the way in which the programme is targeted, the timing and value of the transfer and the reliability of payments (*DFID, 2011*) can dictate the types of impact that can be expected from a cash transfer.

In this section we explore community perception of targeting, beneficiary experience with the payments mechanism including the quantity and value of payments received, user costs of accessing the payment and the most common items on which the BISP cash transfer is used.

3.1 Community perception of targeting performance

To understand how the targeting mechanism was perceived across communities in Pakistan we asked respondents to tell us their perceptions of how the BISP transfers were targeted and whether they thought it was *fair* or *unfair* in terms of how it captured poor households in their communities. Figure 5 reports the results. While the majority of BISP beneficiaries thought that the targeting mechanism was fair it is striking that 47% of non-beneficiary households in the sample thought that the process was unfair, either because it included the non-poor or because they felt that the process was corrupt.

Figure 5 Respondent perception of fairness of targeting mechanism



The qualitative research provides a more nuanced look at this, indicating there is still some confusion within the communities regarding the targeting process and that this is compounded by two different selection processes (BISP poverty scorecard and MNAs) which were conducted in communities. However, many households regardless of their beneficiary status regarded the targeting through the BISP poverty scorecard to be more credible than the original targeting mechanism conducted through the MNAs.

> *"There was one selection process where our local MPA made the selection according to his own decision. He mostly selected undeserving households with only a few poor families. The second round took place in 2010, which was carried out by the school master. That was more accurate and many deserving families were selected but a few undeserving families continue to receive BISP support". (Male non-beneficiary focus group. District Nawabshah, Sindh)*

> *"During the first survey leaders of various parties got forms and they gave them to their voters due to which a lot of worthy people did not get selected. After that t there was again a survey in which they collected NIC numbers and names this was the right way because after this a lot of deserving people got money. (Female key informant, District Ziarat, Balochistan)*

Respondents, both beneficiaries and non-beneficiaries indicated that they felt that some deserving households were not receiving the cash transfer, whilst some wealthier households had become part of the programme:

> *"I don't know… everyone deserves the money. Even though I am sure there are a lot of poor people who are getting the BISP money, there are also a lot of rich people who are getting the BISP cash. So yes a lot or deserving people are left out." (Female Beneficiary focus group District Rahim Yar Khan, Punjab)*

The qualitative research suggested that in Punjab in particular people with better social networks found it easier to access the programme:

> *"People that had contacts with the influential people have started receiving aid through BISP. A survey was conducted and the people that had contacts with the influential people were selected whereas those without contacts were not selected as the recipients of aid." (Female key informant, District Gujranwala, Punjab)*

> *"There are six or seven people I know that do not deserve (BISP money). They have become the beneficiaries based on political contacts. They have their own house and they earn themselves". (Male Beneficiary focus group, District Gujranwala, Punjab)*

> *"The selection process was not correct. Deserving women are not getting any money. There are some women getting money that are unmarried and also have their own land. Those who have no one to earn for and are widowed are not getting money. This process was incorrect, because these political people got forms and they filled them on their own… this is why deserving people are still deprived. (Male Beneficiary focus group, District Rahim Yar Khan, Punjab)*

Despite this the qualitative research seem to indicate that there is little resentment against BISP beneficiaries, as non-beneficiaries recognise that BISP status could not be influenced by the beneficiaries themselves.

> *"People live in harmony regardless of BISP status. Everyone knows that selection of beneficiaries was carried out by external people so no one blames anyone in the village. It is just considered luck of those who got selected". (Male community key informant. District Tharparkar, Sindh)*

> *"People do gossip about those who receive the BISP money but there has not been an argument or serious fight because of it." (Female non-beneficiary focus group, District Rahim Yar Khan, Punjab)*

The small value of the transfer also helps prevent serious conflict within communities:

> *"Why should we ruin our relations for Rs. 3000? We don't even know whether we will receive it the next month or not." (Female non-beneficiary focus group, District Gujranwala, Punjab)*

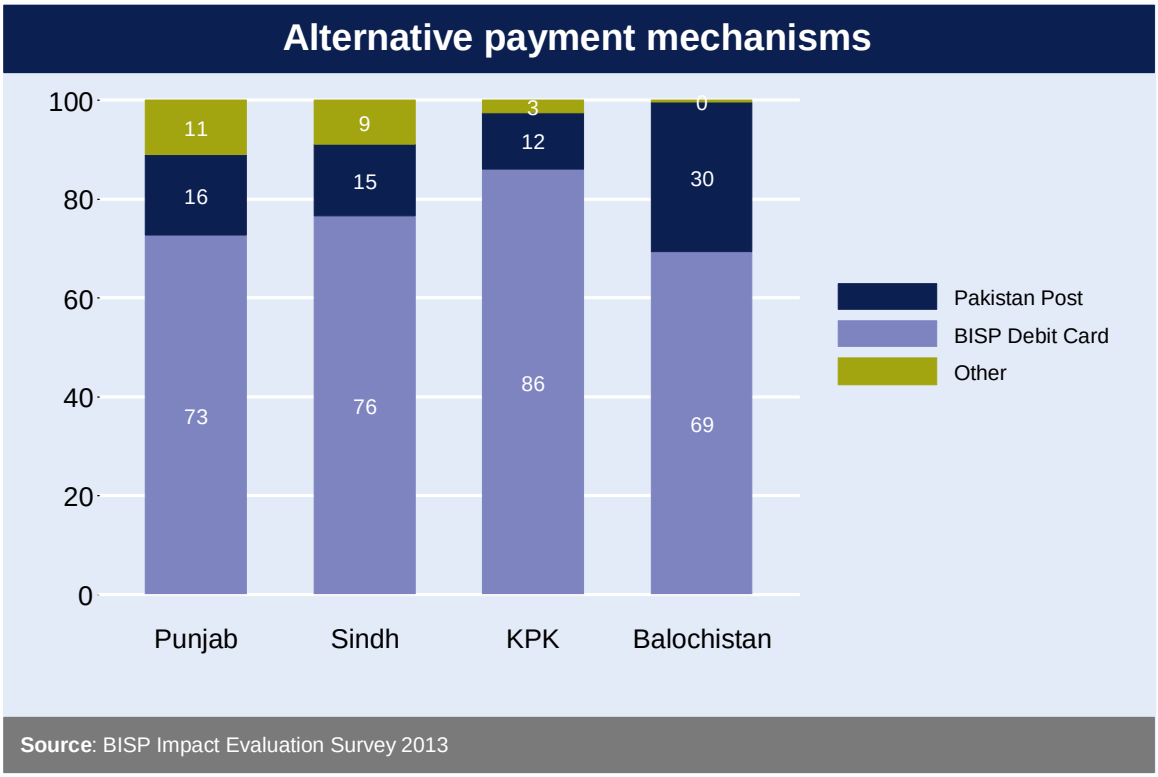
Nonetheless these concerns, particularly the community perception of the fairness of the targeting mechanism by non-beneficiary respondents warrant further investigation in future rounds of study, to allay any fears about the potential for conflict and stigma related to the receipt or non-receipt of the BISP cash transfer.

3.2 Payments mechanism

Under the original design of the payments mechanism BISP beneficiaries were paid money orders through the **Pakistan Post** to be delivered at their doorstep. However, in an effort to modernise the system BISP has since piloted various alternative payment mechanisms including the **BISP smart card**, **mobile money** and the **BISP debit card**.

Figure 6 indicates that the majority of BISP beneficiaries now receive their cash transfers via the BISP debit card. The BISP debit card is managed by six partner banks[21], with the nature of account varying by bank. The majority of bank accounts are known as **limited mandate accounts** that allow only for withdrawals. However, the banks are considering converting these accounts to **Level 0 accounts** which have additional functionality, including the possibility of making deposits[22]. BISP has requested State Bank of Pakistan approval to waive the ATM fees so that BISP beneficiaries would not have to pay any additional fee to use this payment mechanism.

Figure 6 How transfers are received



Beneficiaries can withdraw their BISP cash transfer from any ATM in Pakistan. Additionally to improve the coverage of the payments mechanisms the banks are also providing **branchless banking services**, such that BISP beneficiaries can also withdraw the transfers through Point of Sale (POS) machines manned by a network of banking agents.

Some beneficiaries will continue to receive the transfer through the Pakistan Post, in recognition that many communities in Pakistan do not have full financial access.

> *"We prefer the postman system because the nearest ATM machine is in Ziarat, which takes around 4 to 5 hours to travel to and the transport cost is around PKR 1,500 to PKR 2,000. We have hardly any money left on return". (Male beneficiary group. District Ziarat. Balochistan)*

[21] United Bank Limited, Habib Bank Limited, Bank Alfalah, Tameer Microfinance Bank, Summit Bank and Sindh Bank
[22] *CGAP, 2013*

3.2.1 Payments received in last 12 months per beneficiary

Over the period of the evaluation surveys BISP beneficiaries were **expected to receive four quarterly payments of PKR 3,000[23], for an annual total of PKR 12,000**.

Table 6 reports that on average **beneficiaries across Pakistan had received PKR 6,810 in the last 12 months** preceding the evaluation survey, in an average of 2.4 transfers based on self-reported receipts of the transfer. Beneficiaries in Balochistan have received the fewest average number of transfers, having received just 1.1 transfers, receiving on average PKR 2,903.

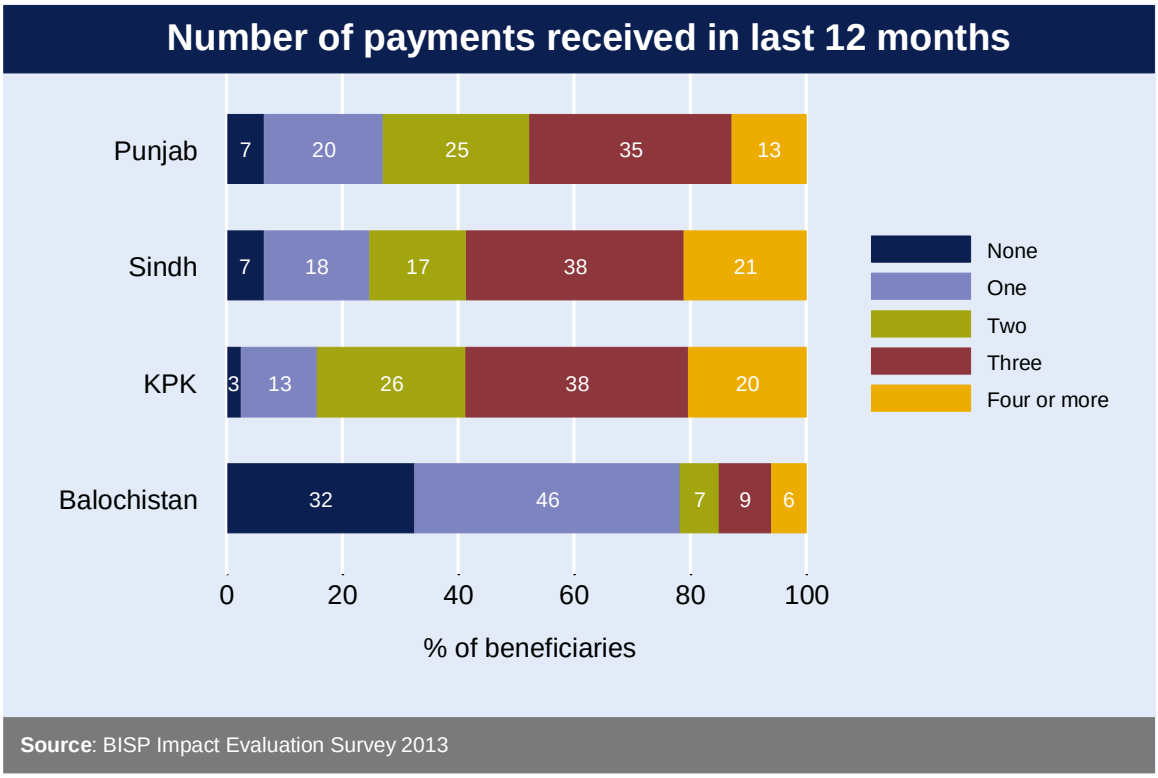
Table 6 Value of transfer received in 12 months preceding evaluation survey per beneficiary

	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Pakistan
Mean total value of transfer received in last 12 months per beneficiary (PKR)	6,622	7,131	7,525	2,903	6,810
Mean number of transfers received in last 12 months	2.3	2.6	2.7	1.1	2.4
Source: BISP impact evaluation survey (2013)					

Figure 7 further decomposes BISP beneficiaries by the number of payments received in the 12 months preceding the BISP impact evaluation survey (2013). In Sindh and Khyber Pakhtunkhwa the majority of households have received at least 3 transfers and in Punjab the majority of households received either 2 or 3 transfers. The situation in Balochistan is markedly different with 32% of beneficiaries having received no transfer in more than a year and 46% of beneficiaries having received just one transfer. Only 6% of beneficiaries in Balochistan had received the full complement of quarterly transfers.

[23] The monthly value of the transfer has recently increased to PKR 1,200, but was at PKR 1,000 for the duration of the BISP impact evaluation survey (2013)

Figure 7 Number of payments received in last 12 months



Source: BISP Impact Evaluation Survey 2013

The qualitative research suggests that many beneficiaries are unaware as to the reasons why they have not been receiving the cash transfer. In addition many **respondents expressed frustration that there were no clear lines of communication or dedicated BISP support staff** that would address their concerns over missed payments.

> *"We have not been receiving any instalments for the last four months. My husband has twice visited the BISP Islamkot office, but no one there pays any attention to him". (Female beneficiary focus group. District Tharparkar, Sindh)*

> *"I went to the post office but they said that they do not deal with BISP cash anymore so I should go find out from the BISP district office. I went to the district office and wasted the whole day but no one helped me there". (Male beneficiary focus group, District Jhal Magsi, Balochistan)*

> *"We don't have any complaints because there is no one to listen, they don't solve our problems. Where will our women file complaints? Everyone has complaints but there is no solution. We weren't getting money for 4 months but when we went there (BISP office) to ask, they told us to wait. No one was really pushed." (Male beneficiary focus group, District Kohat, KPK)*

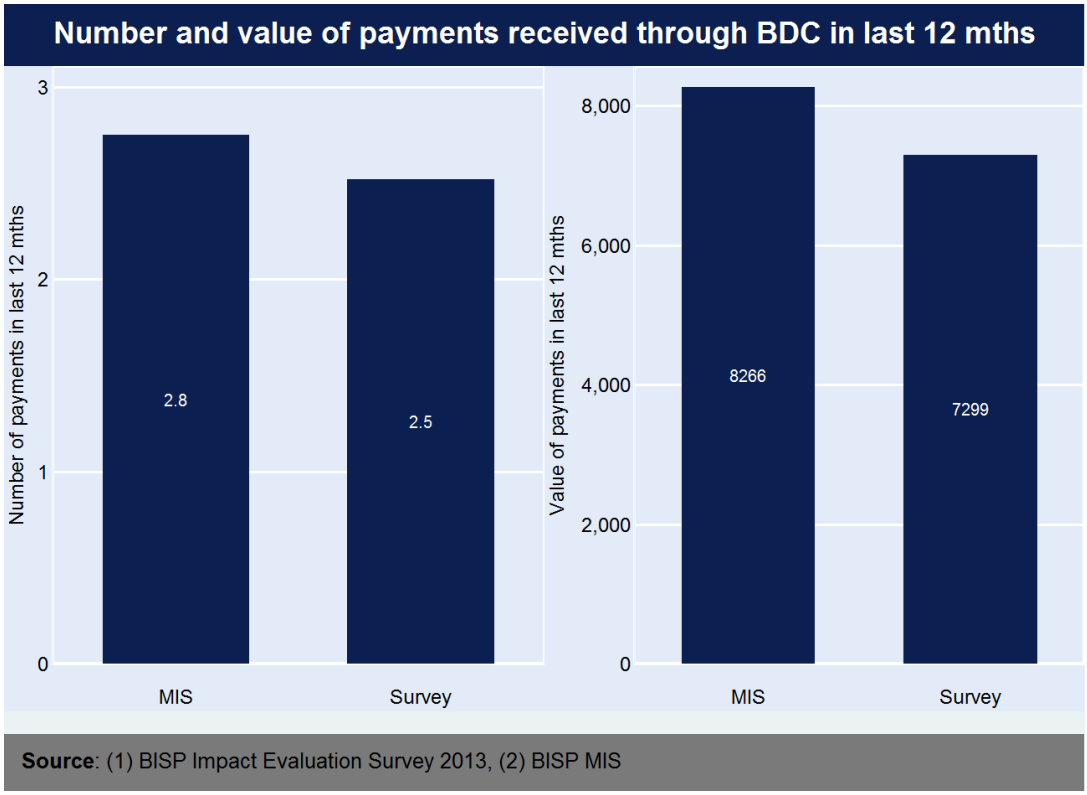
The significance of a perception of an irregular and unreliable payments should not be underestimated, particularly in the face of asymmetric information. Much of the theory of change for cash transfers in terms of their impact on key indicators such as consumption expenditure are predicated on regular and reliable payments. **Predictable payments allow a household to plan future consumption predictably and internalise the transfer into the household budget, setting the foundations for desirable outcomes such as consumption smoothing**.

3.2.2 Validating the number of payments against BISP MIS

Administrative information is available for the dates that payments were made into a beneficiaries account for all beneficiaries that receive the transfer through the BISP debit card. In order to validate the self-reported data on payments presented above, it is compared to this administrative information.

Figure 8 presents the results of this comparison, presenting the average number of payments received and the average value of the payments received for all BISP beneficiaries that received the transfer through the BISP debit card in the 12 months preceding a beneficiary's date of interview.

Figure 8 Comparison of payments received through BISP Debit card



Source: (1) BISP Impact Evaluation Survey 2013, (2) BISP MIS

This illustrates that self-reported data on payments collected through the evaluation survey provides a reasonable estimation of the actual payments made to a beneficiaries account. The average number of self-reported payments in the 12 months preceding the BISP impact evaluation survey (2013) was 2.5, as compared to an average of 2.8 payments report in BISP MIS data for the same period.

This finding generates confidence in the use of self-reported payments data for the full sample of beneficiaries presented above.

3.2.3 Per adult equivalent monthly value of the transfer per household

The BISP cash transfer is targeted at female family heads and given that it is common in Pakistan for there to be multiple families living in one household it is possible **for more than one BISP direct beneficiary to live under the same roof**. 8% of BISP beneficiary households had more than one direct BISP beneficiary. This meant that the average value of payments received per BISP beneficiary household is slightly higher than that received on average by individual beneficiaries at PKR 7,365.

Table 7 Value of transfer per household

	Punjab	Sindh	KPK	Balochistan	Total
Average number of beneficiaries per household	1.04	1.12	1.11	1.05	1.08
Average value of payments received by beneficiary household in last 12 months (PKR)	6,886	7,997	8,382	3,042	7,365
Per adult equivalent monthly average value of transfer per household (PKR)					
Expected (if received full payments)	161	164	165	189	164
Actually received	86	98	105	43	92
Source: BISP impact evaluation survey (2013)					

Table 7 also reports **per adult equivalent monthly value of the transfer**, this is a useful indicator as it compares directly to our measure of welfare; per adult equivalent consumption expenditure (reported in Table 16). If every beneficiary had received all expected payments the per adult equivalent monthly value of the transfer would be PKR 164, which translates into 10% of baseline values of per adult equivalent total consumption expenditure in a household[24].

However, given that **on average beneficiaries received only 2.4 payments the actual per adult monthly value of the transfer received was PKR 92**, or 5% of baseline values of per adult equivalent total consumption expenditure in a household.

3.3 User costs related to the payments mechanism

Table 8 provides information on the user costs associated with collection of the BISP cash transfer, in terms of the time and cost of collecting the cash transfer as well as an indication of local level leakage of the transfer through beneficiaries having to unwillingly pay fees to receive the transfer.

Table 8 Costs of collecting payments

	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Pakistan
Time taken to reach payment point (minutes)	37	50	53	78	46
Cost of transport to reach payment point (PKR)	73	102	87	221	91
Proportion of beneficiaries reporting having to pay a 'fee' to receive the transfer	22	54	26	13	35
Average 'fee' paid by those having to pay a 'fee' to receive transfer (PKR)	254	215	161	212	220
Source: BISP impact evaluation survey (2013)					

On average beneficiaries had to travel up to 46 minutes to collect the BISP cash transfers, with the cost of transport at PKR 91 or 3% of the value of the quarterly transfer. The costs of collecting the transfer were highest in Balochistan with an average cost of transport at PKR 221 (7% of the

[24] We found mean baseline values of per adult equivalent consumption expenditure to be PKR 1,702 (Table 16). As a result the transfer with a per adult equivalent value of PKR 164, represents less than 10% of monthly household expenditure.

quarterly transfer) and lowest in Punjab with an average cost of PKR 73 (2% of the transfer), likely reflecting the different levels of coverage by ATMs and POS machines across the two provinces.

Qualitative research, however, also suggests that there can be high opportunity costs of collecting the transfer, especially as women in most cases have to be accompanied when travelling to town to collect money:

> *"When the amount was to be collected via card a man had to accompany a woman because she couldn't go alone. This way the cost would rise. Women also didn't know how to use the card. Only women knew the secret password and no one else because it could be stolen. To get the money via smart card we spend roughly Rs. 300/- and for this we had to go to Kamokee. The whole day was wasted." (Male beneficiary focus group, Gujranwala)*

In addition to the direct costs of collecting the transfer we also asked beneficiaries whether they had **ever unwillingly paid a fee to collect their transfer**. We find that on average 35% of beneficiaries reported ever having to unwillingly pay a fee to collect the transfer, with the average *fee* collected at PKR 220 (7% of the transfer quarterly value of the transfer). Table 8 reports that this local level leakage is particularly prevalent in Sindh where 54% of beneficiaries reporting that they had unwillingly paid a fee to receive a transfer.

Figure 9 Proportion of beneficiaries who have ever unwillingly paid a fee to receive transfer

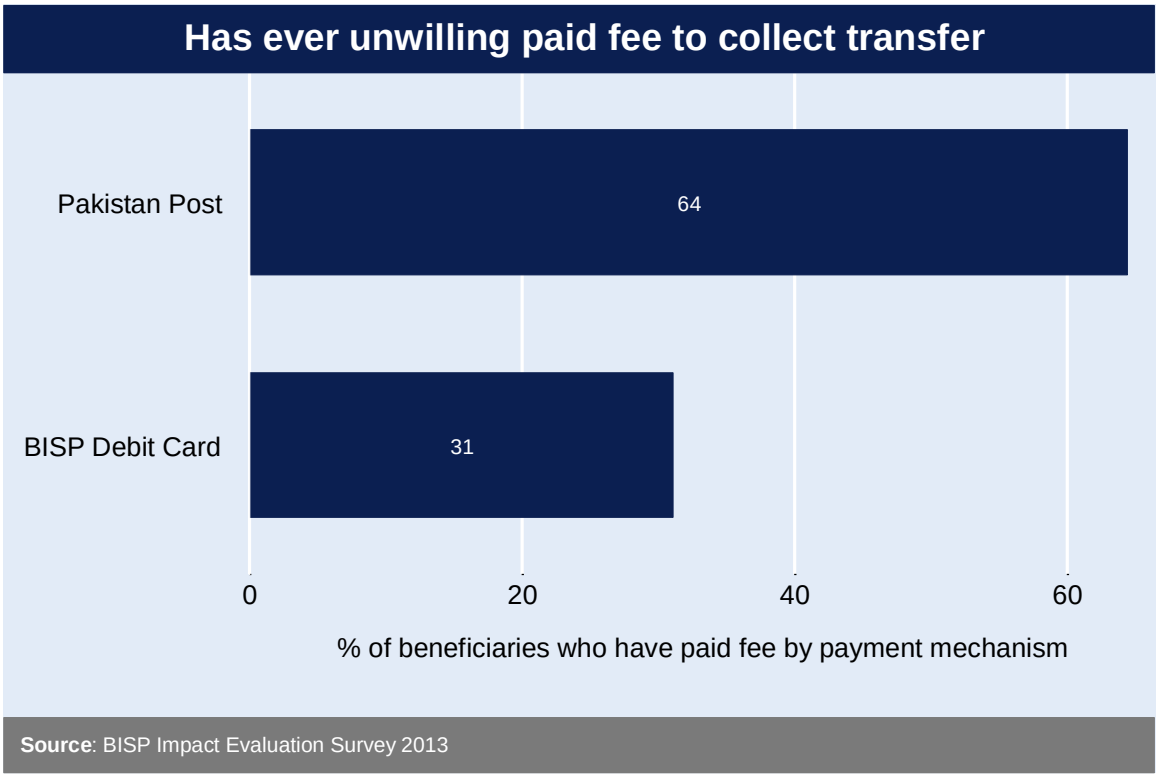


Figure 9 indicates that the change in payments mechanism to the **BISP debit card is associated with significantly lower local level leakage** of the transfer, with 31% of beneficiaries with a BISP debit card reporting ever having to unwillingly pay a fee compared to 64% of beneficiaries who receive through the Pakistan Post.

This finding is echoed in the qualitative research where many beneficiaries indicated preference for the alternative payment mechanism and referring to having to pay a commission to the postman or driver who would deliver the payments for the Pakistan Post.

"Before, a van used to come to our village every two to three months which would then distribute the cash to the women. They used to deduct PKR 300 on every PKR 3,000. Now we don't have to pay anything and get full payment". (Female beneficiary focus group. District Tharparkar, Sindh)

"This card service is better than postal service because we do not have to worry that whether postman is delivering money to correct people or not." (Male beneficiary focus group, District Nawabshah, Sindh)

Qualitative evidence from all sampled locations suggests that 'extra charges' were deducted by post men in early days – however, is interesting to note that is often occurred with the knowledge and tacit support of local influential community leaders:

"In earlier days the when the post man came with the BISP amount then the Miyaan Sahib used to gather all people on the dera and after taking Rs. 200 from them, he used to give them money. (Male Beneficiary focus group, District Rahim Yar Khan, Punjab)

The findings illustrated in Figure 9 suggest a strong improvement in transparency due to the use of smart cards or debit cards – however, it is still interesting to note that the adoption of new payment methods has not completely resolved leakage issues.

"The first time when we got smart cards we were sent to some lawyer's house. We had to receive Rs. 3000 but they gave us Rs. 2700 and deducted Rs. 300. People in BISP's office told us that money is with the lawyer and we will get it from him."(Male Beneficiary focus group, District Gujranwala, Punjab)

"The postman system was better than the Smart Card system. All of them deduct money from our amount. In case of postman at least he used to deliver the money at our door step and we didn't have to go through the hassle". (Male Beneficiary focus group, District Gujranwala, Punjab)

This can be explained by the charges paid by users at ATMs of POS to either avoid long queues to get assistance from someone to withdraw money through cards. Many beneficiaries expressed their helplessness in making such payments - poor literacy and inexperience with formal banking means that may rely on others to perform basic services like using PINs to withdraw money or checking account balances online.

"When we got the money through the post-office method, the post-office people used to deduct Rs 200 and the remaining money used to be given to the women. The issue with ATM is the same, there is a lot of rush over there and people take money from women to transact their money. The people who help in transacting the money for our women sometimes keep the card with themselves for a few days and then return it, then they make excuses such as "Your card doesn't work, you don't have money in your account", some 'lose' their cards, this is not right! (Male beneficiary focus group, District Kohat, Punjab)

"We go to the UBL-omni shopkeepers in Mithi and Charcharo who take our card and give us money. They keep Rs. 200 as commission on every Rs. 3000 that they give us. The postman used to take Rs 200 as his travelling expense and now the shopkeepers also take Rs 200 as their commission but now the money is only available from some specific shops not anywhere else." (Male beneficiary focus group, District Tharparkar, Sindh)

"The method of receiving money is not easy. We have to wait in long queues for hours. People even bribe the security guards to get ahead. Most of the people do not know how to use the ATM." (Male Beneficiary focus group, District Ziarat, Balochistan)

3.4 Use of the BISP transfer

In line with the immediate objective of the BISP to **cushion the negative effects of the food prices crisis and inflation** on the poor, the majority of households reported expenditure from the BISP cash transfer on *food and nutrition*. Other important expenditures relate to other basic necessities such as *health care* and *clothing*.

Table 9 Reported use of the BISP cash transfer

	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Pakistan
% of households who reported expenditure on					
Food and nutrition	85	82	84	93	84
Education	8	2	5	15	5
Health care	53	65	66	56	60
Shelter/accommodation	8	2	3	1	5
Clothing	42	60	33	28	47
Loan repayment	12	6	16	37	11
Investment/business	0	1	1	8	1
Savings	0	2	0	3	1
Source: BISP impact evaluation survey (2013)					

Loan repayment was also reported to be an important expenditure from the BISP cash transfer with 11% of beneficiaries reporting that they used the transfer for loan repayment. Taking on debt is one of the most commonly reported coping mechanisms in the face of an exogenous shock. The ability to reduce debt liability is strongly linked with a household's ability to cope with an exogenous shock.

Few beneficiaries reported expenditure from the BISP cash transfer on potential catalysts that may allow a household to graduate from poverty. In particular only 5% of beneficiaries reported expenditure on *education* and just 1% of beneficiaries reported on *investment/business* and *savings*. To understand this result it is useful to remember that the per adult equivalent monthly value of the transfer received in the last 12 months was just PKR 92 (Table 7), which is 9% of baseline levels of per adult equivalent food consumption expenditure.

The qualitative research provides some insight into this, which reported a general impression from respondents that **while the BISP cash transfers can facilitate improvements in welfare it cannot be seen as the main catalyst for change** in household welfare, particularly given the relatively small value of the transfer.

"BISP is additional support in family income. Our income is already insufficient for the family's requirement, therefore BISP has provided some relief. Even now we run short of money by the last week of the month despite living in austere conditions" (Male beneficiary focus group. District Manshera, Khyber Pakhtunkhwa)

"You are asking as if BISP is providing us with Rs. 10,000 every month. This amount is not even enough for monthly groceries and you are asking if we have been able to invest it in some way or have constructed a room with it. You tell me what would you be able to do this amount?" (Male beneficiary focus group, District Nawabshah, Sindh)

Part C: Profile and trends of BISP beneficiary households

4 Situational analysis of BISP beneficiary households

In this section we present a short situational analysis of BISP beneficiaries. This is drawn from the full sample of all beneficiary households. We find that:

- BISP beneficiary households exhibit high rates of poverty, with the majority households either under or only slightly above the national poverty line
- BISP beneficiary households are exposed to a variety of exogenous shocks, with the *rise in food prices* being the most common providing justification for one of the central objectives of the BISP
- Rates of infant and child malnutrition that are indicative of an on-going nutrition crisis
- Female beneficiaries retain a high degree of control over how the cash transfer is used
- Casual labour, vulnerable to cyclical and seasonal shocks, is the main source of income for BISP beneficiaries
- Low levels of school attendance for children in BISP beneficiary households
- BISP beneficiaries report low levels of savings, driven by low and irregular incomes

The purpose of this section is to provide a concise **situational analysis of all beneficiary households in the sample**, including all BISP beneficiary households in the sample to provide the reader with a snapshot of the experience of the average beneficiary given the focus of the impact evaluation results of beneficiaries within the RD bandwidth (households closest to the BISP poverty score cut-off).

Also provided is a **situational analysis of beneficiaries at the lower end of the BISP poverty score distribution**. That is a snapshot of beneficiaries not included in the evaluation RD bandwidth with **BISP poverty scores less than 11.17** is also provided, to give the reader some understanding specifically of the experience of BISP beneficiaries at the lower end of the wealth distribution.

It is intended that this section will provide some context for the average BISP beneficiary[25] and how the experience of such a household has changed over the course of the evaluation period (2011 – 2013).

[25] With the caveats about the representativeness of the sample noted in Section 0

4.1 High rates of poverty amongst BISP beneficiary households

The theory of change outlined in Section 1.2, highlights that a pre-condition for the BISP to have an impact on poverty is for the transfer to be sufficiently well targeted such that it captures households that are amongst the poorest and most vulnerable.

We find that the average BISP beneficiary household is poor with an average per adult equivalent value of monthly consumption expenditure of just PKR 1,702, with **68% of BISP beneficiary households living below the national poverty line at baseline**.

In line with recent impressive trends in national poverty reduction observed in Pakistan[26] poverty has fallen over the evaluation period, with just 53% of beneficiary households living under the poverty line at follow-up.

In Pakistan poverty is measured based on the national poverty line set by the Pakistan Bureau of Statistics, with poverty line set as the minimum level of consumption expenditure per adult equivalent necessary to provide a food basket of at least 2,350 calories daily. Poverty is then measured as the proportion of the population with values of consumption expenditure per adult equivalent below the poverty line.

As would be expected, lower rates of poverty are observed for BISP beneficiaries with BISP poverty scores less than 11.17, with 75% of such households underneath the national poverty line at baseline, falling to 57% at follow-up.

Table 10 Poverty: beneficiary trends

	Baseline (2011): all bens	Follow-up (2013): all bens	N: all bens	Baseline (2011): bens poverty score <11.17	Follow-up (2013): bens poverty score <11.17	N: bens poverty score<11.17
Mean household consumption per adult equivalent (PKR)	1,702	1,913***	2,884	1,613	1,845***	1,310
% of beneficiary population below poverty line	68	53***	2,884	74	57***	1,310
Poverty gap (%)	15	11***	2,884	18	13***	1,310

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

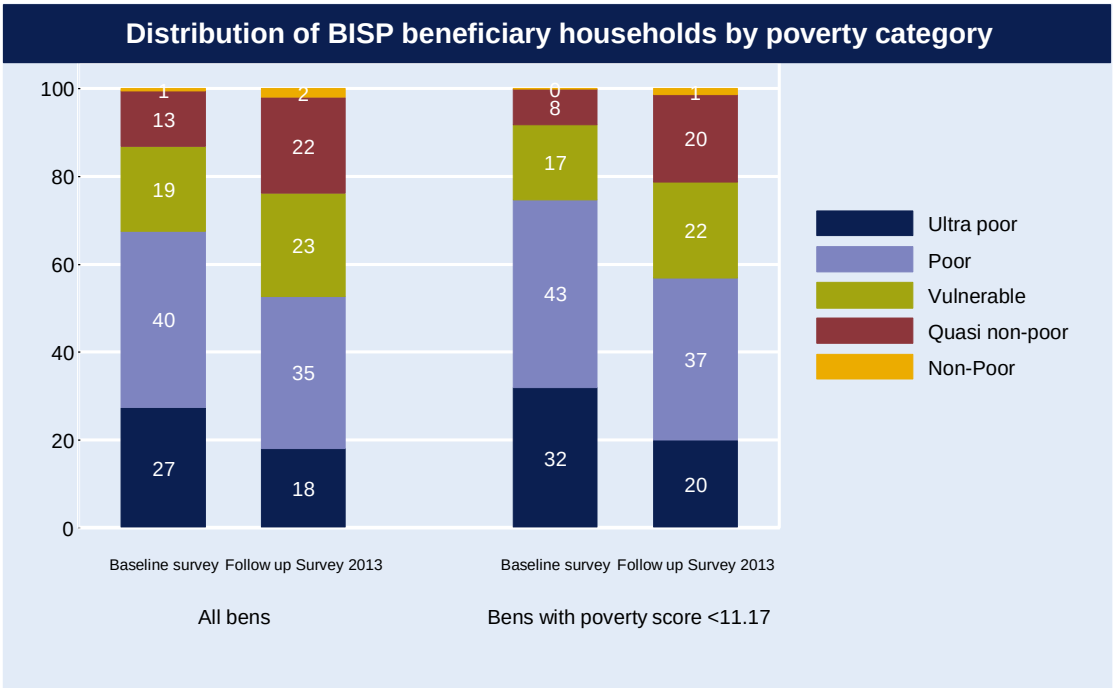
Figure 10 provides a more nuanced picture of poverty observed amongst beneficiary households, providing a decomposition of beneficiary households by various poverty categories as defined by the Pakistan Poverty Reduction Strategy Paper (PRSP).

This indicates that **86% of BISP beneficiary households were ultra-poor, poor or vulnerable to poverty at baseline**, with a further 13% reported as quasi non-poor. This is important to note as there is a strong body of literature that suggests those who are only just above the poverty line are vulnerable to slipping back below the poverty line reflecting the cyclical nature of poverty, particularly in the context of the kind of shocks faced by BISP eligible households including rising food prices and the recent episodes of flooding. The impact of the BISP on poverty levels of the RD treatment group is explored in Section 5.1.

[26] *IMF (2010)* reports poverty falling from 35% in 2001/02 to 22% in 2005/06. The PSLM survey reported poverty rates of 17%.

This suggests that **BISP, in line with its stated objectives, is well placed to address the needs of the poor** by providing poor households with a minimum income package, as well as protecting vulnerable households from chronic and transient poverty.

Figure 10 Distribution of BISP beneficiary households by poverty category[27]



A similar experience is found for BISP beneficiaries with a BISP poverty score of less than 11.17, though the level of poverty is more severe, for whom 92% were ultra-poor, poor or vulnerable to poverty at baseline.

4.1.1 Consumption shares

Table 11 reports the distribution of monthly consumption expenditure for BISP beneficiary households over the period of the evaluation. This reports a **relatively high share of food consumption expenditure** for both groups of BISP beneficiaries, at approximately 60% of monthly consumption expenditure at baseline. For comparison Table 11 also reports the budget shares as reported in the PSLM (2011/12) survey, for all households in the first quintile (i.e. the poorest 20% of households nationally, the target group for the BISP cash transfer).

The poorest 20% of households in the PSLM (2011/12) survey exhibit similarly large shares of expenditure on food consumption, which is indicative of households living at subsistence levels. Expenditures on housing expenses and fuel are the next most significant categories of expenditure, each making up 9% of monthly consumption expenditure for both groups of BISP beneficiaries at baseline.

[27] *Ultra poor: those less than 75% of the poverty line. Poor: those between 75% and 100% of the poverty line. Vulnerable: those between 100% and 125% of the poverty line. Quasi non-poor: those between 125% and 200% of the poverty line. Non-poor: those at more than 200% of the poverty line.*

Table 11 Distribution of monthly consumption expenditure by commodity group

	Baseline (2011): all bens	Follow-up (2013): all bens	N: all bens	Baseline (2011): bens poverty score <11.17	Follow-up (2013): bens poverty score <11.17	N: bens poverty score<11.17	*PSLM 2011/12: 1st quintile*
Food	59	56	2,884	60	57	1,310	*54*
Apparel & footwear	5	6	2,884	5	6	1,310	*6*
Transport	3	5	2,884	3	5	1,310	*5*
Cleaning, laundry & personal appearance	5	5	2,884	5	4	1,310	*5*
Health	3	4	2,884	4	4	1,310	*4*
Education	1	2	2,884	1	1	1,310	*2*
Housing expenses	9	6	2,884	9	6	1,310	*7*
Fuel	9	9	2,884	9	9	1,310	*9*
Miscellaneous	5	7	2,884	5	7	1,310	*9*

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

4.2 BISP households exposed to a variety of shocks

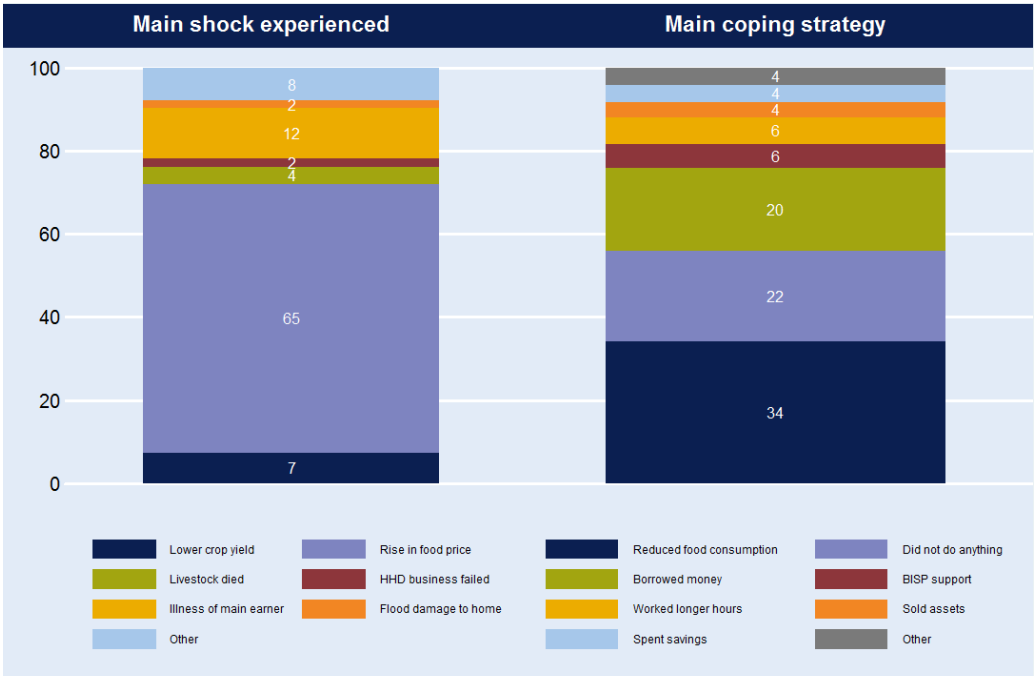
The BISP was originally conceived in part as a response to the negative effects of the food, fuel and financial crises on the poor. We find that this need is still extremely relevant, with 75% of all BISP beneficiaries in the follow-up survey have experienced an exogenous shock that was damaging to household welfare.

Figure 11 describes the nature of the shocks experienced, with by far the most common shock experienced being a **rise in food prices providing justification to one of the central objectives of the BISP cash transfer**. A further 12% of households reported illness of the main household earner highlighting the role that BISP can play in insuring against income shocks. Less commonly experienced shocks include lower crop yield, death of livestock, household business failure and flood damage to dwelling.

The BISP can play an important role for a beneficiary household in its response to an exogenous shock. This is critical to because **an exogenous shock, even if it is only temporary (such as a flood) can have persistent effects on poverty and human development (***Dercon and Hoddinott (2003)***)[28]**.

[28] For example *Dercon and Hoddinott (2003)* note that a temporary shock such as a drought can have permanent effects, finding that shocks lead to reduction in final attained stature and schooling outcomes.

Figure 11 Main shock experienced and coping strategy adopted: beneficiary households



Source: BISP Impact Evaluation Survey 2013

In response to these shocks beneficiary households have adopted a number of potentially damaging coping strategies. In particular the main coping strategy was a ***reduction in food consumption*** for just over a third of beneficiary households. This can be particularly harmful for vulnerable members of the household (such as infants and young children who we show below exhibit dangerously high rates of malnutrition). Furthermore, despite improvements to *per adult equivalent consumption expenditure* (Table 10) this illustrates that the BISP has not completely insured households against negative shocks, in the sense that households are adopting potentially damaging coping strategies in response.

This may relate to the timing of quarterly transfers and their regularity with only 2.4 transfers received in the 12 months preceding the survey. If the transfer does not arrive at the same time as a shock is experienced, households may be unable to use it in response to the shock, and indeed we see only 6% of treatment households reporting *BISP support* as their main coping strategy.

4.3 Children in BISP households have high rates of under-nutrition

Infant and child nutrition security relates critically to the longer term goals of the BISP in terms of protecting a vulnerable population from chronic poverty. There is a strong body of literature that indicates that **poor infant and child nutrition is an important driver of the inter-generational transmission of poverty**. Under-nourished children perform worse in school and drop out earlier (*Glewwe et. al. (2002), Grantham-McGregor et. al. (2007), Walker et. al. (2005)*), whilst lower school achievement is linked with lower lifetime earnings (*Duflo (2001)*).

Measures of infant and child nutrition

Wasting: identifies current under-nutrition. Causes include adequate current food intake, incorrect feeding practices, disease and infection.

Stunting: identifies past or present chronic nutrition. Causes include long-term factors including chronic insufficient protein, energy and micro-nutrients, frequent infection or disease, sustained inappropriate feeding practices.

Table 12 Child nutrition: beneficiary trends

	Baseline (2011): all bens	Follow-up (2013): all bens	N: all bens	Baseline (2011): bens poverty score <11.17	Follow-up (2013): bens poverty score <11.17	N: bens poverty score<11.17
Proportion of children aged 0-59 months wasted						
Boys	24	20	960	25	21	601
Girls	18	15	872	18	15	527
Proportion of children aged 0-59 months stunted						
Boys	42	53**	960	47	55	601
Girls	44	51	872	45	49	527
Proportion of children aged 0-59 months who experienced an episode of diarrhoea in the last 30 days						
Boys	41	40	960	38	41	601
Girls	45	36**	872	45	34*	527
Proportion of children aged 12-59 months fully immunised						
Boys	64	72***	960	56	67***	493
Girls	61	74***	872	53	70***	436

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

As a result the on-going high rates of both wasting and stunting amongst children aged 0-59 months are of concern. Indeed Table 12 indicates **wasting and stunting at levels the World Health Organisation would classify as signifying an on-going crisis in terms of child malnutrition**[29]. Levels of wasting above 15% indicate a current crisis in terms of children having low current food intake or being exposed to disease and infection, whilst levels of stunting above 30% indicate a long-standing, chronic problem of inadequate nutrition for children in beneficiary households.

Child nutrition is determined by a variety of factors that extend beyond the level of poverty in the household and a child's access to food, including access to a sanitary environment, adequate health services and carers having the knowledge and skills to provide adequate care. Despite beneficiaries with BISP poverty scores less than 11.17 having higher rates of poverty than the average BISP beneficiary (Table 10), children in these households exhibit similar rates of both wasting and stunting.

Table 12 provides some clues as to what these other factors might be. We find that in RD treatment households **40% of boys and 41% of girls have experienced an episode of diarrhoea in the last 30 days**. This compares unfavourably to the national average of 9% for boys and 8% for girls reported in the most recent PSLM survey (2011-12)[30]. Diarrhoea in children is a useful proxy for a child's exposure to unsafe sanitation conditions and unsafe drinking water, both of which contribute to child malnutrition.

We also report that in RD treatment households **just 75% of boys and 72% of girls aged 12-59 months have been fully immunised** again comparing unfavourably to national averages reported by *Pakistan Bureau of Statistics (2013)* of 81% and 79% respectively. Full immunisation reflects

[29] The WHO classification for the degree of malnutrition within a population of children aged 0-59 months. Rates of wasting higher than 15% and rates of stunting higher than 30% are considered to be *very high*, indicating a child nutrition crisis, *World Bank (2008).*
[30] *Pakistan Bureau of Statistics (2013)*

households' access to child health services, their knowledge of its importance in the care of infants and young children as well as cultural attitudes to immunisation.

The impact of BISP payments on child nutrition amongst households in the RD treatment group is explored in Section 5.3.

4.4 Female beneficiaries largely retain control of the cash transfer

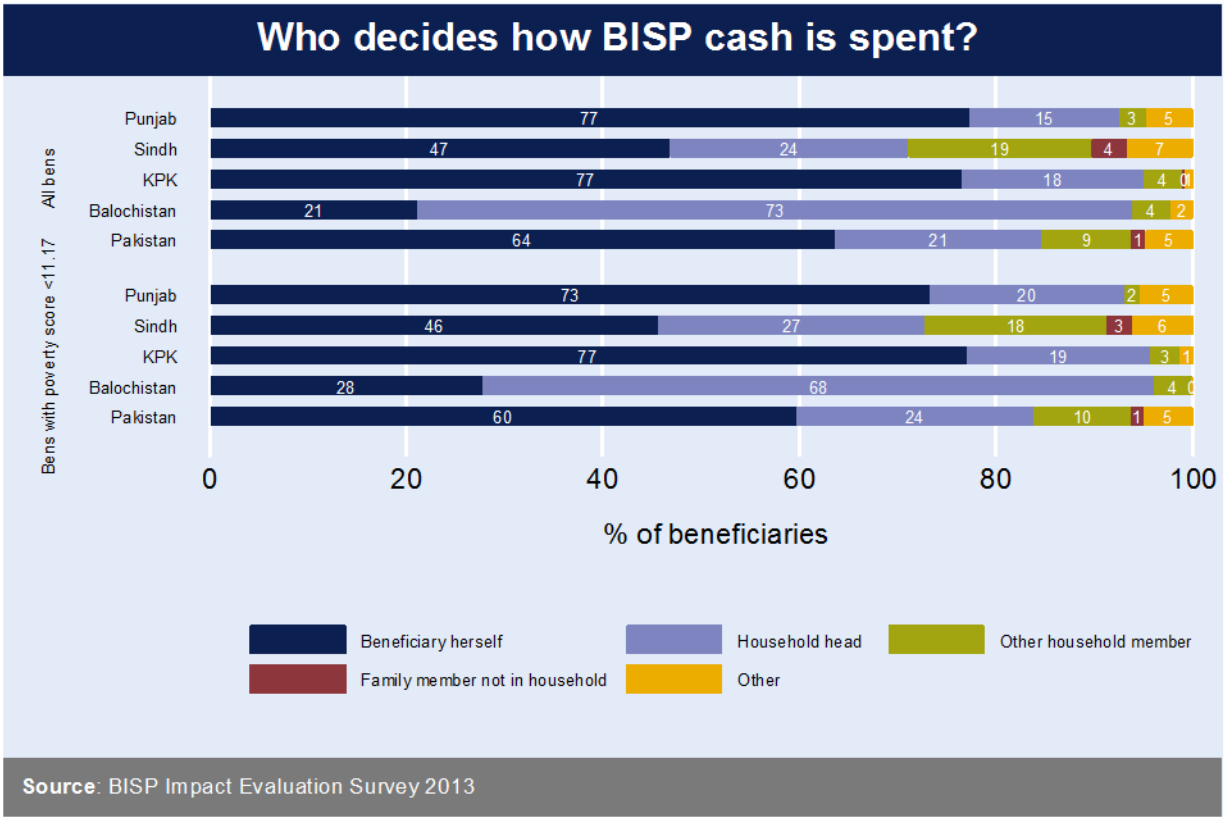
Central to the design of the BISP is the **assignment of every ever-married female in the household as the direct beneficiary**, a choice reflecting the central goal to promote female empowerment through the BISP.

An important pre-condition for this to occur, however, is that beneficiary women can indeed retain control over the money that they receive from the BISP. Figure 12 certainly suggests that by and large women do retain control over the transfer, with **two-thirds of female beneficiaries making decisions about how the cash transfer should be spent, with similar findings for female beneficiaries in BISP beneficiary households with a BISP poverty score of less than 11.17**.

Importantly, given the shift to BISP debit card system, the qualitative research indicated that this **result was likely to hold even when the beneficiary female did not collect the transfer herself**, a key consideration with the implementation of the BISP debit card payment mechanism. In the majority of timeline interviews conducted with beneficiary women respondents reported that they controlled the BISP cash even though it was often collect by a male family member.

> *"My son or husband collects the cash from the ATM machine because then it saves me a trip. But they hand it over and I decide where to spend it" (Timeline interview. District Tharkparkar, Sindh)*

Figure 12 Decision making over use of BISP transfer



However, Figure 12 also indicates that there is significant variation across the provinces in the influence of female beneficiaries over this resource. In particular in Balochistan only 21% of female beneficiaries reported that they were involved in decisions over how to use the transfer, whilst in Sindh only 47% of female beneficiaries retained control over the transfer, perhaps reflecting differences in cultural attitudes across the provinces. This may signal the need for increased messaging in those provinces related to the BISP objective of promoting women's empowerment.

The impact of the BISP on women's empowerment outcomes for the RD treatment group is discussed in Section 6.

4.5 Beneficiary women have very low levels of literacy

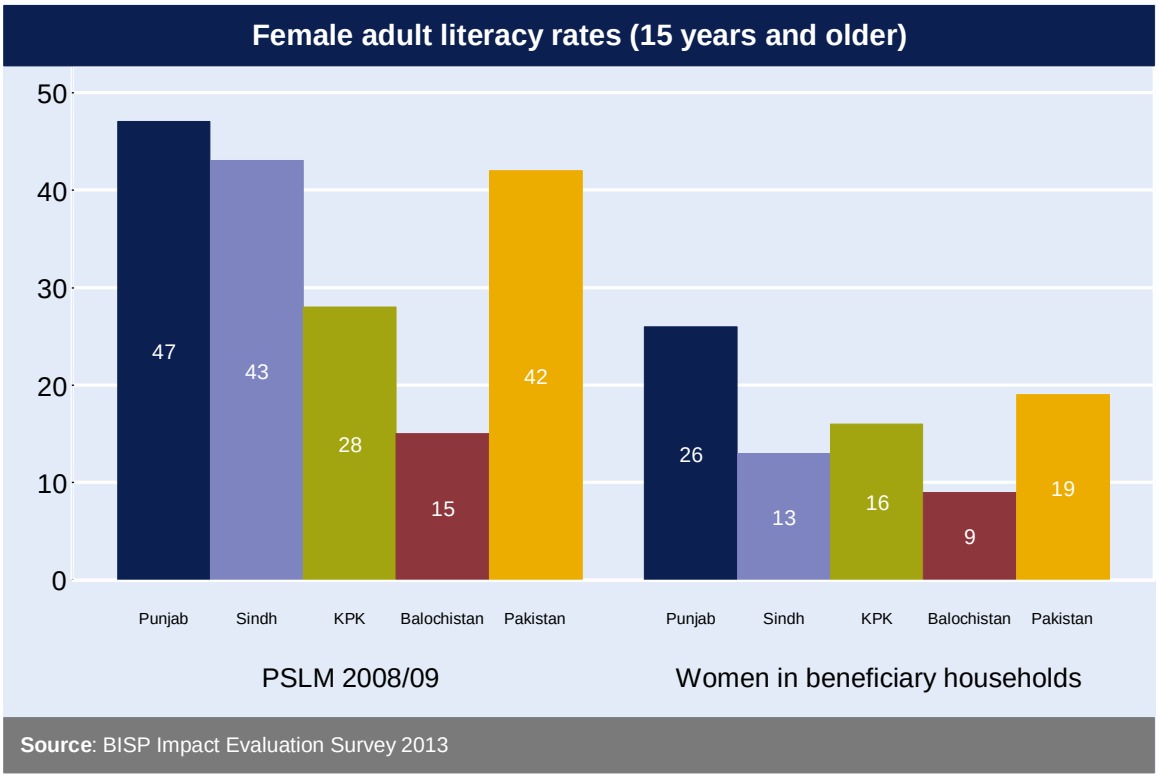
Human capital is an important resource linked to female empowerment, and is an important pre-condition that allows women agency to act upon their various goals.

Here literacy is used as a proxy for human capital among women. Education and literacy for women are linked to empowerment in a number of ways in terms of higher agency: it is linked with increased involvement in decision making processes in the household[31], more educated women are less likely to experience domestic violence[32], and more educated women are more likely to engage in civic participation such as attending political meetings[33]. Furthermore higher female literacy is linked with positive transmission effects to future generations including increased likelihood of sending children to school[34] and higher survival rates and better nutrition for children[35].

Female **adult literacy rates in BISP beneficiary households are significantly lower than national averages**. Just 19% of adult women in beneficiary households are literate compared to 42% nationally. The provincial variation in our sample of women in beneficiary households broadly follows the national trends, being highest in Punjab (26%) and lowest in Balochistan (9%).

[31] *Levine et. al., 2008*
[32] *Sen,1998*
[33] *Kabeer, 2005*
[34] *Birdsall et. al., 2005*
[35] *Schultz, 2001*

Figure 13 Female literacy rates



4.6 Casual labour an important source of income for BISP beneficiaries

BISP beneficiary households continue to be characterised by a **high rate of dependence on casual labour as the main source of household income and we do not find major differences between the average BISP beneficiary household and BISP beneficiary households with a poverty score less than 11.17**. This should not be surprising given that the BISP poverty scorecard that determines the eligibility of beneficiary households, specifically excludes households with higher levels of physical and natural capital.

However, this dependence can be problematic as **casual labour is commonly indicative of poor job quality, low wages as well as being vulnerable to cyclical and seasonal shifts** providing little in the way of long-term income particularly as casual labourers are employed outside of formal labour laws and protection *(CPAN, 2013)*.

Table 13 Main source of income, human and physical capital: beneficiary trends

	Baseline (2011): all bens	Follow-up (2013): all bens	N: all bens	Baseline (2011): bens poverty score <11.17	Follow-up (2013): bens poverty score <11.17	N: bens poverty score<11.17
Proportion of households by main source of income						
Casual labour	52	47***	2,884	49	47	1,310
Salary	16	15	2,884	17	17	1,310
Cash crop production	10	8	2,884	12	10	1,310
Small business	7	11**	2,884	5	8**	1,310
Food crop production	5	5	2,884	7	5	1,310
Remittances	4	7***	2,884	3	5**	1,310
Petty/skilled trading	3	3	2,884	2	1	1,310
Assistance	0	0	2,884	0	0	1,310

	Baseline (2011): all bens	Follow-up (2013): all bens	N: all bens	Baseline (2011): bens poverty score <11.17	Follow-up (2013): bens poverty score <11.17	N: bens poverty score<11.17
Proportion of population aged 15 – 49 that have no education						
Male	48	44**	4,066	53	48**	2,240
Female	76	73**	4,396	80	76**	2,625
Proportion of households that own agricultural land	11	13	2,884	11	15**	1,310
Mean size of agricultural land owned (acres)	0.23	0.27	2,884	0.28	0.36	1,310
Proportion of households that own livestock	55	48***	2,884	59	54**	1,310

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

The dependence on casual labour is likely linked to low levels of education amongst adults in beneficiary households with 48% of men and 76% of women aged between 15 and 49 with no education. This compares unfavourably to national averages presented in Pakistan Demographic Health survey (*PDHS, 2012*) of 29% and 57% respectively. *Aslam et. al. (2012)* demonstrate that rising levels of education result in decreasing probability of casual work in Pakistan, suggesting that investments in education now will allow future generations the possibility of lower reliance on what is an inherently vulnerable livelihood strategy.

The reliance on casual labour can be further explained by the highly unequal land distribution in Pakistan with just 2% of households controlling more than 45% of all land (*World Bank, 2009*). This context certainly seems to hold for BISP beneficiary households, with only 11% owning any agricultural land at baseline, despite the sample being mostly rural.

The impact of the BISP on the livelihoods of the RD treatment sample is explored in Section 7.

4.7 Low levels of school enrolment in beneficiary households

The accumulation of human capital is one of the most significant factors that can help to break the transmission of inter-generational poverty and there is a well-discussed linked between higher learning outcomes and lifetime incomes. However, children from poorer households can find themselves stuck in a vicious cycle: the poor are most often excluded from schooling; more likely to face higher opportunity costs of education (for example the requirement for child labour); this in turn affects the opportunities available to such children when they enter the labour market their lifetime incomes and hence the schooling opportunities available to their children.

Table 14 School attendance of children aged 5-12 years: beneficiary trends

	Baseline (2011): all bens	Follow-up (2013): all bens	N: all bens	Baseline (2011): bens poverty score <11.17	Follow-up (2013): bens poverty score <11.17	N: bens poverty score<11.17
Proportion of children aged 5-12 years currently attending school						
Total	54	55	6889	43	47	3557
Boys	57	61*	3556	46	52	1826
Girls	50	49	3333	39	40	1731

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

Table 14 reports that **significant proportions of children in beneficiary households are not attending school**, with just 55% of children aged 5-12 years enrolled at the time of the follow-up survey. There is a significant gender divide with just 49% of girls aged 5-12 years attending school compared to 61% of boys. A variety of factors drive this gender divide including cultural norms restricting freedom of movement of girls[36], a gender division of labour with women being primarily responsible for housework[37] and a shortage of female teachers[38].

Whilst the average BISP beneficiary and BISP beneficiaries with a BISP poverty score less than 11.17 spend similar proportions of their budget on education (Table 11) the rate of school enrolment is lower amongst those with a BISP poverty score less than 11.17, both for boys and girls. At baseline 54% of all children in BISP beneficiary households were enrolled in school, compared to 43% of children living in BISP beneficiary households with a BISP poverty score less than 11.17.

The impact of the BISP on school attendance for children in the RD treatment group is explored in Section 8.1.

4.8 BISP beneficiaries have low levels of saving

As depicted in the theory of change given in Figure 1, access to finance can be an important direct or indirect contributor to the achievement of a variety of longer term goals: including the level and growth rate of agricultural productivity[39], the opportunity to explore entrepreneurial activities, improved access to education, a reduced need for child labour longer term outcomes[40], as well as building up a store of precautionary savings to self-insure against future income shocks in the absence of functioning credit markets[41].

Table 15 Savings: beneficiary trends

	Baseline (2011): all bens	Follow-up (2013): all bens	N: all bens	Baseline (2011): bens poverty score <11.17	Follow-up (2013): bens poverty score <11.17	N: bens poverty score<11.17
Proportion of households with savings	9	12	2844	8	12	1,310
Mean value of total savings (PKR)	409	407	2844	329	367	1,310

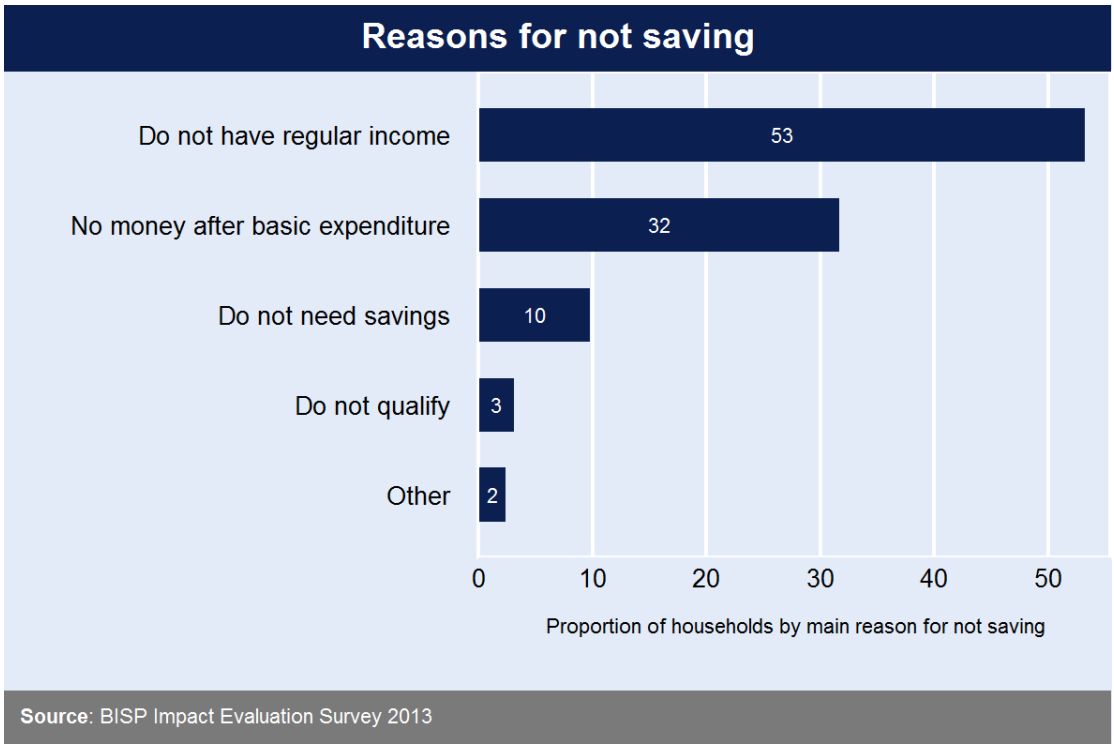
Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

Table 15 indicates that **BISP beneficiary households are characterised by very low levels of savings** with just 12% of beneficiary households having any savings at the time of the follow-up survey with an average value of just PKR 407, with similar findings for the subset of BISP beneficiary households with a BISP poverty score of less than 11.17. Figure 14 suggests that low incomes play a predominant role in preventing BISP beneficiary households from generating a stock of financial savings. More than 50% of beneficiary households indicate that they did not save

[36] *UNESCO, 2010a*
[37] *Isran, 2012*
[38] *UNESCO 2010b*
[39] *Claessens and Feijen, 2007*
[40] *Beegle et. al., 2007*
[41] *Udry, 1994*

because they did not have a regular income, whilst a further 32% cited that they did not have sufficient funds remaining after basic expenditure.

Figure 14 Beneficiary reasons for not saving



The impact of the BISP on savings in the RD treatment group is explored in Section 8.3

Part D: Impact evaluation results

5 Poverty, nutrition and vulnerability

In this section we present findings related to poverty, nutrition and vulnerability to shocks. The key findings are:

- We find that the BISP has a significant impact on reducing poverty for the RD treatment group
- We do not find an impact in the rate of poverty in Sindh, though this may be due to differential exposure to repeated rounds of flooding
- We do not find an impact on food consumption expenditure. This is surprising and may relate to the irregular nature of the transfer and the way food expenditure is measured.
- We find that BISP may result in lower rates of wasting amongst girls but not boys, but a cash transfer cannot address all underlying determinants of infant and young child malnutrition

Poverty and nutrition relate to the core objectives of the BISP, which as an immediate objective to **cushion the negative effects of food inflation on the poor** with longer term objectives to provide a minimum income package to the poor to **protect the vulnerable population against chronic and transient poverty**.

5.1 Poverty and consumption expenditure

Unconditional cash transfers such as the BISP are expected to reduce poverty by providing a regular and reliable cash injection providing an additional source of household income. Income is difficult to measure accurately and is subject short-term volatility relating to the availability of work and seasonality. As a result surveys in Pakistan (such as the Pakistan Social and Living Standards Measurement survey) tend to estimate consumption instead, which gives **monthly household consumption expenditure per adult equivalent as the standard proxy for household welfare**.

After two years of programme implementation we find that the **BISP is having a statistically significant impact on consumption expenditure and poverty** for the RD treatment households, as reported in the final column of Table 16. This suggests that treatment households have seen an increase in the monthly per adult equivalent consumption expenditure by PKR 318 as a result of receiving the BISP cash transfers. We report similar positive impacts of the BISP on consumption in both Punjab and Khyber Pakhtunkhwa, though we find no statistically significant impact in Sindh.

The RD results also suggest that the BISP has had a **significant impact in terms of reducing the rate of poverty** observed in beneficiary households, for the full evaluation sample and for households in Khyber Pakhtunkhwa. Overall the RD results suggest that BISP has led to the proportion of its households within the treatment group living underneath the poverty line to decline by 22 percentage points relative to the control group.

Table 16 Household consumption expenditure and poverty: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Mean household consumption per adult equivalent (PKR)							
Pakistan	1933	2175	1418	1949	2168	1245	318*
Punjab	1856	2074	490	1864	2003	355	456*
Sindh	2027	2441	372	2031	2315	428	-345
Khyber Pakhtunkwha	2119	2307	378	1998	2315	379	641**
% of population below poverty line							
Pakistan	48.04	36.51	1499	52.28	35.93	1298	-21.91*
Punjab	53.67	41.30	723	59.94	46.11	475	-12.52
Sindh	40.25	23.66	371	45.22	33.24	427	26.58
Khyber Pakhtunkwha	35.91	24.35	378	49.80	22.41	379	-44.32**
Poverty gap (%)							
Pakistan	9.54	7.15	1598	9.84	6.93	1341	-6.983**
Punjab	10.09	8.28	539	10.89	9.22	389	-8.852*
Sindh	8.33	3.15	383	8.93	5.79	438	11.80
Khyber Pakhtunkwha	5.96	3.91	349	8.15	3.18	356	-13.19**

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using a triangular weight based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

This impact certainly seems high and it is useful to remember that the **RD approach produces a *local* average treatment effect**. In other words we estimate the impact of the BISP for households in the extremely close neighbourhood of the BISP eligibility threshold, which given correlation between poverty rates and the BISP poverty score are likely to be over-represented by households closest to the national poverty line as is certainly suggested by the analysis on the external validity of the RD approach presented in Table 2.

As well as households in the RD treatment group being closer to the national poverty line than the average BISP beneficiary, households in the RD treatment group are also slightly smaller and have received more payments than the average BISP beneficiary in the 12 months preceding the follow-up survey (see Table 2). This means that per adult equivalent monthly value of the transfer actually received by households in the RD treatment group is higher (PKR 104, Table 2) than that received by the average BISP beneficiary (PKR 92, Table 2). This further contributes to the high impact observed on both per adult equivalent monthly consumption expenditure and poverty.

5.1.1 Graphical representation of impact of BISP on consumption expenditure

To give a greater understanding of the dynamics in consumption expenditure and how this relates to the observed impact of the BISP of PKR 318 on the RD treatment sub-sample it is instructive to consider Figure 15, which graphs the local polynomial smoother on either side of the BISP eligibility threshold.

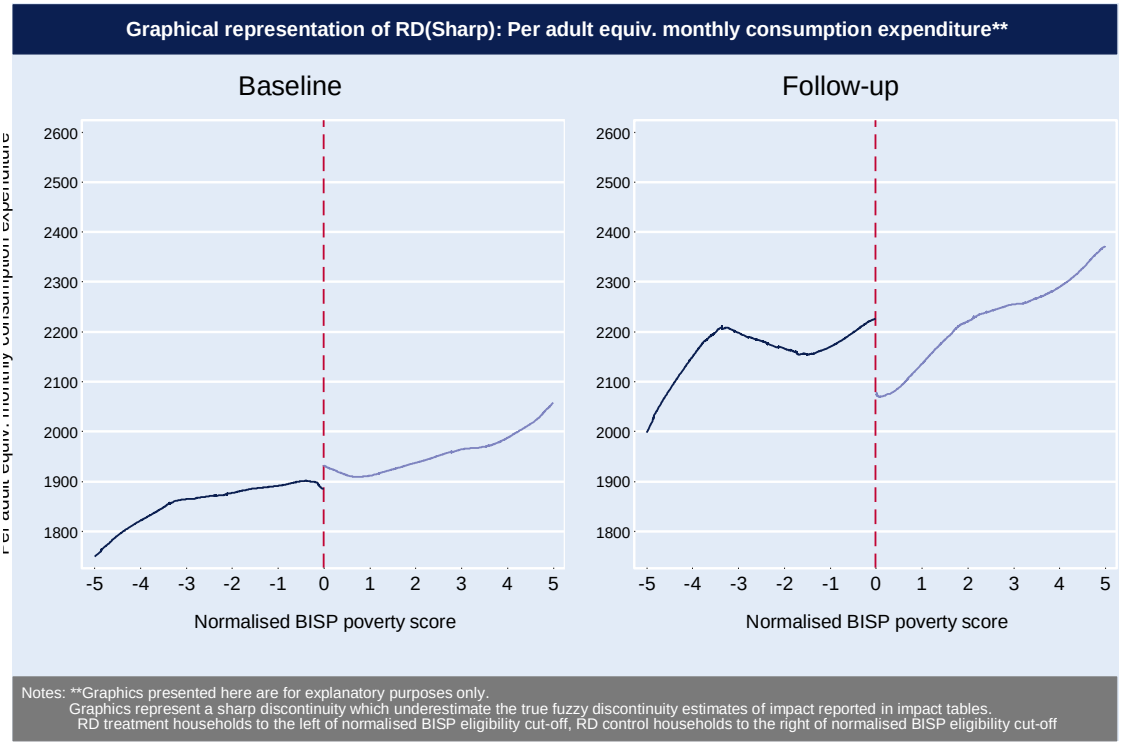
In simpler terms Figure 15 can be thought to represent the best fit for the average values of consumption expenditure at various values of the BISP poverty score for RD treatment households

(to the left of the BISP eligibility threshold) and for RD control households (to the right of the BISP eligibility threshold). The left panel demonstrates this comparison at baseline, whilst the right panel demonstrates this comparison at follow-up.

The RD differences-in-discontinuity method followed in this report (Section 2.2.2) aims to compare any discontinuity at the BISP eligibility cut-off observed at baseline with a discontinuity observed at the BISP eligibility cut-off observed at follow-up.

What Figure 15 demonstrates is that there is a general trend of increasing consumption expenditure between the baseline and follow-up surveys for both the RD treatment and RD control groups. However, it is clear from Figure 15 that consumption expenditure in the close proximity of the BISP eligibility threshold has increased by more for the RD treatment group as compared to the RD control group, leading to a positive impact of the BISP on per adult equivalent monthly consumption expenditure.

Figure 15 Graphical representation of RD (Sharp): Per adult equivalent monthly consumption expenditure



Of course Figure 15 presents the shape of the data for various values of the normalised BISP poverty score (such that the cut-off of 16.17 is normalised to 0) ignoring that some households to the left of the BISP eligibility cut-off are not beneficiaries, whilst some households to the right of the BISP eligibility cut-off are beneficiaries. This means that Figure 15 presents an under-estimate the true fuzzy RD differences-in-discontinuity estimates presented in Table 16[42].

When we consider the fuzzy RD discontinuities at baseline and follow-up we get the following calculation which delivers the final estimate of impact of PKR 318 given in Table 16.

- At baseline we observe a discontinuity of PKR -26, i.e. at the BISP eligibility cut-off RD treatment households have PKR 26 less than RD control households at baseline

[42] See Annex A.3, in principle we must also account for the discontinuity in the probability of treatment at the BISP eligibility cut-off to deliver the final estimates of programme impact.

- At follow-up we observe a discontinuity of PKR 292, i.e. at the BISP eligibility cut-off RD treatment households have PKR 292 more than RD control households at follow-up.

- The combined effect of the negative discontinuity at baseline with the positive discontinuity observed at follow-up, yields the final RD differences-in-discontinuity estimate of PKR 318 reported in Table 16.

5.1.2 Components of per adult equivalent monthly consumption expenditure

To further understand where the impact on consumption expenditure (and the subsequent impact on poverty) is deriving from Table 17 presents the impact of the BISP on a selection of non-food components of per adult equivalent monthly consumption expenditure, whilst the impact on food consumption expenditure is presented in Section 5.2 below.

We observe an overall impact of the BISP cash transfer on the RD treatment group of PKR 209 on non-food per adult equivalent consumption expenditure. Investigating the component parts of non-food consumption expenditure reveals an overall positive impact of the BISP, with statistically significant impact on the RD treatment group found against two components: *housing expenses* and *health expenditure*.

Table 17 Non-food per adult equivalent monthly consumption expenditure: impact estimates

	Control Group N[(2)]	Treatment Group N[(2)]	RDD impact estimate (diff-in-disc)
Total non-food per adult-equivalent monthly consumption expenditure	1418	1245	209*
Total per adult equivalent consumption expenditure on… (PKR)			
Housing expenses	1418	1245	73**
Transport	1418	1245	12
Apparel	1418	1245	23
Health	1418	1245	54**
Education	1418	1245	10
Recreation	1418	1245	0
Fuel	1418	1245	25

Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

As well as an imputation of the value of rent, *housing expenses* also covers expenditures on repairs and general maintenance to the household. Whilst it is unrealistic to expect that the BISP cash transfer will induce an impact on the value of rent paid in the short term, it may be expected that beneficiaries will be able to divert some of the transfer towards repair and maintenance of their home, particularly as the money is paid quarterly which may allow for expenditure on “lumpy” items. Indeed increased expenditure on this particular item by BISP beneficiaries in the RD treatment group might be expected given the recent recurring rounds of flooding experienced in

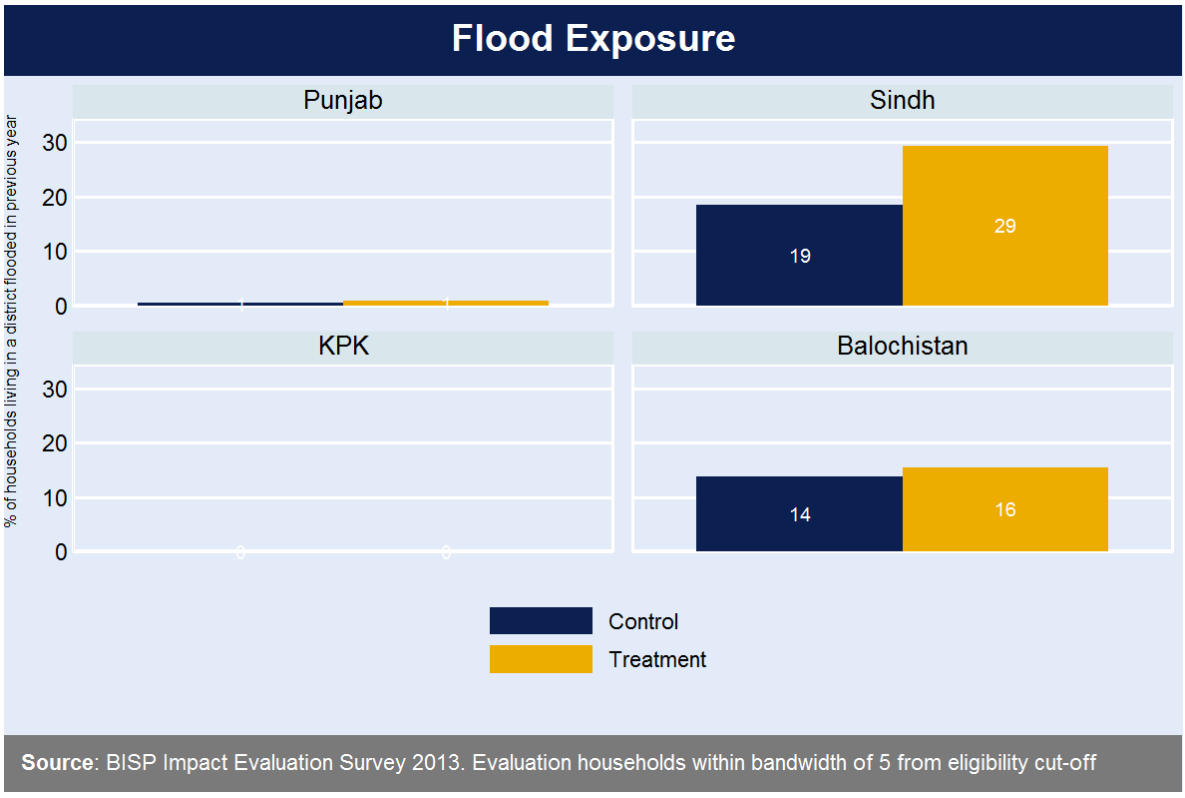
Pakistan[43] reasonably high proportions of RD treatment group households exposed to flooding in the year preceding the follow-up survey.

Table 17 also demonstrates a statistically significant impact on health expenditure for the RD treatment group. This suggests that the BISP cash transfer may have alleviated a demand side constraint in accessing health, namely the ability to afford out-of-pocket expenditures on health. The impact of the BISP cash transfer on health expenditures is explored in Section 8.2.

5.1.3 No impact on poverty and consumption in Sindh

Given that the treatment group in **Sindh received an above average number and total value of payments (Table 6) it is puzzling that we do not find an impact of the BISP on poverty** or consumption for the RD treatment group in that Province. Pakistan has in recent years been exposed to several rounds of flooding, including in 2012 (the year preceding our first follow-up evaluation of 2013). The flooding in 2012 affected an estimated 5 million people, predominately in Sindh and Balochistan.

Figure 16 Exposure to flooding in the year preceding follow-up survey



Source: BISP Impact Evaluation Survey 2013. Evaluation households within bandwidth of 5 from eligibility cut-off

Figure 16 suggests that treatment households in Sindh were differentially exposed to the flooding as compared to control households. In fact we find that 29% of RD treatment households, compared to just 19% RD control households live in districts that were determined as flood affected by the Government of Pakistan. It is possible, therefore, that any potentially positive impact of the BISP on poverty or consumption that could be observed with the evaluation sample has been **offset by the negative shock induced by the flooding in Sindh**, which Figure 16 indicates may have affected treatment households with greater probability.

[43] In 2010 20 million people across Pakistan were affected by the flooding. This was followed by subsequent rounds of flooding in 2011 (5.3 million people affected) and 2012 (5 million people affected)

We separately test for this by estimating the impact of the BISP only for households that live in districts not affected by the 2012 flooding. We do not find an impact on either poverty or consumption expenditure, though it should be noted that geographic targeting such as this does not capture with 100% accuracy whether a household has been affected by the flooding[44]. Future rounds of study would warrant the inclusion of a flood affected module to further understand this phenomenon.

5.2 Household food consumption

The qualitative research undertaken indicates that lack of basic needs, and primarily access to food, is intrinsically linked with notions of poverty amongst Pakistani households. During the qualitative research mean and women were asked about their perception of poverty and who they considered to be poor. The most frequent response was:

> *"Those people are poor who don't have three square meals a day. Those who do not have shelter are also poor. (Women beneficiary focus group. District Tharparkar. Sindh)*

Food security:
FAO (2013) defines the multidimensionality of food security which is determined variously by:

- **Availability** of food in terms of food production
- **Physical access** of households to food supplies
- **Economic access** in terms of the ability to afford food
- **Shocks** to food supply through production variability
- **Utilisation** of food in terms of the ability of a household to convert access to food into good nutrition outcomes

Section 5.2 focusses on **Economic Access** to food, measuring the impact of BISP on food expenditure. Section 5.3 focusses on the **Utilisation** of food focussing on the impact of BISP on child nutrition outcomes.

Similarly to total household consumption expenditure one might expect the BISP cash transfer to improve household nutrition security by providing a direct cash injection into the household on a regular basis, supplementing household income **and tackling one of the pillars of food insecurity economic access to food**. Indeed Table 9 shows that expenditure on food and nutrition was the most commonly reported item out of the BISP cash transfer, with 84% of beneficiaries indicating that they had used the cash transfer for food expenditure.

To measure the impact of the BISP cash transfer on household food security we report **household food expenditure per adult equivalent**, which measures directly the total value of expenditure on food in the last seven days. We also report the **food consumption score[45] (FCS)**, which reflects not only the quantity of food consumption in the last seven days but its diversity and quality.

Table 18 Measures of household food consumption: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[(2)]	Follow-up[(2)]	N[(3)]	Base[(2)]	Follow-up[(2)]	N[(3)]	
Mean household food consumption per adult equivalent							
Pakistan	1113	1169	1787	1121	1173	1582	115

[44] *OPM (2011b)* found that geographical targeting of flood affected households under the Phase I of Citizen's Damage Compensation Programme led to high exclusion errors.
[45] The food consumption score is a weighted index developed by the World Food Programme which measures the cumulative consumption in days of different food groups, which are weighted according to their caloric efficiency. Households with a FCS of less than 21 are considered to have poor food consumption

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Punjab	1063	1094	573	1061	1043	414	140
Sindh	1205	1329	361	1197	1271	416	-351
Khyber Pakhtunkwha	1195	1246	397	1127	1258	416	373**
Food consumption score[4]							
Pakistan	48.47	50.77	1158	50.24	51.70	983	-2.06
Punjab	46.13	49.71	490	48.82	49.95	355	2.43
Sindh	49.87	53.75	402	50.01	53.71	470	-9.64
Khyber Pakhtunkwha	52.60	53.91	282	52.78	54.37	266	-7.31

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B. (4) Food Consumption Score defines households with a score less than 21 to have poor food consumption

In a result that is somewhat surprising the evaluation could not find an impact of the BISP on measures of household food consumption, with the exception of Khyber Pakhtunkhwa, where we find that BISP has increased food consumption in RD treatment households. This is despite *food and nutrition* being the most commonly reported expenditure out of the BISP payments (Table 9), which would indicate that households are often using the BISP transfer for this basic necessity, though it is useful to remember that this refers to whether or not the household made any expenditure on an item and not the value of that expenditure.

To understand this lack of impact it is important to consider a number of factors. The **first relates to household preferences and the fact that money is fungible**. Given that there are no conditions applied to the utilisation of the BISP cash transfer, households are free to spend the transfer how they choose. Indeed the analysis presented in Section 5.1.2 above certainly shows impact on various components of non-food consumption expenditure.

The **second relates to programmatic issues**, in particular the regularity with which the BISP cash transfer was made in the 12 months preceding the follow-up impact survey. Section 3.2.1 has reported that beneficiary households in the sample received on average only 2.4 out of the expected 4 transfers. This is an important consideration as without payment regularity households may not be able to depend on the BISP transfers for regular day-to-day consumption such as food, as they will not have confidence that it will be delivered when they expect.

Timeline interviews conducted as part of the qualitative research indicate that this irregularity may explain the lack of impact on food consumption.

> *"We have meals three times a day as we used to (before the BISP) and we eat the same daal, roti and vegetables. BISP support is not that much for us to cook meat or provide eggs and milk to our children. Besides BISP cash is not so regular so one can't use it for everyday expenses. (Timeline interview. District Jhal Magsi, Balochistan*

The qualitative research does indicate that there might be short bursts of increased food consumption in the week that the cash arrives, where some households make particular food purchases (seemingly on expensive items such as meat) that they would otherwise by unable to

afford. However, short recall period used to record food consumption[46] would not capture these temporary bursts to food consumption.

> *"The day I receive the money I always cook meat. First couple of days we have meat, fish or chicken and fruits. In normal days it is unthinkable to cook meat or buy fruits because they are so expensive" (Women beneficiary focus group. District Gujranwala, Punjab)*

> *"Arrival of BISP cash is a special day for the family because then we cook chicken or fish. Otherwise we just eat roti, daal or vegetables". (Women beneficiary focus group. District Kohat, Khyber Pakhtunkhwa)*

A final factor to consider are changes to **economic behaviour** observed in Section 7, where we observe that a shift in the type of economic activities males in the household engage in, with the BISP inducing a shift away from the supply of casual labour towards self-employment for men in the RD treatment group. If the BISP transfer was invested to support this shift it may dampen the impact on food consumption. Furthermore Section 7 also notes that the BISP had an impact on reduced supply of child labour by boys, which could also reduce potential impact on food consumption.

5.2.1 Types of food consumption

Although we do not observe an impact in overall food consumption expenditure, we investigate whether the BISP has any effect on the dynamics of food consumption in terms of the types of food consumed in the household. To do this Table 19 reports the impact of the BISP on the RD treatment group households in terms of the number of days in the preceding week in which household members have consumed a particular food item.

Table 19 Food consumption regularity by type: impact estimates

	Control Group N(2)	Treatment Group N(2)	RDD impact estimate (diff-in-disc)
Number of days in a week item consumed …			
Beef	1787	1582	-0.05
Poultry	1787	1582	-0.05
Eggs	1787	1582	0.34*
Fish	1787	1582	0.14*
Vegetables	1787	1582	-0.32
Fruits	1787	1582	0.18
Sugars	1787	1582	-0.03
Wheat	1787	1582	0.08*
Rice	1787	1582	-0.32
Maize	1787	1582	0.10

Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

We find statistically significant impact of the BISP on the consumption of eggs, fish and wheat, with the RD treatment group experiencing an increase in consumption of these items by 0.34 days, 0.14

[46] We follow the Pakistan Bureau of Statistics by reporting food consumption in the previous 14 days. This provides a balance between accurate recall and capturing all food consumption in the household.

days and 0.08 days respectively. Wheat is an important staple in many Pakistani households, and comprises 26% of total per adult equivalent consumption expenditure for households in the RD treatment group.

Consumption of fish and eggs is much less significant component in the diet of the average Pakistani household. Nonetheless the observed positive impact of the BISP on the frequency of consumption of these items is encouraging given the high nutritional and energy value of these items (*FAO, 2002*).

5.3 Infant and child nutrition

Infant and child nutrition is not only determined by household food consumption but also with the utilisation of food within the home. **Infant and child nutrition is secured when the child not only has access to food but also has received adequate breastfeeding and weaning, has been born to a healthy mother, has a sanitary environment, adequate health services and when carers have the knowledge and skills necessary** to provide adequate care to ensure a healthy life for the youngest members of the household.

Despite the average BISP household appearing to be food secure (with average FCS in acceptable ranges - Table 18) **we report above find that levels of both wasting and stunting at levels the World Health Organisation would classify as signifying an on-going crisis in terms of child malnutrition**[47]. This indicates that access to food is clearly insufficient to provide nutrition security for infants and young children, and that other factors are driving the extreme rates of child nutrition, such as episodes of illness and child immunisation that we have discussed in Section 4.3 above.

Table 20 Infant and young child nutrition security[48]: impact estimates

	Control Group			Treatment Group			RDD impact estimate (cross-section)
	Base[(2)]	Follow-up[(2)]	N[(3)]	Base[(2)]	Follow-up[(2)]	N[(3)]	
Proportion of children aged 0-59 months wasted							
Boys	15.62	18.99	387	18.28	19.03	347	17.21
Girls	16.00	21.36	461	18.52	14.78	458	-37.45**
Proportion of children aged 0-59 months stunted [49]							
Boys	40.20	50.27	407	41.46	50.83	378	-22.26
Girls	42.04	41.97	408	39.42	45.79	414	17.02

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based

[47] The WHO classification for the degree of malnutrition within a population of children aged 0-59 months. Rates of wasting higher than 15% and rates of stunting higher than 30% are considered to be *very high*, indicating a child nutrition crisis, *World Bank (2008).*

[48] Full definitions of the calculation of measures of child malnutrition can be found in Annex D

[49] The stunting indicator for both boys and girls exhibits increases over the period between the baseline and follow-up surveys. The increases appear to be large, given that stunting is a measure of chronic (long term) malnutrition. There are a number of likely sources of this observation: (1) the population of children interviewed at follow-up is on average older (29 months at baseline compared to 32 months at follow-up) – with rates of stunting tending to increase as a child ages; and (2) a large proportion of children have been exposed to at least one episode of flooding in the period since the baseline survey (i.e. 2011-2013). Almost two-thirds of all children and mothers in the sample have been exposed to at least one round of flooding in the period 2010 – 2013 (measured as children living in a flood affected district). *Rodriguez-Llanes (2011)* find that children exposed to flooding two years previously were 1.6 times more likely to be stunted than those not exposed to flooding in Orissa State in India, whilst *del Ninno and Lundberg (2005)* find in a two year longitudinal study investigating the impact of the 1998 flooding in Bangladesh that children in flood affected households were systematically smaller than those not impacted.

	Control Group			Treatment Group			RDD impact estimate (cross-section)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.							

5.3.1 BISP may have improved infant and child nutrition security for girls

Table 20 reports that receipt of the BISP cash transfer has **reduced rates of wasting amongst girls**, suggesting that the cash transfer has been used in beneficiary households to protect girls against current under-nutrition. We do not observe the same impact for boys in the sample.

The observation of **impact on girls' nutrition and no impact on boys' nutrition is not unique to the BISP**. Most famously *Duflo (2003)* found in South Africa significant improvements in girls' wasted status in households where women were receiving a social cash transfer in the form of a pension, whilst no impact was observed for boys. *Manley et.al. (2012)* explore this issue further in a meta-analysis of six studies which analyse the impact of cash transfers separately by gender (including *Dulfo, 2003*). The authors conclude that on average the impact of these programmes to be higher for girls than boys.

Certainly, as *Duflo (2003)* notes there is more work to be done to understand the differences between boys and girls, and in particular the apparent preference for girls' nutrition among female BISP beneficiaries. This issue could be usefully investigated in future rounds of the qualitative research, which may allow for a more in-depth exploration of this issue, than is possible with the data available at this stage.

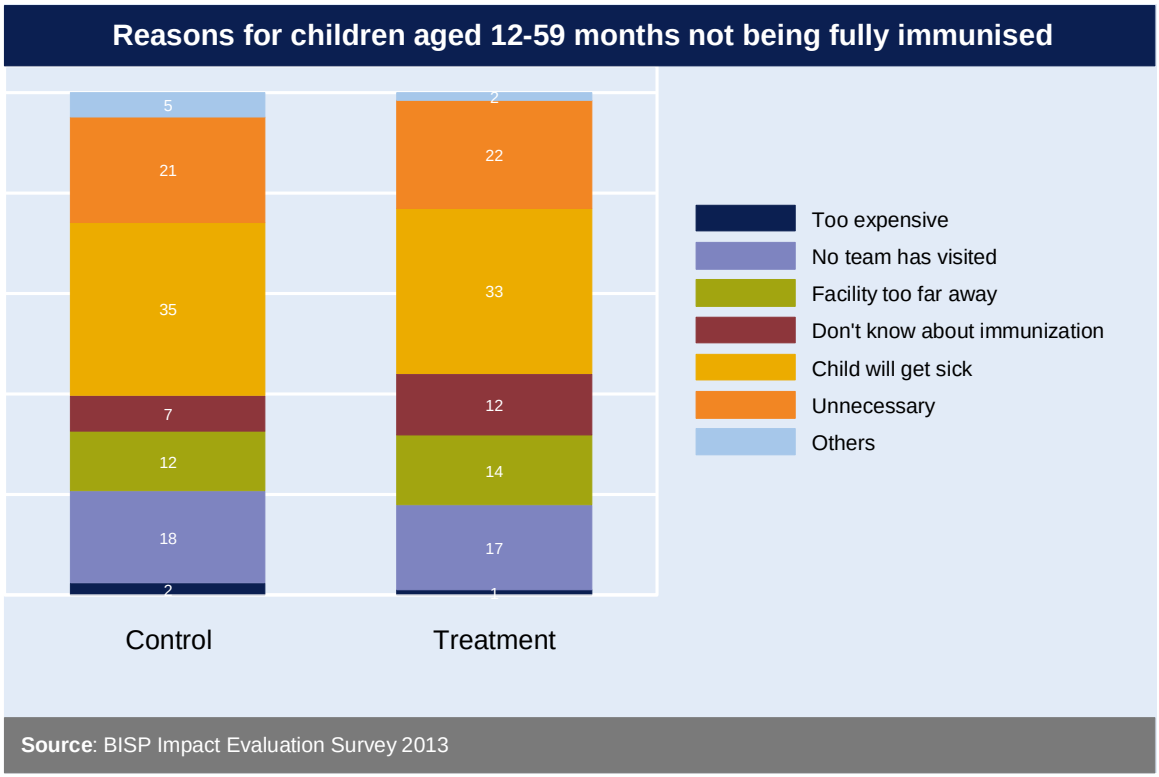
However, we **do not see an impact of the BISP cash transfer on stunting**. Stunting reflects extended periods of malnutrition and there is a body of evidence[50] that suggests that lost growth velocity at an early age can only be recovered partially. This implies that even if we see an impact on wasting (as we do for girls) improvements in nutrition induced through a cash transfer may not be enough to enable children to "catch-up" if they have already been exposed to long periods of malnutrition at a very early age.

Furthermore it is **unclear whether a cash transfer in isolation is the most appropriate instrument to improve child nutrition outcomes**. We have already discussed the causes of child malnutrition to be multi-dimensional, dependent not only on access to food but also a sanitary environment, knowledge of caregivers and access to child health services.

For example Figure 17 presents the reasons why children are not immunised. Only a very small proportion of children are not immunised because of expense, on which an unconditional cash transfer could directly impact. Rather the majority of children who are not fully immunised cite either lack of access to health services (*facility too far, no team has visited)* or cultural attitudes and knowledge (*Don't know about immunisation, child will get sick, unnecessary)* as the main reasons for not being fully immunised. This suggests that to see **sustained improvements in child nutrition would require complementary interventions** such as increased provision of child health services as well as behavioural change communication.

[50] *Alderman, Hoddinott and Kinsey (2003)*

Figure 17 Reasons for not being fully immunised



Source: BISP Impact Evaluation Survey 2013

6 Women's empowerment

In this section we present findings related to the empowerment of women. The key findings in this section include:

- The majority of female beneficiaries report that they retain control over the BISP cash transfer. However, there is significant provincial variation, with many women in Sindh and Balochistan who do not decide how the money is spent
- Women have access to limited resources that would allow them to exert control over choices in their own life. Many women report that they cannot access small amounts of money, even in an emergency
- BISP women feel empowered by the contributions made to household income and a feeling that total dependency on husbands is reduced
- The BISP promotes small changes in community perception of female mobility
- Women in BISP beneficiary households more likely to report that they would vote

Central to the design of the BISP is **assignment of the female head of the family as the direct beneficiary**. This design choice reflects clearly a central goal to promote women's empowerment through the BISP. As well as being a goal in its own right, there is a growing body of evidence that establishes the **link between women's empowerment and other development outcomes**. Increased intra-household bargaining power can increase expenditures on education – *Quisumbing and Maluccio (2003),* reduce incidence of illness amongst girl children – *Hallman (2000)*, whilst improvements in women's education can reduce the rate of child malnutrition – *Smith and Haddad (2000)*.

There are many definitions of empowerment[51], in its **broadest sense empowerment can be seen as the expansion of freedom of choice and action**. It means increasing one's authority and control over resources and decisions that affect and individual's life. Poor people, and in particular women in poor households, can be extremely limited in their empowerment, both by their lack of assets or capabilities and by their powerlessness to influence a range of institutions (whether formal or informal).

We follow *Kabeer (1999)* and **define empowerment as the *ability of an individual to set her own goals and act upon them***. The ability to exercise choice can be thought of in three inter-related dimensions: (1) *resources* or the pre-conditions to exercise choice whether these be household resources, human capital or relations to formal and informal institutions; (2) *agency* or the ability to define goals and act upon them; and (3) *achievements* or the outcomes from the empowerment of women that we discuss above. We focus here on the first two dimensions of the ability to exercise choice.

[51] *Ibrahim and Alkire (2007)* provides a comprehensive review

6.1 Access to resources

In terms of the impact of BISP on women's access to resources we focus here on access to economic resources. Women also have access to other resources such as control over the BISP cash transfer and human capital (proxied by literacy) which are discussed previously in Part C.

Table 21 reports on women's access to economic resources and on whether the BISP has had any significant impact on access. Considering employment opportunities we find that at follow-up just **22% of women in RD treatment households are economically active**. We do not find that the BISP has had a statistically significant impact on the proportion of women who are economically active.

In order to further understand access to economic resources we asked whether *if in an emergency it was possible for women to access certain amounts of money*. These ranged from values of PKR 50 to PKR 1,000. It is striking that **only 76% of women in RD treatment households reported that they could easily access PKR 50**. This figure declined to just 25% of women in RD treatment households who reported that they could access PKR 1,000 in an emergency.

Table 21 Women's access to economic resources: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Proportion of working age adults (18-64)engaged in economically productive activities	23.72	19.61	2877	25.56	22.19	2486	0.0106
% of women who report that they can easily access…							
PKR 50	71.47	72.71	2279	69.95	76.43	1952	12.12
PKR 100	61.17	67.31	2279	57.91	68.60	1952	5.958
PKR 200	45.57	56.08	2279	41.12	50.73	1952	-9.447
PKR 400	32.66	41.72	2279	29.11	36.42	1952	-4.182
PKR 600	23.88	31.96	2279	20.85	28.95	1952	1.572
PKR 800	18.39	29.08	2279	15.78	26.00	1952	2.076
PKR 1000	16.65	28.17	2279	14.96	25.43	1952	3.822

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B. (4) Weight diff-in-diff estimates, give the raw difference in difference estimates weighted using the optimal bandwidth defined in Annex B.

In addition we find that that the **BISP does not impact the ability of women in RD treatment households to access even small amounts of cash** in an emergency. That is the BISP cash transfer does not increase the probability of women in beneficiary households to access even PKR 50 in an emergency, indicative of the inability of beneficiary women to access resources within the household.

To understand this result it is useful first to remember that the per adult equivalent monthly value of the transfer is just PKR 164 for a household that receives all of four of the quarterly payments (Table 7), but in reality beneficiary households received only PKR 92 per adult equivalent monthly on average due to not all payments being received in the last 12 months.

As such it should not be surprising that we do not find a significant impact of the BISP on the ability to access money in an emergency, especially when PKR 92 represents only 9% of per adult equivalent monthly food consumption expenditure.

6.2 Women's agency

Women's agency is defined as their ability to define goals in their life and enact the change necessary to achieve them. The qualitative research certainly indicates that the BISP cash transfer may have been an agent in enacting change in the lives of beneficiary women.

The qualitative research also indicates that a subtle shift may be taking place within beneficiary households, with the **BISP transfers seeming to instill a sense of empowerment in women** as they felt that with the advent of the BISP they were no longer totally dependent on their husbands. Instead they felt that they were now supporting their husbands in running the house.

> *"I feel good and proud that now I am contributing to the household income and helping my husband. He also takes care of me and respects me more". (Women beneficiary focus group. District Tharparkar, Sindh)*

Economic worries can often lead to strain on relationships within a household. The majority of women responded that their relations with their husbands had improved due to a reduction in the economic stress within the household, as well as with their children as women now felt that they could fulfil their needs.

> *"My husband and I fight less now because he has my support from BISP. We run the house mutually and he has to worry less" (Female beneficiary focus group. District Kohat, Khyber Pakhtunkhwa)*

This view point was by and large echoed by male respondents in the qualitative research.

> *"Of course, BISP support helps us in many ways and I feel less stressed now. It is not easy to be the single bread earner for a family of eight people. We spent BISP cash in a consultative manner and never argue over it. (Male beneficiary focus group. District Gujranwala, Punjab)*

The cash transfer also appears to have taken a small step in **changing community perception in general towards the mobility of women**. The qualitative research reports that community members were more lenient in their attitudes towards women leaving the house. Almost half of the key informant interview respondents agreed that women were more mobile now compared to the past, with this result holding even in the more conservative communities visited (such as in District Kohat, Khyber Pakhtunkhwa)

> *"We don't encourage women and girls to go out of the house but yes many BISP women go themselves to collect their cash. People don't say anything because they know about BISP and know that the cash belongs to the women". (Male key informant. District Kohat, Khyber Pakhtunkhwa)*

> *"In our community women don't go out much, but after BISP women have started coming out of their houses to collect their BISP cash. Women go in groups to the Post Office in the next village on their own when they have to get the money". (Female key informant. District Mansehra, Khyber Pakhtunkhwa)*

Table 22 Indicators of women's empowerment: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
% of women who report that they never vote							
Pakistan	39.12	29.29	1757	36.33	19.87	1540	-16.10*
Punjab	32.96	26.25	794	33.31	11.45	557	-30.75**
Sindh	28.65	23.97	492	23.35	14.74	642	-13.27
Khyber Pakhtunkhwa	59.02	41.39	485	57.99	39.52	486	-13.30
% of women who report that they can visit alone to…							
Local market	28.11	28.80	2057	27.15	27.44	1840	11.06
Health facility	30.14	32.34	2057	29.57	30.37	1840	8.928
Friends home	40.75	42.15	2057	38.39	42.22	1840	30.81***
Mosque or shrine	25.52	24.39	2057	24.85	23.05	1840	2.609

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B. (4) Weight diff-in-diff estimates, give the raw difference in difference estimates weighted using the optimal bandwidth defined in Annex B.

The quantitative data provides some support to the qualitative findings on female mobility. We asked women whether or not they *could visit alone a variety of local places*, including the local market, health facility, friend's home or religious place. Whilst many women were restricted from visiting these places alone, including less than 30% of women in RD treatment households who could visit the local market alone, we find a **statistically significant impact on the proportion of women who could visit a friend's home alone as a result of receiving the BISP** cash transfer. This suggests that at least in some limited circumstances the BISP is promoting female mobility.

However, this effect is not replicated in the ability to visit other locations in the community alone, with no impact of receiving the BISP cash transfer on the ability to visit alone the local market, health facility or religious place. This is not surprising given that it unlikely for any single intervention to change prevailing norms around female mobility, and gender roles significantly:

> *"Women have control over BISP money but that does not change their status… we are villagers and here women do not go out unnecessarily, they only go out with their men. All the decision are taken by men. It's not like we are completely illiterate, women are asked for their opinion when it comes to big decisions - we all live like a big family." (Male beneficiary focus group, District Kohat, KPK)*

We also estimate the impact on the proportion of women that vote, and find a **positive impact of BISP on the proportion of women reporting that they would vote** given the chance, with this result holding at the national level and in Punjab, but not in Sindh or Khyber Pakhtunkhwa. This result is likely, at least in part, to be driven by one of the requirements for becoming a BISP beneficiary: possession of a CNIC card.

7 Livelihoods

In this section we present findings related to livelihoods: the capabilities, assets and activities required to generate a household income. The key findings are:

- BISP transfer is associated with a substitution between male labour types, away from casual labour and towards self-employment
- BISP transfer is linked to reduced child labour for boys but not for girls, with boys and girls having different profiles of child labour
- BISP transfer does not cause an increase in investment in productive assets, reflecting the low value of the transfer relative to the price of assets
- Qualitative research suggests that in isolated cases where households receive backlog payments, where the receive the value of multiple transfers in one go they may use it to purchase productive assets such as livestock
- Remittances remain an important component of household income particularly in female headed households. BISP does not reduce reliance on remittances

Livelihoods refer to the capabilities, assets and activities required for a means of living or to generate an income (*Chambers and Conway, 1991*). The literature highlights five key assets or kinds of capital that households draw on in pursuing livelihood strategies: human capital; physical capital; natural capital; financial capital and social capital. Individuals and households leverage these assets in income generating activities, or let other people use them, generating a return.

Poor rural households are often characterised by their dependence on livelihoods with low-returns and that are vulnerable to cyclical and seasonal fluctuations. The extent to which a cash transfer, such as the BISP, can act as an agent for change in this dependency depends on the capabilities of beneficiaries themselves in terms of their existing stocks of capital as well interactions with markets for labour, inputs, outputs and finance.

7.1 Labour participation

In addition to asking households about their main source of income, the BISP evaluation surveys examined the labour participation rates[52] of all adult individuals within the household. We find **large gender discrepancies in participation in economic activities**, with almost 80% of working age men in both treatment and control households were economically active in the follow-up survey compared to less than 25% of women across treatment and control households. This reflects community attitudes to women leaving the home presented in Section 6 above.

Overall we **do not find an impact of the BISP on the labour participation rate** for the RD treatment group either for the full RD evaluation sub-sample or across the provinces. This is indicative that the BISP is not creating a culture of dependence on the transfer payments.

[52] We define an adult to be economically active if s/he had worked at least one hour in the last week preceding the interview, or even if the person did not work in the last week s/he had a job or ran an enterprise such as a shop, business farm or service establishment to return to.

Table 23 Labour participation rates and time use in productive activities: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Proportion of working age adults (18-64)engaged in economically productive activities							
Pakistan	53.41	49.01	4545	54.02	49.16	3911	-8.165
Punjab	57.58	53.03	1850	59.94	53.07	1333	-7.745
Sindh	58.11	57.86	1577	59.12	55.96	1888	-13.95
Khyber Pakhtunkwha	44.77	38.76	1064	41.89	36.37	976	-7.552
Male	83.38	81.04	1884	83.40	77.83	1539	-22.89***
Female	23.88	20.21	2877	25.57	22.85	2486	0.0106
% of working age adults who are engaged in…							
Self-employed	8.74	8.31	8912	7.24	9.17	7843	15.41***
Employee	11.21	8.27	9517	9.29	8.50	8555	-1.054
Unpaid family helper	5.25	2.92	9069	4.98	3.11	8053	-2.552
Casual labourer	25.15	24.07	9351	28.70	25.07	8338	-16.45**
Owner-cultivator	1.47	2.21	10465	1.17	1.34	9657	1.608
Share-cropper	3.11	2.41	8370	3.87	2.51	7183	-1.123
% of working age men who are engaged in							
Self-employed	10.56	12.82	2237	8.25	13.41	1971	24.56***
Employee	19.39	13.76	2333	15.63	13.67	2033	-1.644
Unpaid family helper	4.03	2.19	2527	4.08	3.12	2182	-5.413*
Casual labourer	39.41	39.72	2353	45.68	38.91	2037	-37.04***
Owner-cultivator	2.65	4.44	2428	2.01	2.66	2122	3.087
Share-cropper	6.01	4.92	2013	6.85	4.96	1686	-0.506
% of working age women who are engaged in							
Self-employed	6.50	4.26	2441	6.08	5.13	2147	4.455
Employee	2.57	2.89	2441	2.72	3.40	2139	1.568
Unpaid family helper	6.51	3.77	2223	6.04	3.23	1887	-0.144
Casual labourer	10.23	9.14	2314	11.17	11.39	2021	3.392
Owner-cultivator	0.25	0.09	2509	0.30	0.05	2208	0.261
Share-cropper	0.01	0.00	1738	0.90	0.11	1373	-2.275

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B. (4) Weight diff-in-diff estimates, give the raw difference in difference estimates weighted using the optimal bandwidth defined in Annex B.

This is further verified through qualitative research where we found little evidence to suggest that BISP had resulted in any significant change in labour supply at the household level or in the types of livelihood activities that community members engaged in. The relatively small value of the transfer and irregularity in payments are likely explanatory factors for this:

> *"This money is spent in just one day, if men stop working, what will we eat? There is no major change in our lifestyle." (Male beneficiary focus group, District Kohat, KPK)*

"The Rs. 3000 we get from BISP belongs to women they use that money to buy things they need. We men have to work to run our house. So we do what we used to do before. We worked as labourers and we still work as labourers. (Male beneficiary focus group, District Nawabshah, Sindh)

7.1.1 Male substitution between labour types

Despite not finding an impact on labour participation for the population of working age adults as whole for RD treatment households, we find that the BISP has had a statistically significant effect on reducing the propensity of men in the RD treatment group to participate in the labour force. To understand why this might be the case it is useful look at men of working age in beneficiary households who reported that they were economically active at baseline, but not economically active at follow-up and consider the self-reported reasons for not looking for work.

Figure 18 Working age men: reasons for not working at follow-up

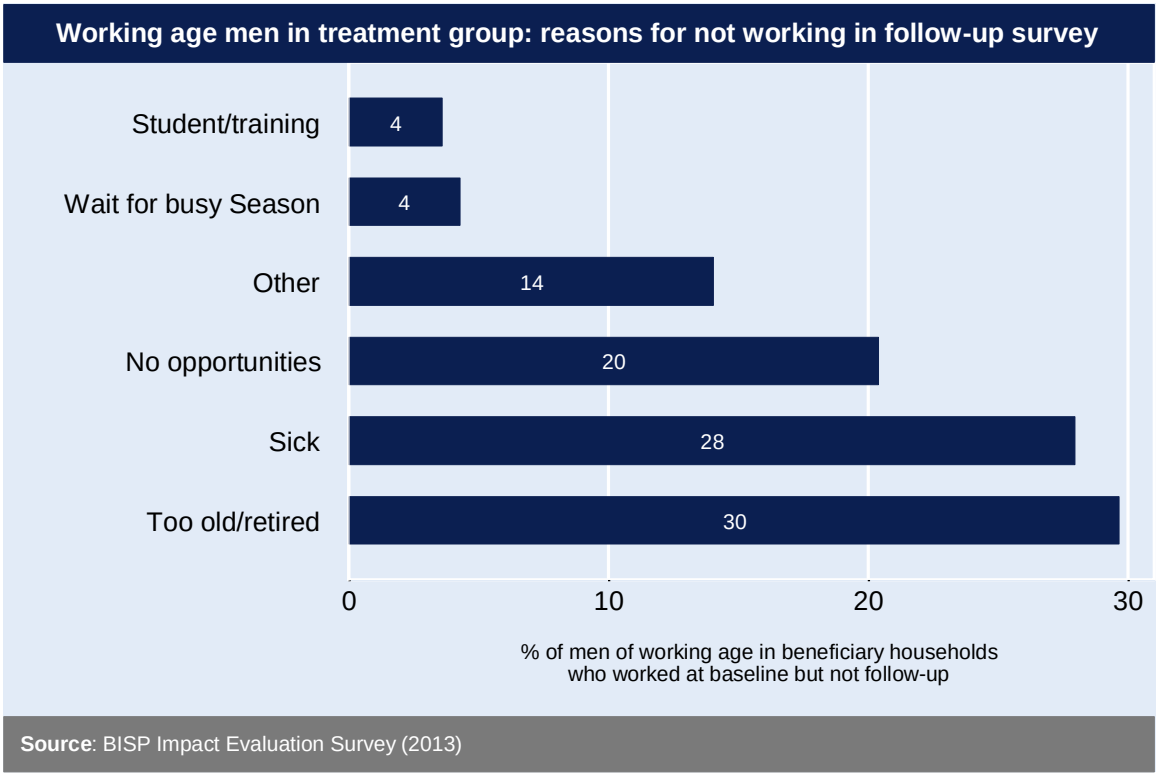


Figure 18 presents these reasons and we can see that the **two most important reasons given by men in RD treatment households for stopping labour participation across survey rounds are *too old/retired* (30%) or *sick* (28%)**. This suggests that the BISP cash transfer may be enabling more vulnerable members of the household to reduce their labour participation. Nonetheless the next most important reason for not working in the follow-up survey, despite working at baseline is *no opportunities* (20%). This is likely to reflect the vulnerable nature of casual labour on which significant proportions treatment households are most dependent on for household income.

However, the results presented in Table 23 suggest that the **BISP has had the effect of inducing a substitution away from casual labour and un-paid family help towards self-employment for men of working age**. Unsurprisingly, given the low labour participation rates for women we do not report a similar effect amongst women of working age.

Self-employment is defined as someone who *performed some work for family profit in his/her own economic enterprise, shop, profession or trade where the remuneration is directly dependent upon the profits or potential profits derived from the goods or services produced*. This suggests that the **BISP cash transfer may have induced some men in beneficiary households to start-up small scale household businesses**.

This substitution away from casual labour towards self-employment may also explain why we see a causal link between the BISP cash transfer and reduced male labour participation. Work on family businesses in any household survey tends to be underreported, and whilst emphasis was placed on this phenomenon during training it may help to explain the reduction in male labour participation.

7.2 Child labour

Child labour and poverty are inextricably linked, with causal links travelling in both directions. Poverty can cause the occurrence of child labour as poor households seek any possible source of household income to meet basic needs. Child labour is also transmitted inter-generationally, meaning the children are more likely to be child labourers if their parents also worked as children (*Bird, 2007)*. Furthermore, even modest amounts of child labour are associated with poor academic and cognitive development and thus on long-term outcomes (such as life-time incomes), leading to the potential for a child-labour poverty trap.

The BISP cash transfer may be expected to decrease child labour through a direct income effect as households begin to receive and additional source of income. However, perversely there is also the potential for a cash transfer to increase child labour if it enables the household to engage in high return activities that increase the opportunity cost of other child activities (such as schooling).

Table 24 Child labour participation rates[53]: impact estimates

	Control Group			Treatment Group			RDD impact estimate (cross-section)
	Base(2)	Follow-up(2)	N(3)	Base(2)	Follow-up(2)	N(3)	
Proportion of boys aged 5-14 years engaged in child labour	9.04	10.65	2211	10.91	11.91	2332	-4.538**
Proportion of girls aged 5-14 engaged in child labour	5.92	5.50	1548	6.63	6.78	1527	-1.066

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B. (4) Weight diff-in-diff estimates, give the raw difference in difference estimates weighted using the optimal bandwidth defined in Annex B.

We find that the **BISP cash transfer reduces the likelihood of boys to engage in child labour but there is no impact for girls**. To understand this result it is instructive to consider the differences in child labour engaged by boys and girls. Girls often face particular disadvantages due to cultural norms which allocate them forms of work which are largely hidden and undervalued (*ILO, 2009*). In particular girls face the "double burden" of engaging in long hours of chores with some form of economic activity outside of the home.

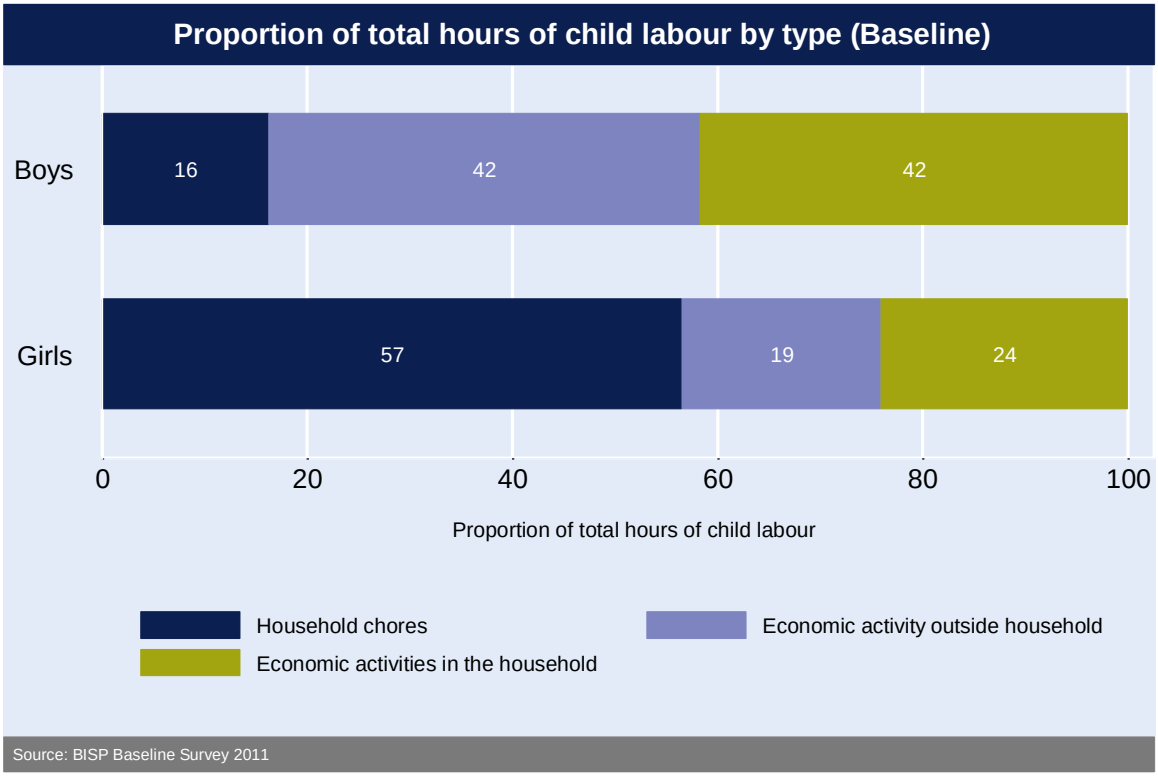
[53] For consistency we adopt the UNICEF definition of child labour: *A child is considered to be involved in child labour activities under the following classification: (a) children 5 to 11 years of age that during the week preceding the survey did at least one hour of economic activity or at least 28 hours of domestic work; and (b) children 12 to 14 years of age that during the week preceding the survey did at least 14 hours of economic activity or at least 42 hours of economic activity and domestic work combined.*

Figure 19 indicates that this seems to be the case for girls in the RD sub-sample. The **most significant type of child labour engaged in by girls is household chores**, with 57% of total hours worked by girls in this activity at baseline, compared to just 16% of total hours for boys.

This finding is important when attempting to understand why we see an impact of the BISP on child labour for boys, but not for girls. Given that boys have a higher propensity to engage in economic activities outside of the home, it is likely that this result is linked to BISP impacts on adult labour supply reported in earlier in Table 23. In particular we observe a reduction in the proportion of working age males engaged in economically productive activities, as well as an impact on reducing engagement with casual daily wage labour, which is likely to drive the observed impact of the BISP on falling child labour amongst boys.

On the other hand, girls are much less likely to be engaged in economic activity outside the home (just 19% of total hours). Given prevailing cultural norms a girl's responsibility to perform household chores is unlikely to fall (at least in the short term) with changes in adult labour supply. As such the burden of the performance of household duties such as child-rearing, attending to the sick, cooking and cleaning that falls on girls is unlikely to change in response to a cash transfer, without a corresponding change in cultural norms, which a cash transfer is unlikely to effect significantly (at least in the short term).

Figure 19 Proportion of total hours of child labour by type of child labour



7.3 Land ownership

Agricultural land is a significant form of natural capital, particularly for rural households. The most deprived people are often the rural landless, who often survive as seasonal workers on larger farms and plantations, through vulnerable casual labour. Certainly the snapshot of a beneficiary household characterises BISP beneficiaries as largely landless, and Table 25 confirms that this holds for the RD treatment group, of whom only 14% owned agricultural land at follow-up.

We **do not find that find that BISP has had an impact on the ownership of agricultural land or the mean acreage of land owned**. This means that BISP does not increase the propensity to either own land or to increase the size of land owned. Relative to the price of land the value of the transfer is low and has (at least in the 12 months preceding the survey) not been delivered in its entirety for all households, thus making it unlikely that the transfer would be able to induce such a change.

Table 25 Land ownership: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Proportion of households that own agricultural land							
Pakistan	15.34	14.90	1759	12.04	14.24	1535	-0.895
Punjab	13.01	12.52	623	9.32	12.94	447	14.92
Sindh	20.49	21.91	401	10.15	13.08	468	-15.48
Khyber Pakhtunkhwa	17.19	14.00	336	19.25	17.60	349	-5.091
Mean size of agricultural land owned (acres)							
Pakistan	0.33	0.38	1659	0.16	0.20	1426	-0.299
Punjab	0.29	0.28	569	0.13	0.11	412	0.123
Sindh	0.53	0.57	314	0.18	0.26	379	0.662
Khyber Pakhtunkhwa	0.17	0.35	397	0.12	0.16	416	-1.396

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

7.4 Livestock ownership

Similarly to land, ownership livestock is an important physical asset for poor households which is often used both as a productive asset but also as a store of value in the context of households with low financial access (Section 8.3.1). We **do not find that the BISP transfer causes an impact in the likelihood of owning livestock nor the value of livestock owned**.

The qualitative research indicates a beneficiary perception that the regular quarterly transfer of PKR 3,000 is not sufficient to fund investment in productive investments such as livestock, with many respondents citing that the transfer is only sufficient for basic necessities. The response below is reflective of attitudes when beneficiaries were asked whether the BISP had enabled them to accumulate assets.

> *"You are asking me as if the BISP is providing us with PKR 10,000 every month. This amount is not even enough for monthly groceries and you are asking me if we have been able to invest it in some way. You tell me what you would do with this amount". (Male beneficiary focus group. District Nawabshah, Sindh)*

The qualitative research, however, indicates that if the **cash transfer is received in bulk[54], that this may enable households to purchase a productive asset**. Receiving the cash transfer in bulk may help beneficiaries overcome difficulties in saving, but is likely to be counter-productive to other goals such as consumption smoothing (at least in the short term).

[54] E.g. if a household is given a backlog payment covering a number of delayed payments

"Two years ago I bought a goat when I got an accumulated PKR 9,000 from BISP. It gave birth to two kids and now I have three goats which is a major safety net for me". (Female beneficiary focus group. District Ziarat, Balochistan).

Table 26 Livestock ownership: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Proportion of households who own any livestock							
Pakistan	51.87	40.78	1417	51.66	41.86	1241	2.108
Punjab	54.23	43.61	517	54.35	45.98	373	8.168
Sindh	40.73	40.26	362	40.24	39.85	419	-8.766
Khyber Pakhtunkwha	56.98	35.53	342	60.87	35.20	351	-1.197
Mean value of livestock (Tropical Livestock Unit)							
Pakistan	0.44	0.43	1444	0.38	0.43	1263	0.0386
Punjab	0.53	0.50	593	0.46	0.55	430	0.0496
Sindh	0.31	0.42	430	0.31	0.49	528	0.0217
Khyber Pakhtunkwha	0.36	0.33	378	0.33	0.26	380	-0.0309

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

Whilst we do not find an impact of the BISP cash transfer on the ownership of livestock for the RD treatment group **we do report a reduction in the proportion of RD treatment households** that own livestock, falling by about 10 percentage points. It is possible that this finding is driven by a changing perception of the relative risk of owning livestock as compared to other forms of productive assets. Recent flooding in Pakistan, particularly the 2010 round of flooding caused widespread loss of livestock. Fears of a return of large scale flooding may have caused some Pakistani households to begin to view livestock as a "risky" asset, as well as potentially reflecting livestock lost due to outbreaks of flooding though the evaluation data cannot speak to this.

7.5 Remittances

Family links to with those who have migrated to an urban centres or elsewhere for work form an important form of *social capital* on which some poor households rely. Whilst it might be expected that receipt of the BISP may reduce the reliance of households on remittances as an alternative source of income, we do not find this to be the case as the **BISP does not affect either the propensity to receive remittances nor the value of remittances received**.

Table 27 Remittances: impact estimates

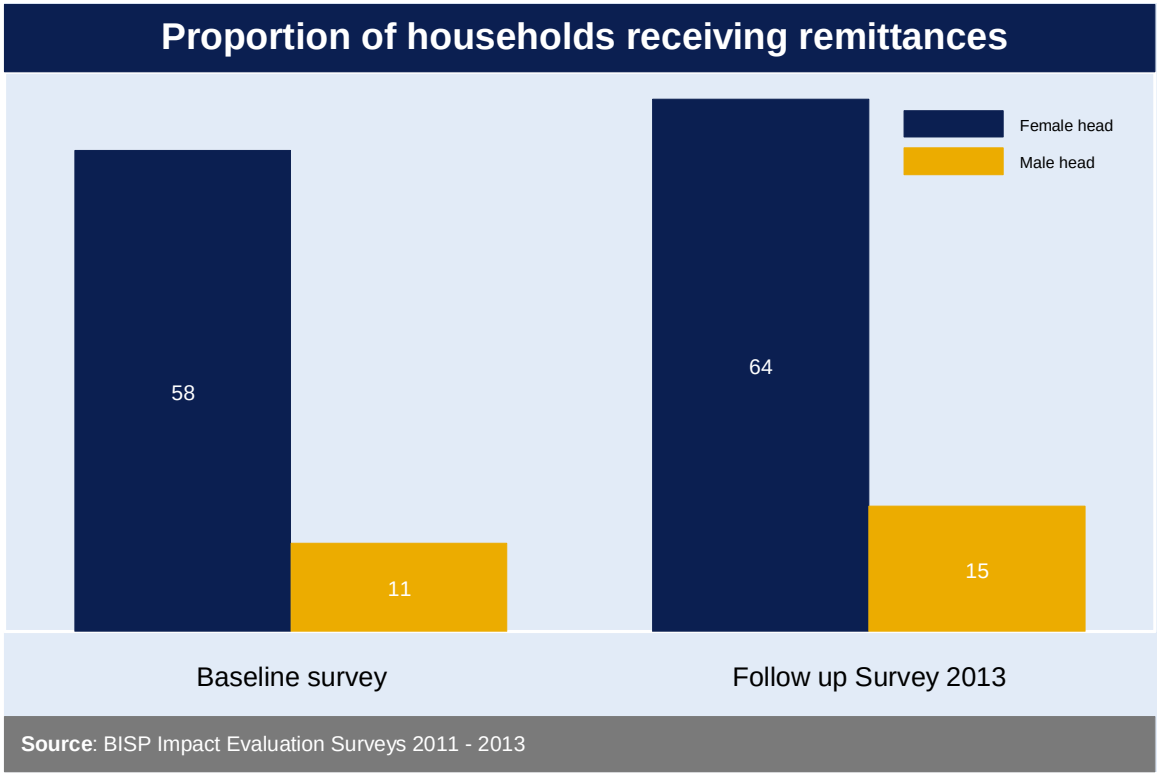
	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Proportion of households receiving remittances in last 12 months							
Pakistan	15.60	19.09	2335	13.74	19.98	2104	-8.349
Punjab	15.86	18.61	915	13.40	15.59	583	-14.11
Sindh	7.79	13.95	670	7.13	16.51	1019	-16.08

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Khyber Pakhtunkwha	28.66	31.43	668	22.44	31.38	693	-1.933
Mean value of remittances received in last 12 months							
Pakistan	7019	11788	2553	4486	11305	2317	4,301
Punjab	7246	11802	882	5070	10428	558	954.7
Sindh	1745	5453	652	1010	5814	918	8,488
Khyber Pakhtunkwha	14894	22836	606	9062	21258	648	2,189

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

Figure 20 demonstrates that **remittances are much more prevalent in female headed households**, as compare to male headed households. This is reflective of the lower employment opportunities for women in many rural communities in Pakistan. It may also be indicative of these households only being temporarily headed by a female, whilst a husband or father migrates for seasonal or cyclical employment.

Figure 20 Proportion of households receiving remittances



8 Access to services

In this section we present findings related to the access to various services, including education, health and finance. The key findings are:

- BISP does not increase school enrolment amongst primary school aged children.
- BISP transfers have induced an increase in per adult equivalent expenditure on health with the qualitative research indicating that it relieves affordability constraints for many households
- There is great (untapped) potential for BISP to improve financial access, particularly for those receiving the transfers through the BISP debit card, if accounts can be upgraded to allow deposits as well as withdrawals
- The BISP is associated with an increased propensity to save only in Khyber Pakhtunkhwa, where beneficiaries have received more transfers in the last 12 months than in any other province
- BISP does not have an impact on borrowing. The majority of borrowing is used to finance current consumption rather than building productive assets

The degree to which an unconditional cash transfer can be expected to move beyond poverty mitigation and to achieve long-term poverty reduction and human development goals depends critically on functioning public services and functioning markets. In this section we explore the access of beneficiaries to a variety of different services; education, health and finance.

8.1 Education

The accumulation of human capital is one of the most significant factors that can help to break the transmission of inter-generational poverty and there is a well-discussed linked between higher learning outcomes and lifetime incomes. However, children from poorer households can find themselves stuck in a vicious cycle: the poor are most often excluded from schooling; more likely to face higher opportunity costs of education (for example the requirement for child labour); this in turn affects the opportunities available to such children when they enter the labour market their lifetime incomes and hence the schooling opportunities available to their children.

There is a large body of evidence that suggests that unconditional cash transfers such as the BISP can have a significant effect on school enrolment. *Baird, Ferreira, Özler and Woodcock (2013)* in a **systematic review of 35 studies in 25 countries find that unconditional cash transfers increase the odds of school attendance by 23%** and do not find the results from conditional cash transfers to be significantly different.

However, the potential for a cash transfer to have an impact on school enrolment depends crucially on two key factors: (1) the value of the transfer relative to the cost of schooling; and (2) the level of education service provision that is accessible to beneficiaries.

Pakistan Bureau of Statistics (2013) note that the monthly expenditure per pupil on education for children attending government primary schools in rural areas was PKR 106[55], which is higher than the per adult equivalent value of the transfer actually received in the last 12 months of PKR 92 (Table 7). Furthermore public expenditure on education remains very low at just 2.2% of GDP in 2012[56], contributing to poor infrastructure, widespread teacher absenteeism and high drop rates[57].

We find that **the BISP does not cause an increase in school enrolment** amongst children of primary school age, either across Pakistan or in any of the provinces. We also do not detect an effect on per adult equivalent monthly level of consumption expenditure. In addition we find **significant proportions of children in beneficiary households are not currently attending school**, with just 55% of children aged 5-12 years enrolled at the time of the follow-up survey. There is significant variation across the provinces, with enrolment rates lowest in Balochistan (42%) and highest in Khyber Pakhtunkwha (66%).

Table 28 Child education expenditure and attendance: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base(2)	Follow-up(2)	N(3)	Base(2)	Follow-up(2)	N(3)	
Mean per adult equivalent monthly education expenditure (PKR)							
Pakistan	37	49	1418	32	45	1245	2.033
Punjab	47	72	473	39	69	328	-1.565
Sindh	16	27	362	22	27	419	-30.99
Khyber Pakhtunkwha	46	36	515	37	38	539	23.78
% of children aged 5-12 years currently attending school							
Pakistan	69.12	70.06	1805	67.01	69.92	1594	3.179
Punjab	76.86	79.58	1172	71.82	73.97	975	9.420
Sindh	53.41	56.57	633	44.33	49.44	885	-14.37
Khyber Pakhtunkwha	74.29	79.82	589	74.35	79.60	709	12.58

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

To understand some of the key drivers for the low enrolment Figure 21 presents the main reasons given for children aged 5-12 not ever attending school. In almost a third of cases, for both boys and girls, **education being *too expensive* was the most significant reason, suggesting receipt of the BISP cash transfer has not yet alleviated this demand side constraint**.

This highlights the importance of complementary interventions such as the Waseela-e-Taleem (WET) programme. The WET is a pilot Conditional Cash Transfer (CCT) programme which provides an additional stipend to BISP beneficiary households with out-of-school children between the ages of 5 and 12, conditional on their attendance at a government school.

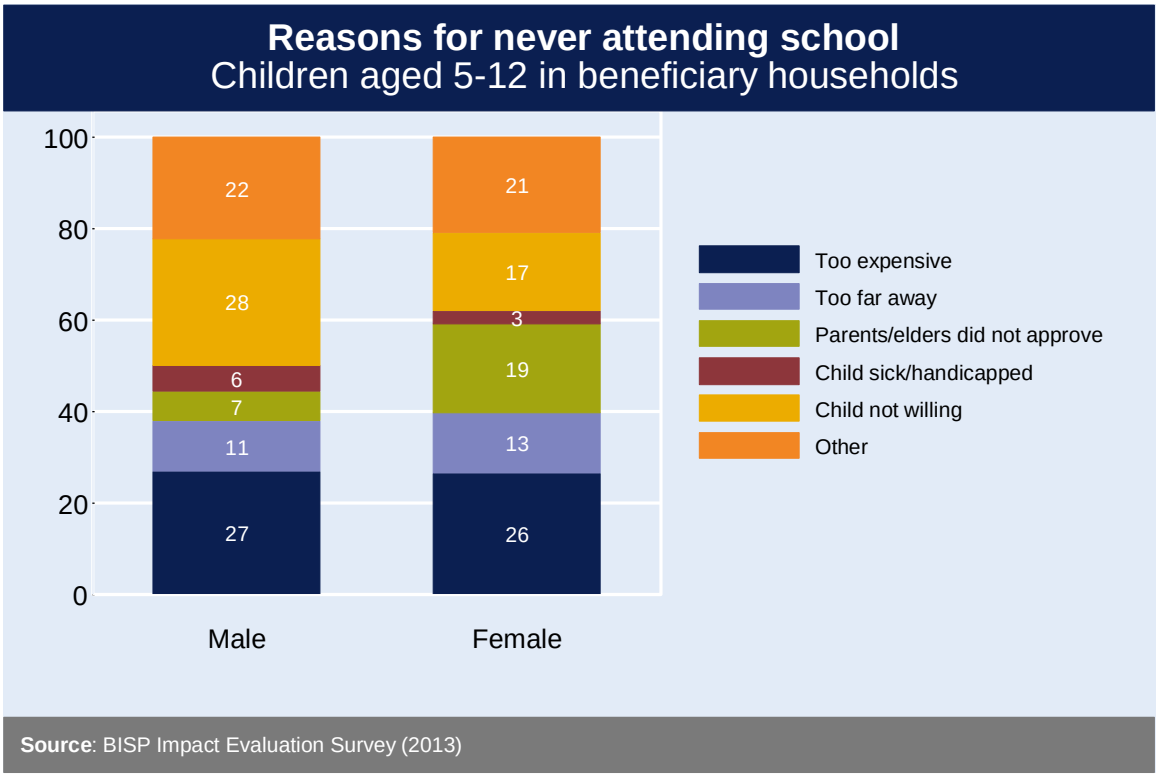
[55] Expenditure includes fees (admission, tuition, registration, examination, etc) as well as expenditure on uniforms, books and supplies, private tuition, transport and other education-related expenses.
[56] *World Development Indicators*
[57] *Akram and Khan (2007)* show that drop-out rates in Pakistan are the highest in South Asia, with just 10% of students completing 12 years of schooling

The other major demand side constraint relates to *parents not approving of education*, though this was much more significant a constraint for girls (19%) that it was for boys (7%). The qualitative research provides a more nuanced understanding of this demand side factor, suggesting that some parents viewed the returns to investment in boys' education to be higher than that for girls' education, as boys were more likely to become income earning members of the households.

> *"Daughters get married and belong to another family, while sons remain with the parents. Boys earn a living so need education more than girls, while girls stay home and take care of the house and children". (Male non-beneficiary focus group. District Kohat, Khyber Pakhtunkhwa).*

It is unlikely that an unconditional cash transfer, such as the BISP, will be able to have much of an impact on such cultural attitudes, given that there is no implicit incentive to invest in education. As such, the implementation of the pilot CCT, the Waseela-e-Taleem would benefit from complementary messaging highlighting the importance of education.

Figure 21 Reasons for children never attending school



Aside from demand side constraints, Figure 21 also demonstrates some prevalent supply side constraints faced in school enrolment. In terms of physical access to schools, just over 10% of not ever enrolment appears to have been caused by the nearest school being *too far away*.

In addition we find that the *child not being willing* is a significant determinant of a child never having been enrolled, particularly for boys (28%) but also for girls (17%). Whilst at first glance this might appear to be a demand side issue, it is often reflective of supply side conditions. For example *Siaens (2008)* in a study of the education sector in Sindh finds that teaching methods in use, such as corporal punishment, can deeply discourage some students from attending school.

8.2 Health

Public expenditure on health in Pakistan remains low at just 0.35% of GDP in 2012-13 (*Government of Pakistan, 2013*), meaning that while there is a large network of public and private health facilities issues of coverage, accessibility, cost and quality of health care remain critical issues. Consequently household health care is mostly financed by out-of-pocket expenditure.

We present two health related indicators on which one may expect the BISP to have an impact, *mean per adult equivalent monthly health expenditure* and the *% of those who were sick that reported seeking consultation.*

We find that the **BISP is associated with an increase in the reported expenditure on health care** for RD treatment households, increasing the per adult equivalent monthly health expenditure by around PKR 50. There is variation across the provinces and we only find a statistically significant impact on health expenditure in Sindh. The qualitative research indicates that this result is directly related to the BISP transfer making such expenditures more affordable with significant numbers of focus group participants citing that the BISP transfer had enabled them to access health care services.

> *"I have [a] kidney problem and need regular consultations with the doctor. Before I used to go only when I had severe problems, now with BISP cash I go on a regular basis and feel much better. The remaining amount we spend on other everyday items". (Female beneficiary focus group. District Rahim Yar Khan, Punjab)*

We do not find a corresponding increase in the propensity to seek consultation following an incidence of illness, with the propensity to seek consultation fairly static at just over 80% for the evaluation period.

Table 29 Incidence of ill health, health seeking behaviour and expenditure: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Mean per adult equivalent monthly health expenditure (PKR)							
Pakistan	59	91	1418	69	100	1245	54.00**
Punjab	36	91	2021	34	93	737	52.55
Sindh	85	93	1081	95	106	1114	102.7*
Khyber Pakhtunkwha	88	113	1002	86	116	748	50.74
% of those who were sick that reported seeking consultation							
Pakistan	78.74	82.90	10911	79.18	80.76	7642	9.560
Punjab	81.23	89.39	4192	80.53	86.36	1595	13.85
Sindh	82.30	81.91	3140	80.28	81.14	3575	1.168
Khyber Pakhtunkwha	80.41	76.22	2684	77.94	76.92	2209	20.47

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

8.3 Finance

Lack of access to financial services can often be a key restricting factor preventing poor households from stepping on the path out of poverty. Poor households are frequently credit constrained with a lack of collateral with which to access credit on favourable terms. Poor households also often lack access to secure means of saving contributing to them struggling to build up stores of welfare improving productive physical and human capital.

Overall in Pakistan many households are financially excluded. The Access to Finance Survey (A2FS)[58] reports that 55% of all Pakistani adults are financially excluded, and with 68% of adult women financially excluded there is a significant gender divide. Importantly for the operations of BISP the A2FS also reports that levels of financial literacy are low in terms of knowledge of more sophisticated financial terms, with just 34% of women reporting knowledge of ATM cards.

There **is great (untapped) potential for the BISP to have a significant impact on financial access**. Aside from the direct income effect of regular cash transfers, the majority of beneficiaries receive their transfers through the BISP debit card. *CGAP (2013)* indicates that there is willingness amongst the partner banks to transition beneficiaries to *Level 0 branchless banking accounts* which would enable beneficiaries to not only withdraw but make deposits. However, given the low levels of financial literacy, particularly amongst women, this is unlikely to happen unless accompanied by a complementary training package.

8.3.1 Savings

Overall the level of savings for the RD treatment group reported in Table 30 is consistent with the story of financial exclusion told by the A2FS, and consistent with the average level of savings that we find for all beneficiary households in the sample reported in Section 4.8.

We do not find that the BISP cash transfer has induced an increase in either the propensity to save or the value of total savings for the full RD treatment sample. However, in **Khyber Pakhtunkhwa we find that the BISP transfer has increased the proportion of RD treatment households with savings**, although there is not a similar effect on the average value of savings.

Although there is not a clear picture as to why we see an effect on savings in Khyber Pakhtunkhwa but not in other provinces, it is worth remembering that frequency of payments and average value of transfers from the BISP has been higher in Khyber Pakhtunkhwa than other provinces. Beneficiaries in the province received the highest average number of transfers in the last 12 months (Table 6) and consequently had received the highest per adult equivalent value in the last 12 months (Table 7).

Table 30 Savings: impact estimates

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[(2)]	Follow-up[(2)]	N[(3)]	Base[(2)]	Follow-up[(2)]	N[(3)]	
Proportion of households with savings							
Pakistan	9.32	13.97	1646	9.99	14.40	1417	4.763
Punjab	7.83	10.82	575	8.43	9.22	414	2.364
Sindh	14.42	20.26	393	14.03	18.61	443	1.152
Khyber Pakhtunkwha	7.33	11.68	392	6.26	16.60	413	29.34*

[58] *Pakistan Microfinance Network (2009)*

	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Mean value of total savings (PKR)							
Pakistan	686	617	1247	641	699	1077	-594.5
Punjab	800	491	627	887	458	448	-858.7
Sindh	990	676	413	522	768	500	863.6
Khyber Pakhtunkwha	342	564	264	318	945	251	9.777

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

8.3.2 Borrowing

Despite the 11% of beneficiary households reporting that they had used the BISP transfer for loan repayment (Table 9) we do **not find that the BISP transfer has changed either the propensity to borrow or the level of borrowing** engaged in by the RD treatment households.

Table 31 Borrowing : impact estimates

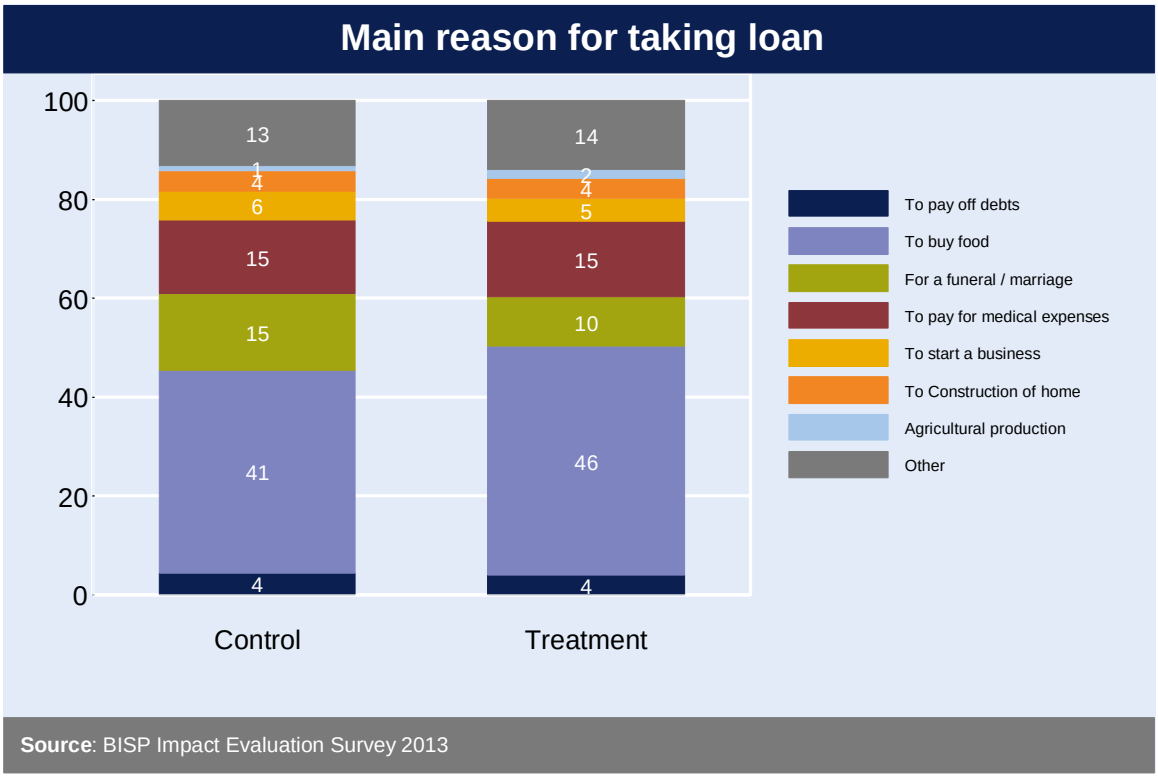
	Control Group			Treatment Group			RDD impact estimate (diff-in-disc)
	Base[2]	Follow-up[2]	N[3]	Base[2]	Follow-up[2]	N[3]	
Proportion of households with current loans	73.83	78.34	1581	76.72	81.00	1333	-13.32
Mean value of total outstanding loans (PKR)	23886	31295	1787	26135	31752	1582	-12,836

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) Point estimates are weighted using triangular weights based on the optimal bandwidth defined in Annex B (3) Sample sizes are based on the sample size of treatment or control households within the optimal bandwidth defined in Annex B.

Figure 22 presents the main reason for taking on debt. It is clear from this that the vast majority of evaluation households are using debt to finance current consumption. The most **common reason for BISP beneficiary households to take on debt was *to buy food* (46%)**. These tend to be informal “in-kind purchases” in local shops and are indicative of a profile of households that are unable to fully finance regular household consumption, despite being in receipt of the BISP transfer.

Households also are **not using debt to finance productive investments**. We find that just 5% of beneficiary households have current debt used to *start a business* or for *agricultural production*. This is likely related to the low value of the cash transfer relative to regular household consumption expenditure, potentially meaning that the cash transfer cannot be leveraged as collateral for larger loans that could be used to finance productive investments.

Figure 22 Reasons for loan



Source: BISP Impact Evaluation Survey 2013

Part E: Conclusion

9 Conclusion

A rigorous evaluation of the BISP is underway and this report represents its first findings as they relate to the implementation and potential impact on its beneficiaries. Quantitative and qualitative data have been collected and analysed over a period of 24 months of programme support to beneficiary households in order to provide a comprehensive and robust assessment of the impact of the programme. Impact is measured across a multitude of domains and we are now in a position to make the first set of conclusions as to where there is strong evidence of impact, where there is strong evidence of no impact (so far) and where evidence of impact is inconclusive or ambiguous.

9.1 Strong start to BISP implementation, with room for improvement

We find that user costs to access the transfer are relatively low and that BISP beneficiaries on average travel less than hour to collect the transfer at a cost that is just 3% of the value of the quarterly transfer. We also find evidence that local level leakage (through payments of fees to access the transfer) is reasonably low suggesting that the transfer is not captured by other agents.

However, as can be expected of any large scale programme in its first years of operation there have been some implementation difficulties. **Chief amongst these is that many beneficiaries did not receive the full complement of quarterly payments** in the 12 months preceding the first follow-up survey. On average beneficiaries received just under PKR 7,000 out of a total expected annual value of PKR 12,000, mitigating the level of impact that the BISP can expect to make on the welfare of beneficiary households in the period of this round of the evaluation.

BISP beneficiaries also expressed frustration that there was **no clearly defined grievance mechanism** that would allow them to understand why their transfer was delayed and when they might expect to receive the next instalment. This was despite considerable effort being exerted by some beneficiaries to address the issue of late payments.

These findings indicate that fairly substantial gains could be made by addressing these issues. A **review of the financing and payment arrangements** would allow the BISP to understand where the bottlenecks arise and how they can be effectively addressed. Furthermore, an **enhanced communication strategy at local levels** would help to build more trust in the programme and allow beneficiaries to more effectively plan their household budgets around receipt of the transfer.

In addition there is an opportunity to alter the design of the programme that may well lead to enhanced impact. In particular the conversion of beneficiary accounts to **Level 0 branchless banking accounts** would allow beneficiaries to not only withdraw but to make deposits. If accompanied by appropriate financial information and training this could improve the potential for impact on saving.

9.2 BISP has successfully contributed to poverty mitigation

Addressing the first goal of the BISP to *cushion the negative effects of the food, fuel and financial crises on the poor*, the evidence presented in this report suggests that the BISP has had a positive impact. It seems reasonable to assume that if poor households receive a regular injection of money additional to their household income that their consumption expenditure and poverty status will improve. However, this is not a forgone conclusion as households may share the transfer, use it to pay down debt or make bad or slow-return investments and/or the value of the transfer may simply be too little to make measureable difference.

The evaluation provides evidence of a positive impact on household consumption expenditure and poverty status. BISP has induced an increase in per adult equivalent monthly consumption expenditure of PKR 318 resulting in a fall in poverty amongst RD treatment households. In addition the BISP is also having a positive impact on the poverty gap or how far the average household falls below the poverty line.

Despite this success we see only ambiguous effects on household and child nutrition. At the household level we find that the **BISP is associated with increased food consumption expenditure for RD treatment households in Khyber Pakhtunkhwa** but not in other evaluation provinces. This is a surprising result but is in part explained by the inter-linkage between the infrequency of transfer payments and the way in which food security is measured based on a 7 day recall.

We find evidence that the BISP has reduced rates of short-term malnutrition amongst girls (aged 0-59 months), but not amongst boys. Additionally we find that **rates of malnutrition amongst infants and young children are indicative of an on-going malnutrition crisis**. These findings are consistent with the causes of child malnutrition being multi-dimensional, and it is unlikely that the BISP alone can make significant gains in the absence of other interventions including access to a sanitary environment and access to child health care services.

A key component in the conceptual framework defining the likelihood of success of a cash transfer is the level of trust in the programme. As beneficiaries begin to believe that the programme will deliver all payments on time and at full value they will begin to incorporate the cash into their normal household budgeting. **This will increase the likelihood of consumption smoothing behaviour, where households will be willing to maintain a certain level of consumption** in anticipation of receiving the next transfer. More vulnerable members of the household (such as infants and young children) will benefit the most from such behaviour, particularly in a context where households often reduce food consumption in response to an exogenous shock.

9.3 Some gains to the empowerment of women

BISP payments are delivered directly to the female head of the family with the hope of making improvements to the empowerment of women. We find that there is some evidence that the BISP is having an empowering effect for beneficiary women, though at this stage these appear to be marginal.

We find that beneficiary women by and large retain control over the transfer. Two-thirds of beneficiary women decide directly how the cash transfer should be spent, setting the foundations for subtle changes in the position of women within the household. The evidence from qualitative research certainly indicates that the transfer has an empowering effect, with many women reporting that they feel empowered by their contributions to household income and their decreased dependency on their husbands.

We find evidence that BISP increased the proportion of women declaring that they would vote, though this result is likely to be driven by the requirement for a CNIC rather than the receipt of money.

Despite this the results suggest that women do not have increased access to resources. Strikingly we find that the BISP does not have an effect on the likelihood of being able to access even very low amounts of money in an emergency. Furthermore we do not see evidence of beneficiary women becoming more economically active.

9.4 Effect on long-term poverty reduction unclear at this stage

Transfer value is a key determining factor of the ability of a cash transfer to induce long-term poverty reduction. Set too high and there is a danger of creating a dependency on the cash transfer. However, set too low and households may not be able to fulfil basic subsistence needs with some left over for savings and investments in human and productive capital. Such savings and investments are crucial for a poor household to be able to step on the path to graduation from poverty.

The transfer value is currently set at a purposively low value, and we find that per adult equivalent value of the transfer is just PKR 164. To put this in perspective it is useful to remember that the current average level per adult equivalent monthly consumption expenditure in beneficiary households is PKR 209 below the poverty line.

There are some promising signs of a change in livelihood strategies adopted by beneficiary households. In particular we see evidence of the BISP inducing a reduction in the proportion of men engaged in casual labour, a livelihood strategy vulnerable to cyclical and seasonal fluctuations. We report a corresponding increase in the proportion of men in beneficiary households who are engaged in self-employment, which is indicative of men who have started up their own economic enterprises rather than simply relying on supply of casual labour.

However, there is some limited evidence suggesting that the transfer value is too low for substantive investments in productive capital. The qualitative research certainly indicates a perception amongst beneficiaries that the value is sufficient only for regular household consumption. Furthermore we do not find evidence that households have used the transfer to make productive investments in physical capital such as land or livestock or human capital and we find no impact on the primary education enrolment rate.

Furthermore, with the exception of RD treatment households in Khyber Pakhtunkhwa we find no impact on the propensity to save, with only 12% of households in the full sample reporting any level of savings at all. With 81% of households currently indebted, which primarily finances regular household consumption (rather than productive investments) there is a clear indication of a profile of households who are unable to meet all regular household needs even with receipt of the BISP cash transfer.

The Government of Pakistan has recently increased the monthly value of the transfer to PKR 1,500 an increase of 50%. However, since the value of the transfer was originally set in 2008/09 year-on-year inflation has averaged over 10%[59]. Thus even with this increase, the real value of the transfer has eroded since the programme was originally launched.

[59] *World Development Indicators*

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Annex A Impact evaluation methods: technical appendix

Regression Discontinuity (RD) can be used to estimate the causal effect of a treatment on one or more outcomes of interest when the treatment is a deterministic function of an assignment variable and the threshold that determines the treatment is known. Under certain assumptions we can use observations close to the eligibility threshold and work with them as if treatment around this threshold were random. In the close neighbourhood of the threshold we can then identify causal impact of having receiving payments through the BISP on an outcome of interest *(y_i)* by taking the difference in outcomes for the treatment and control observations at the eligibility threshold.

$$Y(1) - Y(0) = E(Y_i|x_i, BISP_i = 1, BISPSCORE_i) - E(Y_i|x_i, BISP_i = 0, BISPSCORE_i)$$

We will use a non-parametric approach to estimate the impact of the BISP on its beneficiaries. This involves estimating the differences in intercepts (i.e. the discontinuity) of two local polynomial estimators, one from each side of the eligibility threshold c_0. Formally for a positive bandwidth *h*:

$$\min_{\beta} \sum_{i=1}^{n} \left(y_i - \sum_{j=0}^{p} \beta_j (BISPSCORE_i - c_0)^j \right)^2 K\left(\frac{BISPSCORE_i - c_0}{h}\right)$$

The key features of this approach are include the implementation of a local linear regression in some bandwidth *h* around the eligibility threshold. The estimation of impact is sensitive to the choice of the bandwidth. Thus for the selection of the bandwidth we follow mean square error optimal, data driven, bandwidth choice rule as proposed by *Calonico et. al. (2013)*. For robustness we also estimate the impact with alternative values of the bandwidth *h*.

A kernel weighting approach is also used, as determined by the kernel function *K(.)* such that the data is weighted according to its distance from the cut-off point. We implement a triangular kernel weight which gives greater weight to data points closer to the cut-off than those further away, with the weights falling off in a linear fashion.

A.1 Sensitivity testing

To be satisfied with the robustness of our findings we conduct the following sensitivity tests, the results of which can be found in Annex B:

- We test sensitivity of results to the choice of bandwidth. Results reported in the main report are based on the optimal bandwidth choice rule as proposed by *Calonico et. al. (2013).* In Annex A we also report estimates of the discontinuity when the optimal bandwidth is doubled or halved.

- We test for discontinuities away from the eligibility threshold. If there is a discontinuity away from the eligibility threshold this would suggest that some other factor is driving the observed discontinuity at the eligibility threshold. In Annex A we repot the estimate of the discontinuity at a point ±1 away from the eligibility threshold.

We find that our results presented in the main report are robust to the sensitivity tests applied.

A.2 Assumptions of RD

RD will identify the combined causal impact of being treated by the BISP UCT on the outcomes of interest if the only source of discontinuity in the outcomes at the eligibility threshold is the

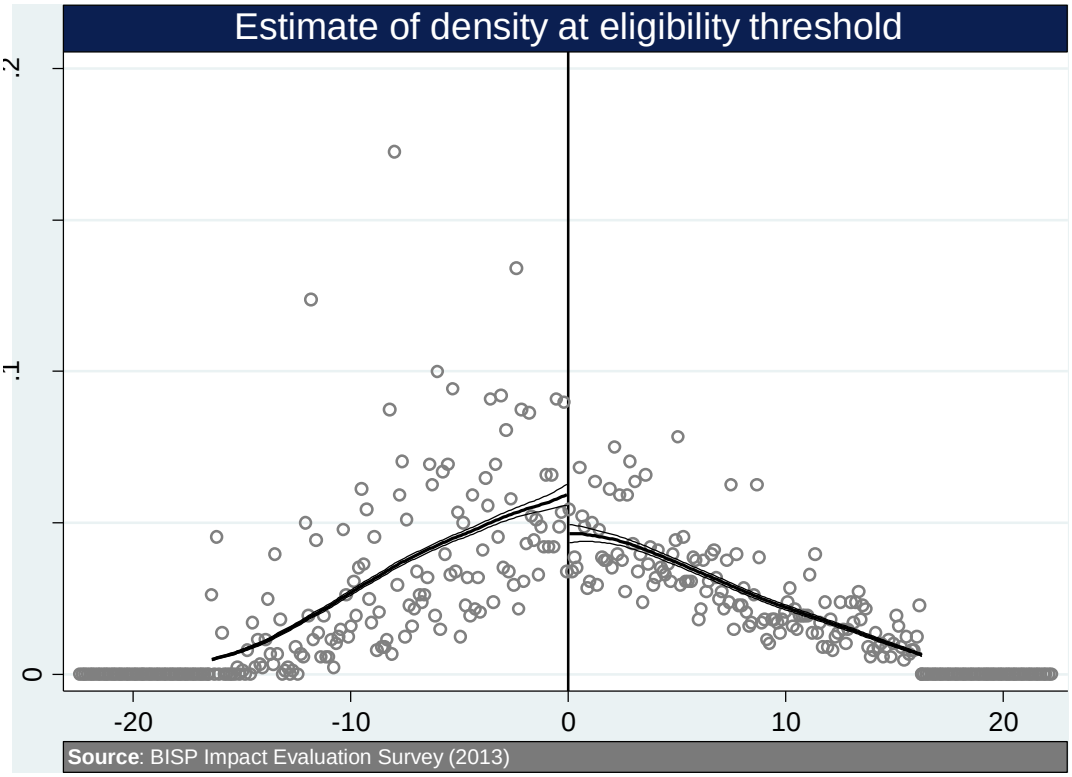
probability of receiving the BISP treatment. In order for this to hold we need to satisfy five assumptions, which are presented below:

Assumption 1: *the assignment variable has a monotonic effect on the probability of being treated for everyone*. Whilst this assumption cannot be tested directly we can be reasonably confident that the lower your poverty score the higher your probability of being targeted as eligible by the BISP and the higher your probability of receiving the BISP cash transfer.

Assumption 2: *the gains from treatment must be a function of the assignment variable at the eligibility threshold*. This assumption relates to worries about the ability of households to manipulate the assignment score and increase their probability of being BISP eligible.

This can be formally tested, and Figure 23 presents the results of a test of a discontinuity in the BISP poverty score at the eligibility threshold following *McCrary (2007)* which tests whether the marginal density of the BISP poverty score is continuous across the eligibility threshold.

Figure 23 Density of BISP poverty score at eligibility threshold (matched MIS scores)[60]



The results of this test suggest that there is a statistically significant jump in the marginal density at the eligibility threshold. Whilst this is a violation of *Assumption 2*, given the complexity of the way in which the BISP is targeted (i.e. the PMT based on a weighted index of 23 variables that were unknown to beneficiaries at the time of the survey) we can be reasonably confident that targeted households have not been able to influence their BISP poverty score.

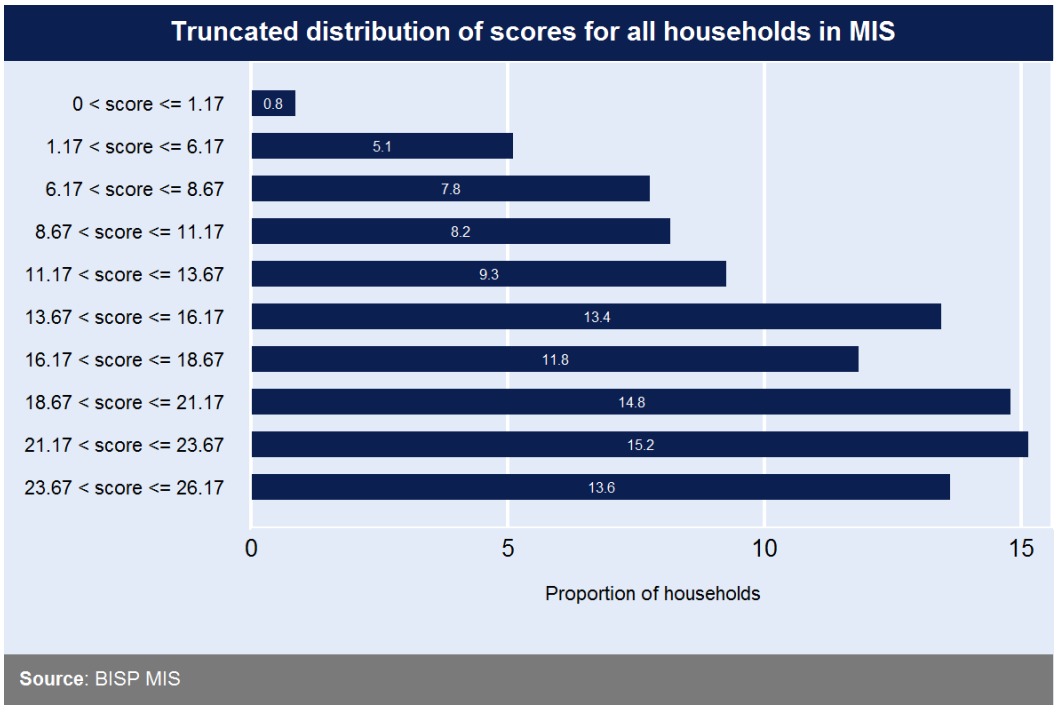
In interpreting this result it is useful to remember the purpose of the test depicted in Figure 23. We would be concerned with the failure of this test if it was suspected that some non-random group of individuals (perhaps with better political connections, higher levels of education, etc) was able to manipulate their poverty score in order to enter the programme. In this context it is useful to

[60] BISP poverty score normalised so that eligibility threshold = 0

consider Table 32 which presents estimates of the baseline discontinuities in a wide variety of covariates and outcome variables. The table reports only 2 observed discontinuities (in the ownership of cooking stoves and flush toilets) across these covariates and outcome indicators which should give us confidence that we do have balanced treatment and control groups.

To explore this the discontinuity in the marginal density of poverty scores further Figure 24 presents a truncated distribution of the poverty scores of all households in the administrative data with scores of less than 26.17. Whilst a formal test is not possible (the evaluators do not have access to the raw data of all poverty scores in Pakistan), there does seem to be a certain amount of clumping in poverty scores just below the eligibility cut-off, i.e. in the range 13.67 to 16.17. This may help to explain the break in the density of scores across the eligibility cut-off observed above in Figure 23.

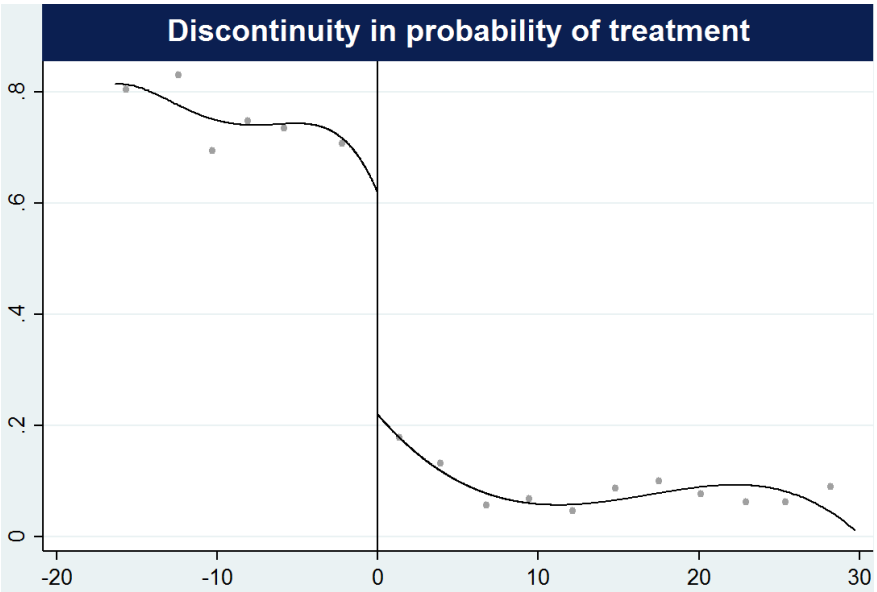
Figure 24 Distribution of poverty scores: all households with poverty score less than 26.17



Assumption 3: *there must be a discontinuity in the probability of being treated by BISP around the eligibility threshold.* This requires that the BISP is sufficiently well implemented such that those who are determined to be eligible actually receive the BISP and those who are ineligible do not. Figure 25 presents this analysis.

Whilst there is a statistically significant jump in the probability of treatment, there are some cross-overs – i.e. some ineligible households receive BISP payments and some eligible households are missed by the programme and some eligible households do not receive the payment. Additionally some households with scores greater than the 16.17 eligibility cut-off receive the transfer due to alternative rules for specific groups such as disabled family heads. Given that the treatment status is only partially determined by the BISP poverty score we implement a **fuzzy regression discontinuity (FRD)** as discussed in A.3 below.

Figure 25 Discontinuity in probability of treatment[61]



Assumption 4: *the observables must be a continuous function of the assignment score at the eligibility threshold.* In practice this assumption applies to both observable household characteristics that might affect our outcome variables of interest and requires that at least at baseline there is no discontinuity in observable characteristics and outcome variables at the eligibility threshold. If this assumption is violated we could not be sure whether any discontinuity observed at follow-up represents false impact due to a pre-existing discontinuity in that outcome variable, driven by a factor other than the BISP.

Table 32 presents the estimate of a range of baseline household characteristics and from this we can be confident that Assumption 4 holds. We do not find any statistically significant discontinuities at baseline, at least at the optimal bandwidth with the exception of access to a flush toilet and ownership of a bicycle, and the proportion of households living in Punjab. With regards to the latter we find that this is statistically significant only at the 90% level, and is not robust to explorations of alternative bandwidths.

Table 32 Baseline discontinuities

	Optimal bandwidth	Double bandwidth	Half bandwidth
Household composition			
Household size	-0.0273	0.202	-0.419
Number of children under 5	0.0387	0.0194	-0.126
Male children, aged 5-14	0.130	0.123	0.132
Female children,, aged 5-14	-0.169	-0.0296	-0.0927
Male members, aged 15-24	0.0275	0.0701	-0.0521
Female members, aged 15-24	-0.0803	-0.0271	-0.134
Male members, aged 25-34	0.0857	0.0591	0.0602
Female members, aged 25-34	0.0565	0.0504	0.0587
Male members, aged 35-44	-0.132	-0.0655	-0.119
Female members, aged 35-44	-0.102	-0.0719	-0.0754
Male members, aged 45-54	-0.00888	0.0164	-0.0342
Female members, aged 45-54	-0.0166	0.0124	-0.0616
Male members, aged 55-64	0.0432	0.0149	-0.0278
Female members, aged 55-64	-0.00259	-0.00311	-0.0216
Male members, aged 65 and over	0.00976	-0.0169	-0.0606
Female members, aged 65 and over	0.0933	0.0499	0.135

[61] BISP poverty score normalised so that eligibility threshold = 0

	Optimal bandwidth	Double bandwidth	Half bandwidth
Number of ever-married women	0.132	0.105	0.0896
Human capital characteristics			
Age of household head	-1.557	-2.288	-5.009
Household head is literate	-11.41	-9.382	-26.62*
Head is female	-9.177	-5.830	-7.315
Housing characteristics			
Number of rooms in household	-1.312	0.113	-1.234
Access to improved water source	2.523	-1.460	-3.783
Toilet: A flush connected to a public sewerage, to a pit or to an open drain	-16.60*	-5.813	-8.263
Household has mud floor	9.966	6.917	-3.781
Consumer durables owned by household			
Refrigerator	3.407	0.240	10.29
Fan	5.713	1.631	13.23
Washing machine			
Cooking stove	2.516	3.280	18.25*
Bicycle	-17.70**	-7.282	-19.38
Motorcycle	6.704	2.583	1.196
TV	4.193	5.287	9.769
Sewing machine	-5.285	-5.023	9.070
Livestock ownership			
Cow	8.467	1.589	10.67
Buffalo	-4.456	-3.801	-3.541
Sheep	-0.0865	-0.308	-2.299
Goat	5.850	4.108	7.224
Financial assets			
Household has savings	2.810	3.052	0.261
Poverty and livelihood			
Household owns agricultural land	0.293	-1.926	-5.506
Proportion of households below poverty line	-1.859	1.564	-13.85
Per adult equivalent monthly consumption expenditure	117.4	102.8	186.9
Location of households: proportion of households located in…			
Punjab	8.300*	5.270	6.663
Sindh	-6.040	-9.610	-4.420
Khyber Pakhtunkhwa	-2.010	1.930	-2.090
Balochistan	-0.256	2.410	-0.120
In a district exposed to flooding in the previous year	-2.333	-7.856	-2.159
Source: BISP impact evaluation survey (2011). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.			

Assumption 5: *unobservables must be a continuous function of the assignment score at the eligibility threshold.* This assumption relates to concerns over the possibility of a discontinuity in unobservable variables (such as ability) that could affect the outcome variable of interest. If such a discontinuity existed, then one could not be sure if a discontinuity in the outcome indicator of interest observed at follow-up is attributable to the BISP cash transfer or the unobservable variable.

By nature of unobservable indicators it is not possible to test this assumption. However, given that we are confident that we have satisfied *Assumption 4* at baseline it is likely that this assumption will also hold.

A.3 Fuzzy regression discontinuity

As discussed above against *Assumption 3* we find that BISP treatment is only partially determined by the BISP poverty score, and we find that some eligible households are not beneficiaries of the programme and some ineligible households have become beneficiaries of the programme.

We therefore implement a **Fuzzy Regression Discontinuity (FRD)** design. In principal the treatment effect is recovered by dividing the jump in the relationship between the outcome variable of interest and the BISP poverty score, by the jump in the relationship between treatment status to provide an unbiased estimate.

The implementation of the FRD is conducted using **two-stage least squares (2SLS)**. In the first stage we estimate the value of the treatment status, which is then used in place of actual treatment status in the second stage where we estimate the impact of the BISP programme on the outcome variable of interest.

A.4 Differences-in-discontinuity

The BISP impact evaluation surveys are a panel survey design visiting the same households at follow-up as were visited during the baseline survey. We exploit the panel nature of the data to implement the **difference-in-discontinuity** design, which rests on the intuition of combining a differences-in-differences strategy with an RD design, *Grembi et. al. (2013)*.

The differences-in-discontinuity estimator can be implemented by estimating the boundary points of four regression functions of the outcome variable on the assignment score: two on both sides of the eligibility threshold score both at baseline and follow-up.

The difference-in-discontinuity is a useful extension to the regular RD design in that it could remove a potential source of bias that would result from permanent differences between the treatment and control groups. For example if there was a discontinuity observed in an outcome variable in the follow-up cross-section, this discontinuity could be either an over or underestimate of the true impact of the programme if there is an opposite or similar discontinuity observed in the baseline cross-section. Under the assumption of common trends the differences-in-discontinuity approach will remove this potential source of bias.

Annex B Additional RD tables: sensitivity tests

Annex B presents the sensitivity testing conducted on our RD estimates of impact that allow us to be confident in their robustness. As discussed above we conduct the following sensitivity tests:

- We test sensitivity of results to the choice of bandwidth. Results reported in the main report are based on the optimal bandwidth choice rule as proposed by *Calonico et. al. (2013).* In Annex A we also report estimates of the discontinuity when the optimal bandwidth is doubled or halved.

- We test for discontinuities away from the eligibility threshold. If there is a discontinuity away from the eligibility threshold this would suggest that some other factor is driving the observed discontinuity at the eligibility threshold. In Annex A we repot the estimate of the discontinuity at a point ±1 away from the eligibility threshold.

Table 33 RD tables: Household consumption expenditure and poverty

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Mean household consumption per adult equivalent								
Pakistan	318.1*	204.4*	600.1**	1418	1245	4.598	0.914	0.974
Punjab	458.8*	117.7	557.0	490	355	3.356	0.858	0.151
Sindh	-345.6	-141.7	-505.2	372	428	4.882	0.830	0.912
Khyber Pakhtunkwha	640.8**	473.7**	692.6**	378	379	5.251	0.490	0.572
% of population below poverty line								
Pakistan	-21.91*	-16.96**	-28.45*	1499	1298	4.984	0.142	0.788
Punjab	-12.52	-3.091	-21.31	723	475	5.627	0.865	0.336
Sindh	26.58	3.739	60.98	371	427	4.848	0.802	0.472
Khyber Pakhtunkwha	-44.32**	-33.47**	-47.58*	378	379	5.241	0.824	0.770
Poverty gap								
Pakistan	-6.983**	-3.442*	-12.28***	1598	1341	5.264	0.677	0.597
Punjab	-8.852*	-2.880	-8.397	539	389	3.744	0.664	0.134
Sindh	11.80	5.374	20.33	383	438	5.047	0.782	0.606
Khyber Pakhtunkwha	-13.19**	-9.597**	-11.92**	349	356	4.833	0.907	0.949

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical

Table 34 RD tables: Measure of household food security

	Fuzzy: full sample						Alternative cut-off points (p-value of estimate)2	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off +1	Cut-off -1
Mean household food consumption per adult equivalent								
Pakistan	114.8	89.63	253.4*	1787	1582	6.141	0.876	0.641
Punjab	140.1	51.99	336.2	573	414	4.197	0.733	0.0854
Sindh	-351.2	-92.59	-414.5	361	416	4.694	0.599	0.903
Khyber Pakhtunkwha	373.1**	271.2**	422.5**	397	416	5.413	0.630	0.982
Food consumption score								
Pakistan	-2.060	-1.510	-3.204	1158	983	3.358	0.701	0.947
Punjab	2.433	-4.312	-4.498	490	355	3.396	0.557	0.735
Sindh	-9.639	-3.794	-19.86	402	470	5.508	0.984	0.422
Khyber Pakhtunkwha	-7.306	-0.337	-5.711	282	266	3.312	0.728	0.618

Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.

Table 35 RD tables: Infant and young child nutrition security

	Fuzzy: full sample Follow-up						Alternative cut-off points (p-value of estimate)[2]	
	Optimal bw	Double bw	Half bw	N Control	N treatment	bw	Cut-off + 1	Cut-off -1
Proportion of children aged 0-59 months wasted								
Boys	17.21	3.736	15.88	387	347	3.609	0.976	0.405
Girls	-37.45**	-26.17***	-44.91	461	458	5.930	0.461	0.266
Proportion of children aged 0-59 months stunted								
Boys	-22.26	-7.013	-31.86	407	378	4.019	0.873	0.151
Girls	17.02	-4.066	34.36	408	414	5.221	0.899	0.896
Proportion of children aged 0-59 months who experienced episode of diarrhea in last 30 days								
Boys	17.11	8.068	9.903	462	414	4.128	0.689	0.876
Girls	-6.332	-0.589	-26.91	316	326	5.372	0.208	0.290
Proportion of children aged 12-59 months fully immunised								
Boys	-12.63	-5.494	-18.22	470	446	4.228	0.588	0.276
Girls	10.50	2.737	23.13	506	487	5.652	0.890	0.911

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance. (*) indicate that an estimate is significantly different to

Table 36 RD tables: Women's empowerment

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatmen	bw	Cut-off + 1	Cut-off -1
% of women who report that they never vote								
Pakistan	-16.10*	-14.14**	-14.43	1757	1540	3.606	0.446	0.793
Punjab	-30.75**	-27.51***	-28.71*	794	557	4.320	0.654	0.538
Sindh	-13.27	-2.503	-17.74	492	642	4.406	0.0618	0.398
Khyber Pakhtunkwha	-13.30	-6.286	-7.981	485	486	4.116	0.592	0.691
% of women who report that they can easily access…								
PKR 50	12.12	13.49**	19.41	2279	1952	5.188	0.320	0.690
PKR 100	5.958	7.099	14.21	2279	1952	5.188	0.630	0.974
PKR 200	-9.447	-7.434	6.156	2279	1952	5.188	0.872	0.953
PKR 400	-4.182	-4.724	18.65	2279	1952	5.188	0.958	0.666
PKR 600	1.572	3.391	21.43	2279	1952	5.188	0.801	0.728
PKR 800	2.076	5.734	22.70	2279	1952	5.188	0.651	0.628
PKR 1000	3.822	7.025	22.57	2279	1952	5.188	0.695	0.870
% of women who report that they can visit alone to…								
Local market	11.06	4.617	8.383	2057	1840	4.666	0.208	0.324
Health facility	8.928	5.149	2.811	2057	1840	4.666	0.211	0.375
Friends home	30.81***	25.76***	16.32	2057	1840	4.666	0.490	0.111
Mosque or shrine	2.609	2.343	-4.593	2057	1840	4.666	0.669	0.232

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an

Table 37 RD tables: Labour participation rates

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Proportion of working age adults (18-64)engaged in economically productive activities								
Pakistan	-8.165	-4.774	-3.822	4545	3911	4.253	0.787	0.128
Punjab	-7.745	-9.109	-1.048	1850	1333	4.490	0.803	0.0635
Sindh	-13.95	-7.643	-11.32	1577	1888	6.190	0.219	0.927
Khyber Pakhtunkwha	-7.552	0.0671	3.263	1064	976	3.703	0.854	0.208
Male	-22.89***	-15.89**	-14.15	1884	1539	3.376	0.613	0.348
Female	1.065	3.279	9.050	2877	2486	5.496	0.567	0.168
Employment Status								
Self-employed	15.41***	9.109***	21.11***	8912	7843	3.517	0.728	0.256
Employee	-1.054	4.891	-6.244	9517	8555	3.763	0.641	0.140
Unpaid family helper	-2.552	-0.269	-1.498	9069	8053	3.573	0.968	0.0592
Casual labourer	-16.45**	-15.19***	-20.75**	9351	8338	3.682	0.772	0.0586
Owner-cultivator	1.608	0.964	1.633	10465	9657	4.452	0.585	0.813
Share-cropper	-1.123	-0.732	1.680	8370	7183	3.231	0.311	0.579
Employment Status - Male								
Self-employed	24.56***	15.10***	28.95***	2237	1971	3.893	0.763	0.398
Employee	-1.644	9.468*	-12.98	2333	2033	4.187	0.704	0.0887
Unpaid family helper	-5.413*	-2.532	-2.233	2527	2182	4.745	0.723	0.786
Casual labourer	-37.04***	-31.05***	-43.78***	2353	2037	4.265	0.841	0.137
Owner-cultivator	3.087	1.771	2.974	2428	2122	4.450	0.756	0.894
Share-cropper	-0.506	-0.990	4.990	2013	1686	3.363	0.663	0.517
Employment Status - Female								
Self-employed	4.455	0.634	11.75	2441	2147	4.362	0.258	0.0518
Employee	1.568	0.0875	0.727	2441	2139	4.353	0.284	0.490
Unpaid family helper	-0.144	3.905	-5.116	2223	1887	3.642	0.993	0.177
Casual labourer	3.392	1.552	5.022	2314	2021	3.810	0.929	0.503
Owner-cultivator	0.261	0.256	0.545	2509	2208	4.468	0.927	0.323
Share-cropper	-2.275	-0.802	-2.360	1738	1373	2.814	0.213	0.247

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative

Table 38 RD tables: Child labour participation rates

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Proportion of boys aged 5-14 years engaged in child labour	-13.78**	-8.583*	-6.352	2211	2332	6.282	0.891	0.949
Proportion of girls aged 5-14 engaged in child labour	-3.097	-0.402	-8.055	1548	1527	4.329	0.987	0.440

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance.

Table 39 RD tables: Land ownership

	Fuzzy: full sample Follow-up						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Proportion of households that own agricultural land								
Pakistan	-0.895	-0.772	2.801	1759	1535	5.992	0.815	0.0880
Punjab	14.92	7.356	20.66	623	447	4.860	0.863	0.401
Sindh	-15.48	-5.765	-47.21	401	468	5.447	0.532	0.713
Khyber Pakhtunkhwa	-5.091	-8.920	9.947	336	349	4.525	0.895	0.746
Mean size of agricultural land owned (acres)								
Pakistan	-0.299	-0.124	-0.0786	1659	1426	5.539	0.872	0.523
Punjab	0.123	-0.0712	0.573	569	412	4.120	0.645	0.889
Sindh	0.662	0.00438	0.533	314	379	3.929	0.541	0.497
Khyber Pakhtunkhwa	-1.396	-0.711	-1.381	397	416	5.421	0.303	0.966

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance.

Table 40 RD tables: Livestock ownership

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Proportion of households who own any livestock								
Pakistan	6.541	0.300	4.918	1417	1241	4.589	0.703	0.638
Punjab	22.85	1.982	54.47**	517	373	3.561	0.613	0.0339
Sindh	-31.21	-12.72	-98.82	362	419	4.770	0.505	0.154
Khyber Pakhtunkwha	-3.354	7.821	-10.93	342	351	4.651	0.749	0.693
Mean value of livestock (Tropical Livestock Unit)								
Pakistan	0.120	0.0644	0.225	1444	1263	4.693	0.339	0.211
Punjab	0.144	0.151	0.409	593	430	4.541	0.261	0.292
Sindh	0.0738	0.0190	0.504	430	528	6.025	0.906	0.601
Khyber Pakhtunkwha	-0.0875	-0.112	-0.0974	378	380	5.261	0.548	0.797

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10

Table 41 RD tables: Remittances

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Proportion of households receiving remittances in last 12 months								
Pakistan	-8.349	-1.595	-11.76	2335	2104	8.957	0.244	0.631
Punjab	-14.11	-2.790	-17.86	915	583	8.062	0.588	0.126
Sindh	-16.08	-5.468	-30.06	670	1019	12.22	0.808	0.668
Khyber Pakhtunkwha	-1.933	7.232	-2.969	668	693	12.97	0.782	0.848
Mean value of remittances received in last 12 months								
Pakistan	4,301	3,656	16,269	2553	2317	10.65	0.768	0.239
Punjab	954.7	3,224	6,836	882	558	7.703	0.896	0.654
Sindh	8,488	3,700	35,955	652	918	11.70	0.403	0.429
Khyber Pakhtunkwha	2,189	5,049	20,740	606	648	10.41	0.363	0.512

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance.

Table 42 RD tables: Child education expenditure and attendance

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Mean per adult equivalent monthly education expenditure (PKR)								
Pakistan	2.263	13.33	-0.754	1418	1245	3.729	0.488	0.908
Punjab	-1.565	25.94	-11.51	473	328	3.250	0.749	0.682
Sindh	-30.99	-9.269	-53.42	362	419	4.773	0.325	0.788
Khyber Pakhtunkwha	23.78	19.50	33.48	515	539	4.715	0.673	0.657
% of children aged 5-12 years currently attending school								
Pakistan	3.179	14.69**	5.384	1805	1594	2.707	0.556	0.983
Punjab	9.420	14.33*	2.800	1172	975	4.260	0.653	0.495
Sindh	-14.37	-14.37	-127.5**	633	885	5.091	0.447	0.840
Khyber Pakhtunkwha	12.58	4.819	7.875	589	709	4.220	0.405	0.852

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance.

Table 43 RD tables: Health

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Mean per adult equivalent monthly education expenditure (PKR)								
Pakistan	54.00**	30.91*	12.73	1418	1245	3.783	0.917	0.731
Punjab	52.55	19.61	38.13	2021	737	3.694	0.915	0.613
Sindh	102.7*	58.31	-5.947	1081	1114	4.358	0.481	0.621
Khyber Pakhtunkwha	50.74	25.49	31.29	1002	748	5.274	0.863	0.867
% of those who were sick that reported seeking consultation								
Pakistan	9.560	11.28	-8.365	10911	7642	5.520	0.726	0.323
Punjab	13.85	5.045	-24.92	4192	1595	4.374	0.682	0.829
Sindh	1.168	12.06	-6.653	3140	3575	5.369	0.636	0.993
Khyber Pakhtunkwha	20.47	27.57*	-10.11	2684	2209	4.504	0.734	0.335

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance.

Table 44 RD tables: Savings

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Proportion of households with savings								
Pakistan	4.763	2.836	5.083	1646	1417	5.421	0.361	0.270
Punjab	2.364	-5.926	16.73	575	414	4.252	0.820	0.434
Sindh	1.152	5.026	-2.950	393	443	5.171	0.568	0.997
Khyber Pakhtunkwha	29.34*	25.13**	21.11	392	413	5.367	0.906	0.674
Mean value of total savings (PKR)								
Pakistan	-594.5	633.0	-1,500	1247	1077	3.691	0.469	0.783
Punjab	-858.7	-13.76	-896.1	627	448	4.926	0.611	0.819
Sindh	863.6	1,891	-785.1	413	500	5.710	0.583	0.822
Khyber Pakhtunkwha	9.777	1,750	-1,671	264	251	3.145	0.883	0.629

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance.

Table 45 RD tables: Borrowing

	Fuzzy: full sample						p-value of estimate	
	Optimal bw	Double bw	Half bw	N Control	N Treatment	bw	Cut-off + 1	Cut-off -1
Proportion of households with current loans								
Pakistan	-13.32	-8.367	-17.67	1581	1333	5.177	0.863	0.793
Mean value of total outstanding loans (PKR)								
Pakistan	-12,836	-6,428	-23,155*	1787	1582	6.145	0.0890	0.228

Source: BISP impact evaluation surveys (2010-2013). Notes: (1) Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%. (2) P-value of less than 0.10 would indicate statistical significance at an alternative cut-off at the 10% level of significance.

Annex C Sampling: technical appendix

C.1 Sampling strategy

In order to implement the RD design a complex multi-stage sampling strategy was required to identify both BISP eligible households who would form the treatment group and BISP ineligible households who would form the control group. The final sample of households was obtained using the following process:

- ***Phase 1:*** **Primary Sampling Units (PSUs)**[62] within the PSLM 2007/08 sample were stratified at the provincial and rural/urban level. **Evaluation PSUs** were then sampled directly from these strata using **Simple Random Sampling (SRS)**.

- ***Phase 2:*** A **household listing** exercise was conducted in all evaluation PSUs to form the basis of the sampling frame of potential evaluation households. Large communities (approximately over 300 households) were segmented into segments of approximately 100-150 households, and one segment was randomly chosen for the household listing using SRS. The household listing exercises was conducted in all evaluation PSUs and implemented by the Pakistan Bureau of Statistics (PBS) on behalf of OPM.

- ***Phase 3:*** from the household listing, a pre-determined number of households were randomly selected using SRS on which the BISP poverty scorecard was applied. An average of 100 households were measured per PSU.

- ***Phase 4:*** Once the BISP poverty scorecard was applied, households were split into two groups. Eligible households with a poverty score of 16.17 or less and ineligible households with a poverty sore of greater than 16.17 up to a total of 21.17. A fixed number of each group of households was then selected from each PSU using SRS.

C.2 Sample weights

Such a multi-stage sampling strategy implies that not every potential evaluation household has an equal chance of being selected. For example given that a fixed number of households were interviewed in each PSU, smaller PSUs are over-represented in our sample. To compensate for this we use sample weights to appropriate adjust our analysis.

Sample weights are given by the inverse of a particular household being selected. The following procedure was used to calculate the weights, with a household's probability of selection being broken down into four component parts: (1) probability of selection of PSU; (2) probability associated with segmentation of a large PSU; (2) probability of being selected for application of the BISP poverty scorecard; and (4) probability of being selected from list of eligible and ineligible households within the appropriate range of BISP poverty scores.

P1. Probability of PSU being selected within each strata. The clusters in the PSLM 2007/08 were originally drawn from the Census 1998 using **Probability Proportional to Size (PPS)** sampling. Thus, **P1** probabilities reflect the probability of selection directly from the census as defined by PPS. These probabilities were sourced directly from the PBS.

P2. Probability attached to the segmentation of a PSU in large communities (of approximately more than 300 households) at the household listing stage:

[62] PSUs are either a village in a rural setting or an enumeration area in an urban setting

$$P_2 = \frac{number\ of\ segments\ selected\ in\ PSU}{total\ number\ of\ segements\ in\ PSU}$$

P3. Probability of being selected for the PMT:

$$P_3 = \frac{Total\ number\ of\ PMT's\ applied\ in\ PSU}{total\ number\ of\ households\ in\ household\ listing}$$

P4. Probability of being selected from the full list of eligible or ineligible households within a PSU (depending on whether household is eligible or ineligible):

$$P_4 = \frac{Number\ of\ sampled\ eligible\ or\ ineligible\ households\ in\ PSU}{Total\ number\ of eligible\ or\ ineligible\ \ households\ from\ list\ of\ PMTs\ applied\ in\ PSU}$$

The final probability of a household being selected for the BISP evaluation survey is calculated by combining the above probabilities as follows:

$$P_{Selection} = P_1 \times P_2 \times P_3 \times P_4$$

Thus, the final analytical weights applied to each household are constructed by taking the inverse probability of selection:

$$Weight = P^{-1}$$

C.3 Adjusting sample weights for sample attrition

The final data set for the evaluation of the BISP unconditional cash transfer is comprised of a total of 8,221 households with completed interviews which is presented in Table 46 below. Of these 8,221 completed interviews, 374 were with households defined as *split households*. Split households are households that contain individuals who were members of BISP baseline evaluation households but who have since left that households for a variety of reasons including marriage and breakdown of family relations.

We estimate an attrition rate of 9.5%, which is within acceptable international standards, with the majority of households not having been interviewed for 2 years since the baseline survey. Such an attrition rate may lead to bias if the characteristics of households who do not participate in the follow-up survey are significantly different from those that remain in the survey.

Table 46 BISP 2013 survey sample size

	Total completed Interviews	Completed interviews with split households	Refused	Non-contact	Total attempted interviews	Baseline sample size	Attrition rate[63]
Punjab	3,017	149	57	251	3,325	3,162	9.3%
Sindh	2,327	164	32	149	2,508	2,334	7.3%
KPK	1,908	58	33	178	2,119	2,054	9.9%
Balochistan	969	3	22	102	1,093	1,125	14.1%
Total	***8,221***	***374***	***144***	***680***	***9,045***	***8,675***	***9.5%***

[63] The attrition rate is calculated based on the difference between the baseline sample size and the follow-up sample size excluding households that have split.

To understand if non-response is non-random we empirically model the probability of response at follow-up based on a set of household characteristics collected at baseline. This analysis suggests that non-response is indeed non-random. We find that factors such as location, household size, and household head characteristics (including age, sex and ownership of a CNIC) are all statistically significant determinants of the likelihood of response.

As such we adjust our sampling weights by the estimated probability of response using the following.

$$weight_{adjusted} = weight * \left(\frac{1}{estimated\ probabilty\ of\ response}\right)$$

Annex D Anthropometry: technical appendix

Procedure for weighing a child using a digital scale

1. Place the scale on a flat, hard, even surface. There must be enough light to see the reading on the scale.
2. Minimise the clothing on the child.
3. Ensure the scale is not overheated in the sun.

For children 0–23 months of age, the tare weighing procedure will be adopted.

4. Turn the power on by pressing the blue button on the control panel.
5. After all the segments flash, (0.0) kg is displayed.
6. Ask the mother to stand on the weighing scale. Her weight will appear on the scale.
7. Wait for the arrow on “stabilised” to appear.
8. Press the third button on the control panel with [T].
9. An arrow (NET) will appear next to the mark and 0.0 kg will be displayed again.
10. Ask the mother to hold the child.
11. The weight of the child will appear on the scale.
12. Record the weight when it is stabilised and include the reading with one decimal point (e.g. 65.5 kg).
13. Turn the power off by pressing the second yellow button on the control panel.
14. Start the process for the second reading by repeating the steps from the start by turning on the power.

For children 24–59 months, record the weight by standard weighing procedure.

15. Turn the power on by pressing the blue button on the control panel.
16. After all the segments flash, (0.0) kg is displayed.
17. Help the child on to the centre of the scale platform. The weight reading will be displayed. Record the weight.
18. Measurement is complete, when the person being weighed steps off the scale and the display will return to 0.0 kg.
19. Repeat the process for the second time and record the second weight.
20. Turn off the power by pressing the second yellow button.

Procedure for the measurement of length and height of children

If the child is 0–23 months, then measure the length of the child in lying position.

Be careful to remove the child’s shoes, and any hair-dress (hats, pony tail...).

21. Place the measuring board on a flat surface, ground floor.
22. Place the questionnaire on the ground
23. Kneel on the right side of the child so that you could hold the foot piece with your right hand
24. With the mother’s help, lay the child on the board.
25. Ask the mother to be close to the child

26. Cup your hands over the child's ear. With your arms straight, place the child's head against the base of the board so that the child is looking straight up.
27. Make sure the child is lying straight and in the centre of the board.
28. Place your left hand on the child's shin or on knees.
29. Press them firmly against the board.
30. With your right hand, place the foot piece firmly against the child's heels.
31. When the child position is correct, read the measurement to the nearest mm, e.g. 82.3 cm.
32. Immediately release the child.

If the child is 24 months and older, take the recumbent height.

33. Place the measuring board on a hard flat surface against a wall, table, tree, staircase, etc. Make sure the board is not moving
34. Ask the mother to remove the child's shoes and unbraid any hair that would interfere with the height measurement.
35. Ask her to walk the child to the board and to kneel in front of the child.
36. Place the questionnaire and pencil on the ground.
37. Kneel on your right knee on the child's left side.
38. Place the child's feet flat and together in the centre of and against the back and base of the board/wall. Place your right hand just above the child's ankles on the shins, your left hand on the child's knees, and push against the board/wall. Make sure the child's legs are straight and the heels and calves are against the board/wall.
39. Tell the child to look straight ahead at the mother, who should stand in front of the child. Make sure the child's line of sight is level with the ground. Place your open left hand under the child's chin.
40. With your right hand, lower the headpiece on top of the child's head. Make sure you push through the child's hair
41. Check the child's position. Repeat any steps as necessary.
42. When the child's position is correct, read the measurement to the nearest 0.1 cm.
43. Remove the headpiece from the child's head and your left hand from the child's chin.
44. Immediately record the measurement to the nearest mm, e.g. 105.5 cm (measure 1).
45. Repeat the process (measure 2).

Procedure for calculating z-scores

All anthropometric measures presented in Section 5.3 of the main report to assess a child's nutritional status have been measured using the z-score system. The z-score system allows for the standardisation of anthropometric data with reference to an international standard. In this case, the international standard is the WHO Multicentre Growth Reference Study (*WHO 2006*). These new standards were developed *in accordance with the idea that children, born in any region of the world and given an optimum start in life, all have the potential to grow and develop within the same range of height and weight for age* (*Mei and Grummer-Strawn,* 2007). This allows for the WHO 2006 child growth standards to be used worldwide and to thus provide a common basis for the analysis of growth data.

The z-score system expresses anthropometric values as several standard deviations above or below the reference median value taken from the WHO MGRS and is calculated following the equation below:

$$zscore_i = \left\{ \frac{x_i - median(x)}{standard\ deviation(x)} \right\}$$

That is, for each indicator *i* of interest, including height-for-age, weight-for-age and weight-for-height, the z-score is calculated as the difference between the child's indicator and the median value in the reference population, divided by the standard deviation of the indicator.

Annex E Consumption expenditure and poverty: technical appendix

The consumption aggregate which is considered a better indicator of household welfare than income in developing countries has been calculated. The consumption expenditure includes both paid and unpaid such as:

- Purchased and consumed
- Own produced and consumed
- Wages and salaries in kind received and consumed
- Received as gift, assistance or inheritance and consumed

There are different components of household consumption expenditure. Mainly, consumption aggregate includes consumption expenditure incurred on food items, fuel and utilities, house rent and housing, frequent non-food expenses such as household laundry, cleaning, personal care products and services. Other leading non-food expenses relate to clothes, footwear, education and health-related expenses. However, some consumption expenditures not related to living standards have been excluded while computing consumption aggregate. These relate to expenses which are of lumpy nature and seriously compromise the household/individual welfare ranking, such as expenses on religious functions like marriage and funerals.

Different items have different recall periods. There are certain items for example milk, meat, fruits and vegetables which are very frequently consumed by the households and the recall period for such items is last fortnight before the date of interview. The recall period is last month before the interview for those items such as wheat, rice, pulses, vegetable ghee, tea and fuels which are less frequently consumed. The recall period is last year from interview for items which are occasionally purchased and consumed such as cloth, shoes and medical expenses. When the expenditure of these items is aggregated, they are homogenised in monthly terms.

Household surveys collect data about household consumption expenditure at the household level whereas welfare needs to be measured at the individual level. Therefore, household consumption expenditure is adjusted by household size and its composition. The common practice is to get per capita consumption expenditure by dividing the household consumption expenditure by the household size, ignoring the adjustment of household composition.

This argument does not carry much weight because it gives equal welfare ranking to two households with the same total consumption and same number of household members whereas one household is dominated by adults and the other by children. Nutrition-based adult equivalent scales, which differentiate between households on the basis of sex and age, are also used in some research to convert individuals in a household into adult equivalent. However, the use of such scales to non-food consumption expenditure is not convincing. In this report, the household has been adjusted by a simple scale in order to get per adult equivalent consumption expenditure. This scale applies a weight of 0.8 to individuals younger than 18 years old and a weight of 1 to those who are 18 years and older.

Thus, the number of equivalent adults per household is calculated as follows:

$$Adult\ equivalent\ household\ size = 0.8 \times (Number\ of\ members < 18\ years) + 1 \times (Number\ of\ members \geq 18\ years)$$

E.1 Regional and intra-survey temporal price deflator

The BISP Impact Evaluation Surveys both at baseline and first follow-up were conducted over an extended period of time and, as a result, households face different prices across provinces over the period. Therefore, it is very important to compute the welfare indicator in real values. In order to take into account the price differences faced by the households, the Paasche Price Index has been computed at a primary sampling unit where most of the household interviews occurred at the same time and this index has been used to convert the nominal per adult equivalent monthly consumption expenditure into real values, that allow us to compare consumption expenditure across regions.

This survey provides information on the implicit prices/unit values and budget shares of food and fuel items. The average budget share of each Primary Sampling Unit (PSU) has been utilised as a weight for the ratio of median prices faced by the households in each Primary Sampling Unit and the median national prices.

These are used to produce the Paasche Price Index at the PSU level, which is calculated as follows:

$$p_i^P = \sum_{k=1}^{n} w_{ik} \{ {}^{p_{ik}}/_{p_{0k}} \}$$

Where,
$w_{ik} = budget\ share\ of\ item\ k\ in\ PSU\ i$
$p_{ik} = median\ unit\ value\ of\ item\ k\ in\ PSU\ i; and$
$p_{0k} = national\ median\ unit\ value\ of\ item\ k$

The nominal per adult equivalent monthly expenditure of each household is then divided by the Paasche Price Index of the respective PSU to which the household belongs to arrive at the real monthly per adult equivalent expenditure.

E.2 Temporal price deflator

In order to compare per adult equivalent consumption expenditure across baseline and follow-up surveys we must also apply a temporal price deflator. This is done by taking a weighted average of the CPI index for each survey, where the weights corresponds to the proportion of interviews that were completed in a particular month. The weighted average of the CPI index for each survey is divided through by each other to produce the CPI price deflator.

This is necessary to convert nominal monthly per adult equivalent expenditure in to real per adult equivalent consumption expenditure that is equivalent across the baseline and the follow-up surveys. This temporal price deflator was calculated as follows.

$$CPI_{deflator} = \frac{\sum_{m=1}^{M^{fu}} w_m^{fu} * CPI_m^{fu}}{\sum_{m=1}^{M^{base}} w_m^{base} * CPI_m^{base}}$$

Where,
$w_m^{fu} = proportion\ of\ interviews\ in\ month\ m\ of\ survey\ at\ follow\ up$
$CPI_m^{fu} = CPI\ index\ for\ month\ m\ of\ survey\ at\ follow\ up$
$w_m^{base} = proportion\ of\ interviews\ in\ month\ m\ of\ survey\ at\ baseline$
$CPI_m^{base} = CPI\ index\ for\ month\ m\ of\ survey\ at\ baseline$

Annex F Supplementary table

Table 47 provides some supplementary comparisons between different samples at baseline. As well as providing the comparison of households within the RD treatment sample (+/- 5 points to cut-off) to the average all beneficiaries in the sample, it also provides a comparison of the RD treatment sample to the average of beneficiaries with a poverty score less than 11.17.

The pattern of statistically significant differences to beneficiaries with a poverty score less than 11.17 is very similar to the comparison to the full sample of beneficiaries. The only additional statistically significant differences are found in the *number of women aged 25-34* and the proportion of households that own a *sewing machine*.

Table 47 Household characteristics at baseline by sample: additional

	Comparison to all beneficiaries		Comparison to beneficiaries with poverty score below 11.17	
	Average of all beneficiaries in sample	Average of beneficiaries in RD treatment sample (bw +/-5)	Average of beneficiaries with score<11.17	Average of beneficiaries in RD treatment sample (bw +/-5)
Household composition				
Household size	7.47	7.01***	8.05	7.01***
Number of children under 5	0.97	0.88***	1.10	0.88***
Male children, aged 5-14	1.54	1.41***	1.72	1.41***
Female children,, aged 5-14	1.42	1.26***	1.62	1.26***
Male members, aged 15-24	0.62	0.65	0.58	0.65**
Female members, aged 15-24	0.62	0.55***	0.66	0.55***
Male members, aged 25-34	0.27	0.27	0.27	0.27
Female members, aged 25-34	0.40	0.38	0.43	0.38***
Male members, aged 35-44	0.38	0.34**	0.44	0.34***
Female members, aged 35-44	0.38	0.38	0.40	0.38
Male members, aged 45-54	0.25	0.28*	0.24	0.28*
Female members, aged 45-54	0.22	0.21	0.22	0.21
Male members, aged 55-64	0.13	0.14	0.12	0.14
Female members, aged 55-64	0.08	0.08	0.07	0.08
Male members, aged 65 and over	0.09	0.08	0.11	0.08
Female members, aged 65 and over	0.10	0.12	0.08	0.12
Number of ever-married women	1.26	1.23	1.30	1.23
Human capital characteristics				
Age of household head	44.73	45.16	44.11	45.16
Household head is literate	26.89	29.64*	24.40	29.64**
Head is female	8.51	7.46	7.62	7.46
Housing characteristics				
Number of rooms in household	2.76	2.85	2.60	2.85
Access to improved water source	90.25	91.14	89.51	91.14
Toilet: A flush connected to a public sewerage, to a pit or to an open drain	39.75	44.48***	32.41	44.48***
Household has mud floor	77.34	71.10***	86.16	71.10***
Consumer durables owned by household				
Refrigerator	6.01	6.43	5.39	6.43
Fan	76.57	77.69	75.31	77.69
Washing machine	13.86	16.61***	8.56	16.61***
Cooking stove	7.87	10.39***	4.63	10.39***
Bicycle	26.68	25.90	25.44	25.90
Motorcycle	4.12	4.49	3.78	4.49
TV	25.49	26.72	24.09	26.72
Sewing machine	21.22	25.86	14.09	25.86***
Livestock ownership				
Cow	17.48	19.01	16.13	19.01
Buffalo	16.64	13.24***	20.96	13.24***

	Comparison to all beneficiaries		Comparison to beneficiaries with poverty score below 11.17	
	Average of all beneficiaries in sample	Average of beneficiaries in RD treatment sample (bw +/-5)	Average of beneficiaries with score<11.17	Average of beneficiaries in RD treatment sample (bw +/-5)
Sheep	2.43	2.75	2.10	2.75
Goat	24.72	21.97**	28.18	21.97***
Financial assets				
Household has savings	9.31	9.03	7.61	9.03
Poverty and livelihood				
Household owns agricultural land	10.56	10.80	10.62	10.80
Proportion of households below poverty line	67.46	61.99***	73.99	61.99***
Per adult equivalent monthly consumption expenditure	1702.63	1790.26***	1613.97	1790.26***
Source: BISP impact evaluation surveys (2011-2013). Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant treatment comparator: *** = 99%, ** = 95%, *=90%.				