Oxford Policy Management

Benazir Income Support Programme

Second Impact Evaluation Report

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Executive summary

This report presents findings from the **quantitative and qualitative research conducted for the second follow-up round of the independent impact evaluation of the Benazir Income Support Programme** (BISP), conducted in 2014. Its purpose is to provide an analysis of the impact of the BISP in the 3 years since the baseline round of research was conducted.

The impact evaluation has both a quantitative and qualitative component and is to be conducted over four rounds: (1) baseline; (2) two midlines; and (3) an endline. The research presented in this report reflects the combined findings of the baseline and the second midline rounds of research that were undertaken in April – July 2011 and May – September 2014 respectively. The endline round of research will be conducted in the period February – May 2016.

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 programme's eligibility threshold, which will provide statistically robust estimates of impact of the BISP on its beneficiaries. This is 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 five parts. Part A provides a background to the BISP as well as a description of the methods used for evaluation. Part B provides an analysis of the experience of BISP beneficiaries in terms of how they receive the cash transfer. Part C provides a trend analysis of key characteristics of all BISP beneficiaries in the evaluation sample. Part D presents the impact evaluation results for the second round, focussing on the evaluation treatment and control groups relevant for the Regression Discontinuity analysis. Part E offers concluding thoughts.

Overview of the Benazir Income Support Programme

The BISP was launched in 2008 as the flagship national social safety net programme. The **immediate objective of the BISP was to cushion the negative effects of the food, fuel and financial crises on the poor**, but has a **longer term objective to provide a minimum income package to the poor to protect a vulnerable population against chronic and transient poverty**.

The programme provides eligible families with unconditional cash transfers (UCT), originally set at a value of PKR 1,000, raised to PKR 1,200 in July 2013 and raised again to PKR 1,500 in July 2014. The cash is delivered quarterly and the vast majority of beneficiaries now receive the cash through the BISP Debit Card[1]. Recognising the goal of promoting women's empowerment the transfer is paid **directly to any ever-married woman** in a household that has been deemed to be eligible for the BISP.

BISP beneficiaries are targeted based on a Proxy Means Test (PMT), which provides an objective method of approximating a household's level of welfare and poverty status and uses a

[1] Originally the majority of beneficiaries received the cash via the Pakistan Post

sub-set of indicators correlated with measures of welfare to identify the poorest households in Pakistan.

This PMT was implemented in a **national poverty census**, where every household in Pakistan was visited and assigned a BISP poverty score. An eligibility threshold 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.

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.

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 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 results presented in this report are 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 in 2011 with the very same households being visited three years later in 2014. 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.

Experience of beneficiaries with BISP operations

As the programme has had time to 'bed down' increasing proportions of both beneficiaries and non-beneficiaries are expressing that they feel that the **programme has been targeted fairly**, with the proportions of beneficiaries and non-beneficiaries reporting that they feel this way in 2014 at 93% and 55% respectively, up from 63% and 41% in 2013.

The **frequency and predictability of payments has shown marked improvement in 2014** as compared to the 2013 round of research. In 2013 beneficiaries reported receiving only 57% of the full value of the transfer over the period of a year. However, in 2014 survey round, beneficiaries self-reported that they had received 79% of the annual value of the transfer.

Almost all beneficiaries now receive the cash though the **BISP Debit Card**. Whilst in general there is a high degree of satisfaction with the way in which cash is received, some women reported a lack of knowledge of how to use ATM cards. However, the 2014 round of survey noted a significantly **lower proportion of beneficiaries who had to unwillingly pay a fee to receive their cash**.

Encouragingly, **women appear to retain control over how the cash is spent**, even in cases when they do not actually collect the cash themselves.

Trend 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 that BISP beneficiary households are characterised by **high but falling rates of poverty** with the proportion of beneficiary households who were poor or vulnerable to poverty falling from 86% in 2011 to 63% in 2014. However, we observe a high degree of mobility, with many beneficiaries moving in and out of poverty over the three rounds of research that have been conducted so far.

We also present a **Multi-dimensional Poverty Index (MPI)** which describes that the BISP beneficiary households face a range of deprivations. This includes:

- **Education**: in 2014 just 64% of boys and 49% of girls aged 5-12 years old were currently attending school at the time of the survey;
- **Nutrition**: there continues to be extremely high rates of malnutrition amongst children in BISP beneficiary households with 29% of boys and 25% of girls wasted in 2014, an indication of an on-going nutrition emergency; and

- **Living standards**: significant proportions of BISP beneficiary households continue to be deprived in terms of basic services including 43% who do not have access to improved sanitation and 15% who do not have access to adequate sources of clean drinking water.

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 threshold score.

Poverty

The **BISP continues to have an impact on reducing poverty** for households within the relevant RD treatment sub-sample. We find that BISP has caused a 19 percentage point reduction in poverty for the RD treatment group. We also find that this finding is robust to restricting the sample to the sub-set of households that were interviewed before Ramadan in 2014 (to ensure that this was robust to the seasonality effects induced by Ramadan).

The **BISP continues to induce a fall in the depth of poverty** and we find that the poverty gap has fallen by 3 percentage points for the RD treatment group as compared to the RD control 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 how remain in poverty are closer to the poverty line.

We also observe that the BISP is having a positive impact on some measures of material welfare, in particular that the BISP has increased the ownership of bicycles by 1.4 percentage points.

Food expenditure and nutrition

We find **weak evidence that the BISP is leading to an increase in per adult equivalent food consumption**. However, when the regularity of consumption of specific food items is considered, particularly mutton and fruit, we find that the BISP is having a positive impact on increased consumption.

We continue to see that the BISP is having a positive impact on rates of malnutrition amongst girls, with the rates of stunting, a measure of long-term malnutrition, falling by 4 percentage points. We do not observe a similar effect on boys. However, despite this success we continue to find **levels of wasting and stunting that the World Health Organisation would classify as signifying and on-going crisis in terms of child malnutrition.**

Women's empowerment

We investigate women's empowerment by looking at women's agency (or the endowments of assets that underpin her ability to make strategic choices and actions) and women's relation to structure (as constituted by formal and informal institutions that prevail).

We find that the BISP is having an impact on **increasing women's easy access to cash of amounts up to PKR 600**. This increased access to cash has been reported as facilitating women meeting both their own personal needs as well as supporting the needs of children and households, reducing dependence on their husbands for support.

The qualitative research observes a **change in the status of women in beneficiary households**, with almost all women interviewed noting that they are now being given more importance in their households as a direct result of the BISP.

This appears to have facilitated an improvement in the intra-household relations within beneficiary households as the BISP cash reduced economic pressures, as well as facilitating women's involvement in household decision making.

We also find that the **BISP continues to be 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.

Livelihoods

Overall we find that the BISP reduces labour force participation of working age adults (18-64 years old) and in particular men (though not women) in BISP beneficiary households. However, when we restrict this analysis to adults of prime working age (18-49 years old) we do not find that the BISP induces a reduction in labour force participation. This analysis is supported by the majority of men who stopped participating in the labour force citing sickness (40%) or retirement (31%) as the main reason.

The evaluation **continues to observe that the BISP is supporting a change in livelihoods adopted** amongst adult men in beneficiary households, and inducing a decrease in the proportion of men who engage in casual labour and an increase in the proportion of men who are self-employed. The evaluation also reports that the **BISP is having a significant impact on the proportion of households that own livestock**.

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 no evidence that the BISP is having an impact either on the level of savings or on the level of borrowing amongst BISP beneficiary households in the RD treatment group.

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 report that the **value of the BISP cash transfer is relatively low compared to the cost of schooling**, with the per adult equivalent total value of the transfer at PKR 179 (Table 8), compared to an estimated average monthly expenditure per pupil on education for children attending government schools in rural areas[2]. Furthermore we find that the cost of education still remains one of the most significant reasons for children aged 5-12 years old not attending school.

[2] *Pakistan Bureau of Statistics (2013)*

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Part A: Background and methods

1 Introduction

This report represents the findings from the quantitative and qualitative research conducted fro the second follow-up round of the independent impact evaluation of the Benazir Income support Programme. Its purpose is to provide an analysis of impact of the BISP in the period of 3 years since the baseline study was conducted.

The impact evaluation has both quantitative and qualitative components and is 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 second midline round of research which were undertaken in April–July 2011 and May–September 2014 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 (GoP) 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 BISP cash transfer is **targeted using a Proxy Means Test (PMT)**. A PMT provides an objective method of approximating a household's level of welfare and poverty using a sub-set of indicators correlated with measures of monetary welfare. This is combined into a unique index to accurately as possible identify the poorest household.

Armed with this PMT the GoP conducted a national poverty census which attempted to visit every household in Pakistan to implement the BISP poverty scorecard and assign each household with a poverty score. An eligibility threshold was set to target the poorest 20% of households in Pakistan. Households with a **PMT score below this threshold containing at least one ever-married woman in possession of a valid Computerised National Identify Card (CNIC) were deemed eligible for the BISP**.

The programme provides eligible families with an unconditional cash transfer (UCT). 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 CNIC.

The value of the cash transfer has increased steadily throughout the lifetime of the BISP cash transfer. Originally the BISP had a monthly value of PKR 1,000. This increased to PKR 1,200 with

effect from July 2013, and then increased further to its **current monthly value of PKR 1,500** with effect from July 2014[3].

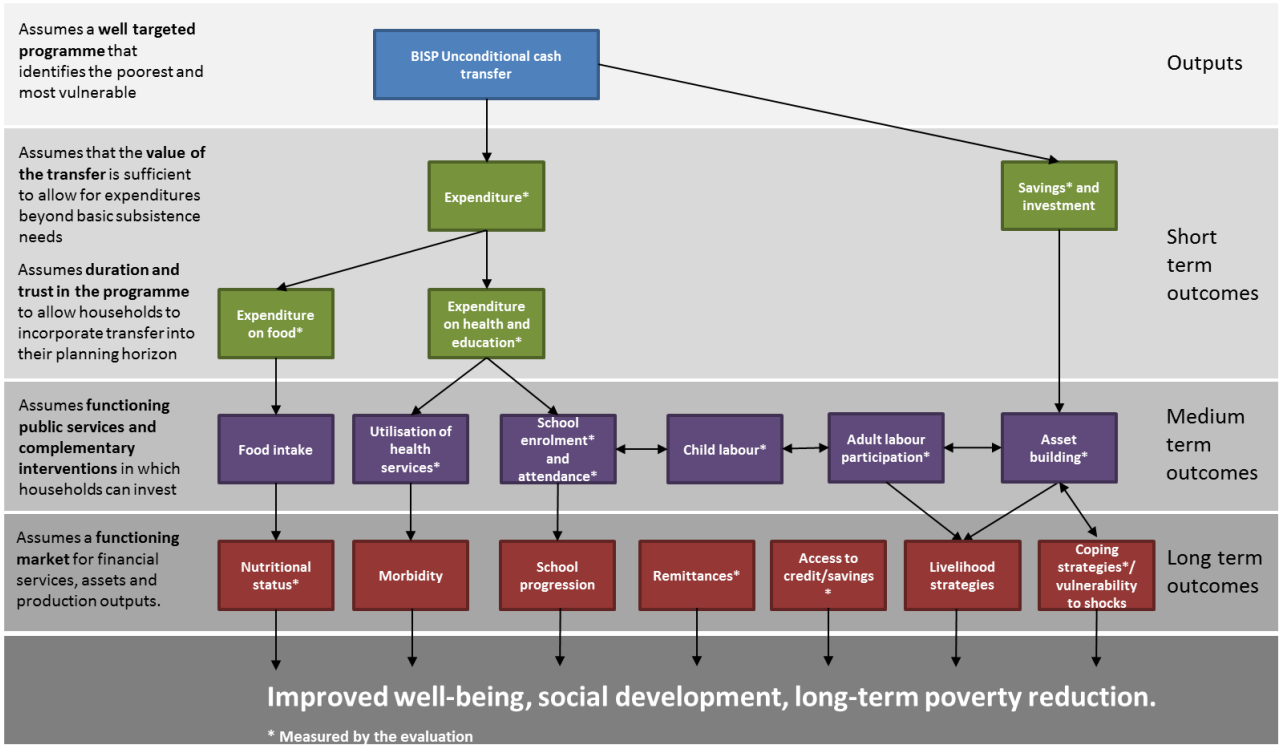
Beneficiaries are **paid in quarterly transfers** of PKR 4,500, with the vast majority of BISP beneficiaries receiving their payments through the **BISP Debit Card**, a magstripe card that can be used in any ATM in Pakistan or at any of the network of Point of Sale (POS) machines maintained by banking agents. A small portion of BISP beneficiaries, particularly those in remote communities with limited financial access, continue to receive the transfer via money orders delivered directly to the doorstep by 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)[4].

Figure 1 BISP theory of change[5]



[3] However, given the timing of the second follow-up survey on which this report is based (May - September 2014), the relevant reference monthly value for the majority of payments was PKR 1,200.
[4] *Hanlon, Barrientos and Hulme (2010)* provide a useful summary of the evidence of impact of unconditional cash transfers
[5] 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 GoP 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 second follow-up round completed in September 2014. A further round of survey is expected to be completed in May 2016.

Qualitative research has taken place in twelve districts in each round of study, purposively selected from the four evaluation provinces to provide a range of different contexts. Data collection for the second follow-up round of qualitative research was conducted in April 2014. There will be a further round of qualitative research to be conducted in-line with the endline quantitative survey.

The measure of programme impact presented in this report derives from a comparison of baseline and second follow-up data, i.e. the change in situation of beneficiary households across a range of outcome indicators after three 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. In the year preceding the 2014 round of research BISP beneficiary households covered by the evaluation had been receiving quarterly transfers of PKR 3,600.

1.4 Structure of this report

This report is structured as follows: Part A includes Section 2 which describes evaluation methodology.

Part B includes Section 3 which presents an analysis of the experience of BISP beneficiaries with BISP operations over the period July 2013 – September 2014.

Part C includes Section 4 which presents a situational analysis of BISP beneficiary households based on all beneficiary households in the sample (and not just those used for the Regression Discontinuity Impact Estimates presented later in the report.

Part D presents the impact evaluation estimates, 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 consumption, child nutrition and material welfare. Section 6 provides an analysis of the programme's impact on women's empowerment. Section 7 focusses on how beneficiary households are responding to the BISP in terms of their livelihood strategies. Section 8 considers the impact of the programme on education.

A technical annexure is provided detailing the evaluation methodology (Annex A), evaluation estimates sensitivity testing (Annex B), the construction of a multi-dimensional poverty index (Annex C), the sampling strategy (Annex D), measurement of child anthropometry (Annex E), construction of consumption expenditure estimates (Annex F), and the external validity of the evaluation (Annex G).

2 Evaluation methods

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 0)	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 0)	Regular and reliable payments will improve access to food by supplementing household incomes, tackling one of the pillars of food insecurity[6].	• Per adult equivalent food consumption expenditure • 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 education (Section 8)	A direct cash transfer will alleviate the economic constraints to the access of health and education services	• Primary school attendance rate

[6] 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
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

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.

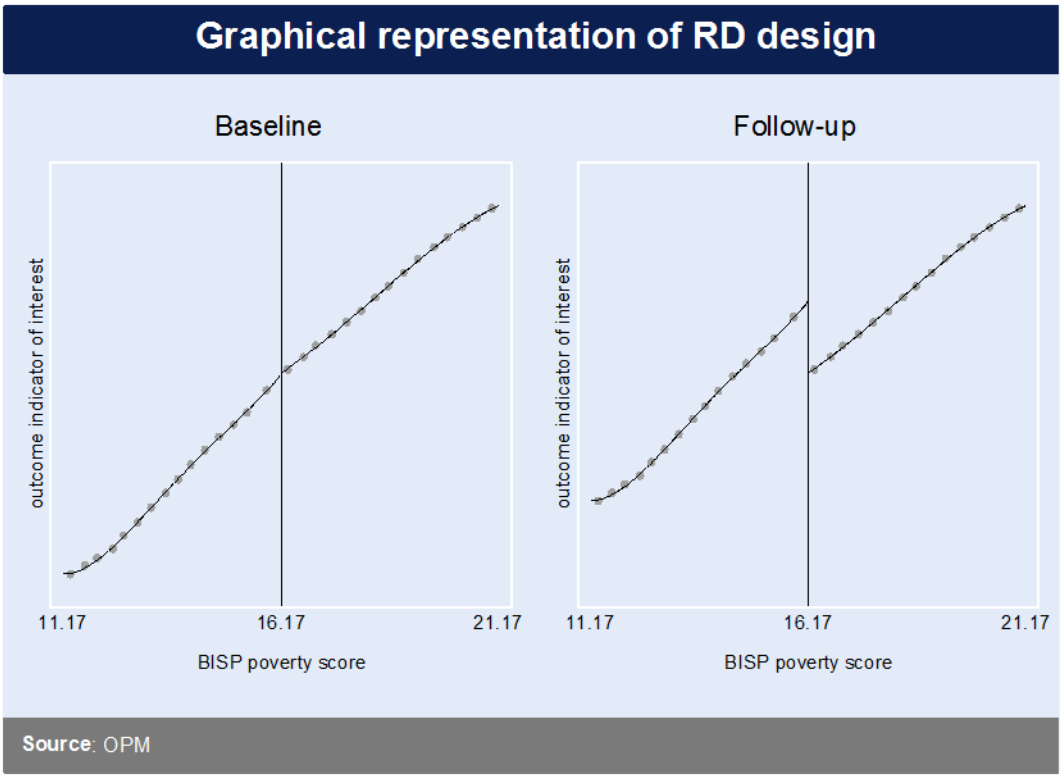
The quantitative evaluation employs the **Regression Discontinuity (RD)** design to meet this challenge. It exploits one of the key design features of the BISP, its beneficiary targeting through the BISP poverty scorecard, to achieve this. BISP beneficiaries have their programme eligibility determined 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 (LATE). 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[7] 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

[7] 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

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**[8], 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.

In essence we might expect that beneficiary households that are very close to the eligibility threshold are somehow different from beneficiary households at lower ranges of the BISP poverty score. This expectation and its implications was explored fully in the First Follow-up Impact Evaluation report (*OPM, 2014)*, and that analysis is replicated in Annex G for the benefit of the reader.

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[9].

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 household's 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.

[8] Annex A presents and tests the assumptions of the RD approach to demonstrate this.
[9] 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.

Table 2 Final evaluation sample size

Province	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	*Total*
Follow-up Sample size	**2,819**	**2,254**	**1,831**	**855**	***7,759***
Non-beneficiaries	*2,101*	*1,100*	*1,010*	*690*	*4,901*
Beneficiaries	*718*	*1,154*	*821*	*165*	*2,858*
Total sample matched to BISP MIS	**2,001**	**1,894**	**1,530**	**564**	***5,989***
BISP MIS matched non-beneficiaries	*1,304*	*750*	*724*	*412*	*3,190*
BISP MIS matched beneficiaries	*697*	*1,144*	*806*	*152*	*2,799*
BISP matched sample bw +/- 5	**970**	**777**	**686**	**172**	***2,605***
BISP MIS matched RD Control bw+/-5	*508*	*342*	*260*	*125*	*1,235*
BISP MIS matched RD Treatment bw +/-5	*462*	*435*	*426*	*47*	*1,370*

Source: BISP impact evaluation surveys (2011-2014). Notes: BISP poverty score full range:0-100

Table 2 presents the **final sample size of 7,759** that have been interviewed both in the baseline survey (2011) and in the second follow-up survey (2014). The sample is split between 2,858 beneficiary households and 4,901 non-beneficiary households. The sample is spread over the four provinces of Pakistan and a total of 87 districts, with the details of the districts visited given in Annex H. The 2,858 **beneficiaries in the sample form the basis of the situational analysis** of beneficiary households reported in Section 4.

Of all households in the sample **5,989 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 **2,605 households successfully matched to the BISP MIS that are within an RD bandwidth (bw) 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 D, 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 2 reports only 216 beneficiary households in Balochistan of which 47 are within the RD bandwidth of +/- 5 from the cut-off, which greatly affects 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.

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

We present our estimates of BISP impact in Sections 0 to 8.The estimates of impact are presented using the same format as illustrated by Table 3 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[10] 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 3 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 (2011-2014). 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 (3) Sample sizes are based on the sample size of treatment or control households within +/- 5 points of the eligibility threshold

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

The table below lists the research areas and questions which were explored in this round of qualitative research. These relate to programme impacts illustrated in this report and complement

[10] 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

the quantitative evaluation component, which focuses on more quantifiable impacts such as consumption expenditure and nutrition outcomes.

Table 4 Qualitative research areas

Research Areas	Research Questions
BISP Operations	What are the beneficiaries' preferences regarding the frequency, location and mode of payment? Who collects the cash? Do male HH members continue to collect the cash or are there any changes with more women going themselves? Are there any deductions from the BISP amount at collection points? How is this related to the use of smart cards? Are there any other forms of taxation/ rent seeking? Is the BISP grievance redressal mechanism functional and effective?
Household expenditure	Have there been changes in the way the cash transfer is spent in households?
Livelihood strategies	What types of livelihoods do community members engage in? Have preferences for certain types of livelihood activities like casual labour declined? How has BISP affected any changes in livelihood activities?
Social relations and community impact	Has the perception of BISP, as a government intervention, changed over time? How is BISP seen in sampled communities? Is it deemed to be a positive or negative change? How do the beneficiaries view the discontinuation of the cash transfer? How has BISP affected relations inter and intra household relations in communities? Has BISP resulted in tension or conflict within communities?
Women's Empowerment	Has BISP changed the bargaining power of recipient women within the household? Has the recipient women's status in the family improved (e.g. change in respect and care by husband and kids)? Have there been changes in intra-HH decision making related to spending of BISP money as well as other sources of income? Has there been any change in in female mobility? How have female roles and responsibilities changed over time? Has the transfer resulted in changes to self-esteem amongst recipient women? Has BISP resulted in a change in women's health seeking behaviour? Are there any changes in women's health seeking behaviour focusing more on personal needs? Is there a change in women's decision making power regarding accessing health care services? (agency) Have men and women in the household supported women's decision making and action? (context) Have there been positive health care outcomes for women? (desired outcomes) Has BISP contributed to these changes, and if so how and why?

The analysis of BISP **operational effectiveness** focused especially on the payments system. A key aim was to analyse beneficiaries' experiences and perceptions of the smart card/ ATM method of BISP disbursement, and its contrast to the previous system of post office disbursement. This analysis includes the direct and indirect costs of collecting payments, and a follow up on the finding from the last round of research that almost a third of beneficiaries reported making unofficial payments, even when using smart cards (OPM, 2014). The research also sought to understand whether female beneficiaries have been able to travel to ATMs to collect the BISP money; and if not, whether this has affected their control over the cash transfer.

A second core area of research focused on the direct and indirect impact of BISP on **livelihoods** of both men and women. Household survey data from the first follow-up indicated a reduction in male labour supply driven largely by an increase in self-employment and a simultaneous decrease in casual labour amongst beneficiary households. In this round of research, we explored these aspects further to understand the reasons for any changes in the beneficiary households as compared to the non-beneficiary households. We also explored the **social relations and community level impacts** of BISP including inter and intra household relations. As with all qualitative research, some new lines of inquiry emerged, for example female political participation, and these were consequently explored and analysed keeping in mind the broader research framework.

A key theme for this study was the analysis of the potential role of BISP in enabling **female empowerment.** The last round of research presented mixed evidence on the impact of BISP on women's empowerment. Qualitative data indicated a higher 'status' of BISP recipient women within the household; greater participation in household decision making regarding expenditure on child health and education; increased control over cash; and most of all higher self-esteem, confidence, economic security and feeling of well-being. On the contrary, survey data suggested little improvement in female mobility and control over household expenditure (OPM, 2014). This apparent divergence in findings highlights the need to explore women's *own* perceptions of what constitutes an 'empowered action' in the situated contexts of their lives; and moreover the situations and resources which enable their expression of human agency (see for example Cornwall & Edwards, 2010; Jupp et al., 2010). This report's analysis is therefore framed by female respondents' *own* experiences and perceptions of the contextualised institutions and factors that enable their agency[11], and the potential role of BISP within this nexus.

2.5.1 Qualitative data collection methods

Data was collected using Focus Group Discussions (FGDs), Key Informant Interviews (KIIs) and In-depth interviews (IDIs) as well as selected participatory tools focusing on specific areas of the research.

1. Key informant interviews

KIIs were carried out with one male and one female community member who had good general knowledge about the community. This included the community pesh imam, school teacher, social or political activist, Landlord/owner, LHW, LHV, TBA or any other person who understood the area and could provide information. Key respondents were mainly asked about changes in, and the impact of BISP (if any) on the social and economic conditions of the community; poverty status of beneficiary households; and gender-specific roles and responsibilities.

2. Focus group discussions

FGDs were conducted with both men and women to gather community level data from BISP beneficiary and non-beneficiary households regarding the

- Impact of BISP on household nutrition, education and health status;
- Risk-coping mechanisms and economic security;
- Gender roles and responsibilities;
- Decision making in context of household expenditure, education, health livelihood; and
- Collection of BISP transfer

[11] Agency can be seen as a person's ability to make meaningful choices.

3. Empowerment Ranking Exercise

A participatory tool was designed to analyse women's experiences and perceptions of the factors that enable them to express their human agency. This exercise was undertaken with women from both beneficiary and non-beneficiary households. The ranking exercise encouraged female respondents to identify, discuss and list various activities/functions at the household level that frame power relations and their capacity to make strategic choices, and to rank them according to their importance. Respondents were also asked to relate the contribution (if any) of BISP to the changes they identified.

4. Livelihood Matrix

The livelihood matrix was conducted with beneficiary and non-beneficiary men to assess the various sources of livelihoods in the area; community preferences for certain type of work and reasons for it; remunerations rates; changes in livelihood trends; and factors that have influenced these changes including any direct or indirect impact of BISP cash transfer on community livelihoods.

5. In-depth interviews

In-depth interviews were carried out with BISP beneficiary women and men according to education levels[12] of the respondents to assess whether education was a key determinant in women's empowerment (to test 'agency') and their attitudes and perceptions relating to gender empowerment. These interviews also gathered data on operational effectiveness of BISP. IDIs were also carried out with female respondents belonging to vulnerable households to uncover potential differences in findings for women headed or minority households.

6. Timelines Interviews

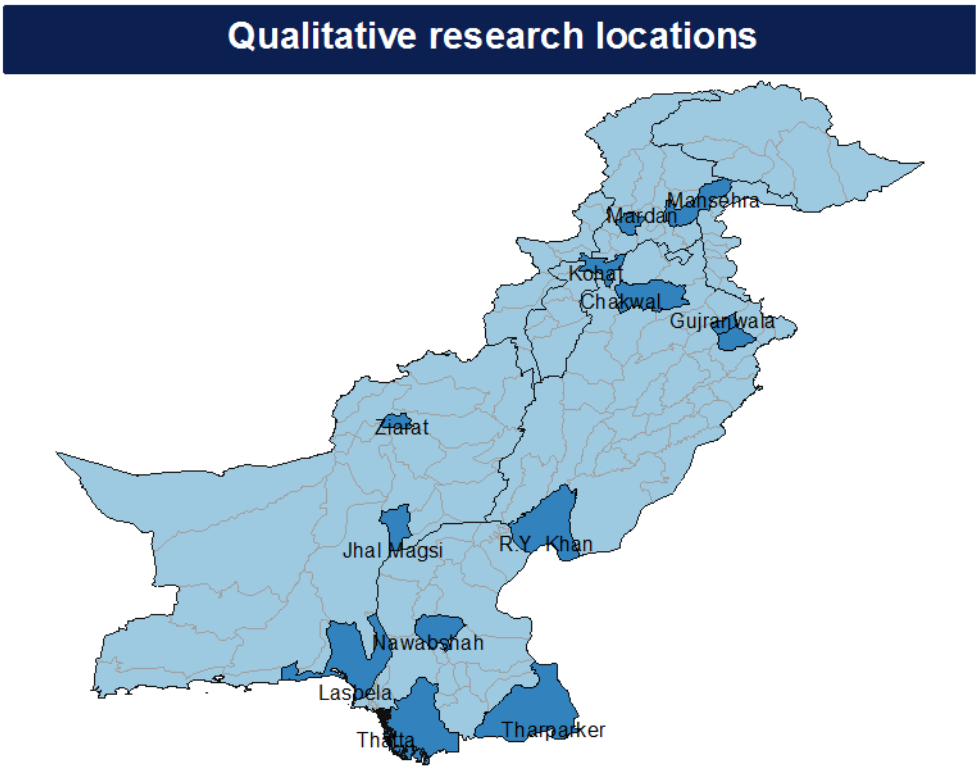
In the first follow-up, semi-structured or 'timeline' interviews were conducted with selected BISP beneficiary women to assess BISP impact over time. In this round of research, the same respondents were re-visited to track changes in key impact areas.

2.5.2 Qualitative Sampling

Qualitative data was collected in all four provinces of Pakistan, with three districts in each province. Districts were purposely selected at the baseline (first round of research) to cover the geographical spread of respective province – covering the north and south. For this round of research, two districts were the same as in the first follow-up, but one additional district was added to improve external validity of results.

[12] Given the low educational attainment of BISP beneficiary women (on average), 'high education' represents women completing primary education and 'low education' represents women with no formal education.

Figure 3 Qualitative Research Locations



The purpose of carrying out the research in the same districts as the first follow-up was to build upon earlier findings and also to measure changes over-time in case of specific households that were sampled for the timeline interviews in the first follow-up. In two districts, data was collected from three rural and one urban Union Councils and in the third one only two rural communities were covered taking into view the higher rural coverage of BISP.

Table 5 Sampled communities

Provinces	District 1	District 2	District 3
Punjab	**Gujranwala:** 1 urban-Farid Town 1 rural-Machrala	**Rahimyar Khan** 2 rural communities: Johran; Chachran Sharif;	**Chakwal** 1 urban- Bambarpur; 1 rural-BhonchalKallan
Sindh	**Nawabshah** 1 urban-GhulanQadir Baloch 1 rural-Ghantar	**Tharparkar** 2 rural communities: Mithrio Bhattee; Sahantio;	**Thatta** 1 urban-Mukli 1 rural-Baillu
KPK	**Mansehra** 1 urban-Dhodial; 1 rural-Parhana;	**Kohat** 2 rural communities Jungle Khel; Muslimabad;	**Mardan** 1 urban-Baricham; 1 rural-Toura
Balochistan	**Ziarat** 1 urban-Ahmedone 1 rural-Kutch	**Jhal Magsi** 2 rural communities: Gandawa; Bari Jha;	**Lasbela** 1 urban-Patra 1 rural-Pariya Bund Murad
Total	**24 communities - 8 urban; 16 rural**		

We sampled both men and women as our respondents in order to triangulate information on the impact of BISP on livelihood activities and also assess the operational effectiveness of the programme. Moreover we also investigated male perspectives on issues relating to gender empowerment.

Our research included the following categories of respondents:

- Community key informants (e.g. imam, school teacher, lady health worker, traditional birth attendant)
- Beneficiary household women
- Non-beneficiary household women
- Beneficiary household men
- Non-beneficiary household men
- Vulnerable[13] household women

Table 6 presents the sample size for this round of research - data was collected from 312 interviews (FGDs, KIIs and IDIs) in 24 communities across all four provinces of Pakistan.

Table 6 Number of interviews

Type of Instrument	Number of interviews per community	Total interviews
Key Informant Interviews	2 (one male and one female)	48
Focus Group Discussions with men	2 (beneficiary and non-beneficiary male)	48
Empowerment Group Ranking Exercise with Women	1 in each community (alternating beneficiary and non-beneficiary females)	24
Livelihood Analysis with beneficiary men and non-beneficiary men	1 each in community (alternating beneficiary and non-beneficiary males)	24
In-depth interviews with beneficiary men and women	4 (man/woman primary and less educated and man/woman higher secondary and above)	96 (48 women and 48 men)
In-depth interviews with vulnerable women	2 (widows, minority or women headed households)	48
Timeline interviews with women	6 in each province	24
Total		**312 interviews**

[13] Although all BISP beneficiaries are assumed to be poor, this category of respondents includes those considered to be marginalised or extremely poor in the community such as women-headed households, minorities, and migrants.

Part B: Experience of beneficiaries with BISP operations

3 BISP beneficiary experience

In this section we compare how the experience of beneficiaries with the BISP program operations has changed between the first follow-up survey in 2013 and the second round completed in 2014. The findings explore beneficiaries' experiences with the targeting of the transfer, the payment mechanisms and the user costs associated with collecting the transfer. The key findings are:

- More beneficiaries and non-beneficiaries perceive the BISP transfer to be targeted fairly and reaching the poorest households
- The frequency and predictability of payments has improved substantially both in terms of the number of payments and the value of the payments received.
- Almost all beneficiaries are now receiving their transfers via the BISP Debit Card. Beneficiaries are satisfied with their mode of receiving the payments but poor access to ATMs in rural areas and a lack of knowledge of using ATMs remain of concern in some areas.
- A significantly lower proportion of beneficiaries report having to unwillingly pay a 'fee' in order to receive their transfer.
- Provinces, in particular Balochistan, that were lagging behind in operations performance in 2013 have made the biggest improvements in 2014, thereby reducing regional disparities in program operations.
- Women appear to retain control over how the cash transfer is spent, even if it is collected by another household member

Programme operations are the components which ensure that a program is being delivered as intended. Programme operations include the targeting of the transfer, the delivery schedule of the payments, the mechanism through which payments are delivered, and the ease of access that beneficiaries have to the payments (*DFID*, 2011).

Both the design of the operational programme components and the efficiency of their delivery contribute to the beneficiaries' level of satisfaction with the program, the extent to which they feel that they can make use of the programme, and the likely level of impact on key outcomes we can expect to observe as a result.

In this section, we explore how programme operations have changed between the two follow-up evaluation surveys: the first follow-up survey conducted in 2013; and the second follow-up survey conducted in 2014. We explore a comparison between the two surveys focussing on frequency and value of payments as well user costs associated with accessing the transfer.

3.1 Community perceptions of targeting performance

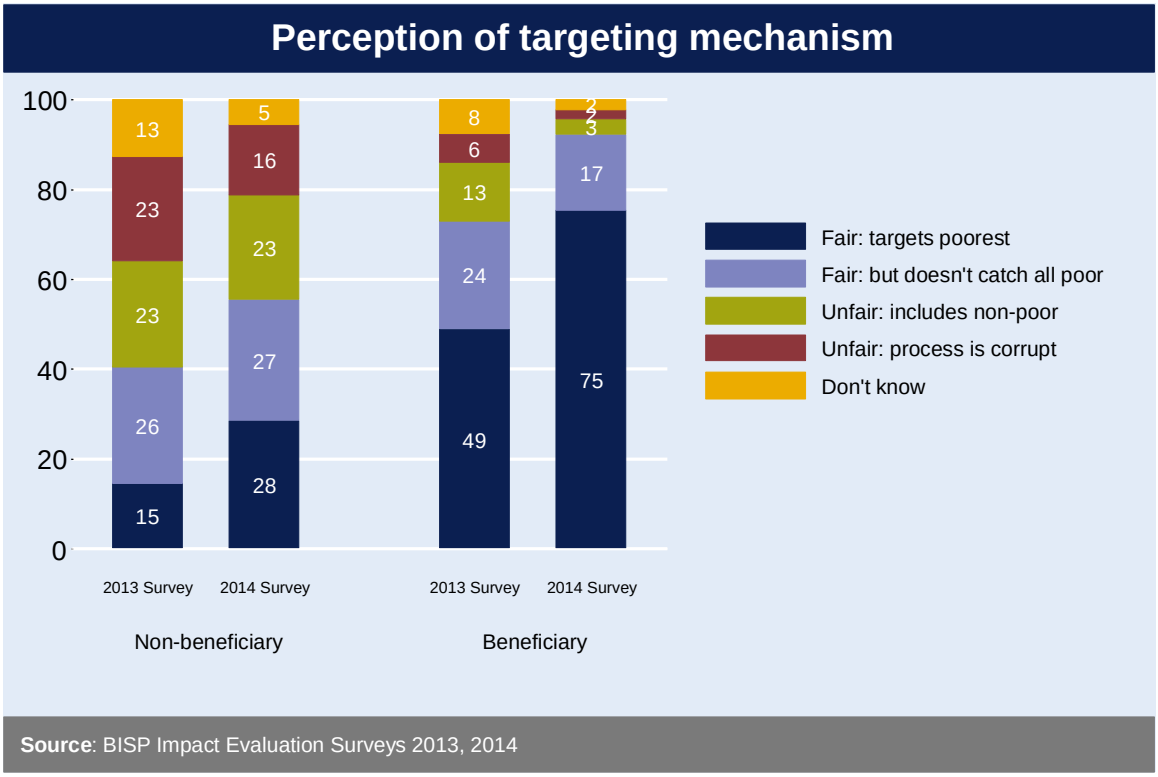
BISP is a poverty-targeted cash transfer, for which eligible beneficiaries are selected based on a proxy means test. The proxy means test assigns a 'poverty score' to each household which is calculated on the basis of key household characteristics, such as household size, the number of

dependants, asset ownership and so on. Households that fall below the threshold score are eligible for the transfer. The score is designed to capture the poorest 20% of households.

Respondents were asked whether they perceived the BISP transfers to be targeted fairly, whether it captured the poorest households in their communities. Figure 4 compares responses to this question from the 2014 survey to those from the 2013 survey. In the first follow-up survey (2013), qualitative and quantitative research highlighted that beneficiaries and non-beneficiaries had doubts over the fairness of the targeting mechanism. In contrast, the majority of beneficiaries and non-beneficiaries perceived the targeting mechanism as fair in 2014.

Perception of the fairness of the targeting mechanism increased for both beneficiaries and non-beneficiaries. In 2014, 75% of beneficiaries perceived the targeting as fair and reaching the poorest, compared to only 49% in 2013. The perception of the fairness of the targeting process also improved slightly among non-beneficiaries, with a lower proportion of non-beneficiaries perceiving the targeting mechanism as unfair. In 2014, 39% of non-beneficiaries continued to perceive the targeting as unfair either because it includes the non-poor or because the process is perceived as corrupt, compared to 46% in 2013.

Figure 4 Respondent perception of fairness of targeting mechanism



Source: BISP Impact Evaluation Surveys 2013, 2014

Qualitative research in 2013 had reported that beneficiaries and non-beneficiaries felt that some wealthier households were included in the transfer at the expense of deserving poor households. In contrast, in 2014 most respondents in the qualitative research perceived the targeting to be fair. However, some respondents reiterated that they believe that some deserving households had not been targeted by BISP:

"In our area, there are a total of more than 70 households out of which only six are BISP recipients. Most people who live here are daily wage labourers and are very poor but still were not selected for BISP assistance." (Beneficiary Household Men FGD, Urban Ziarat, Balochistan)

3.2 Frequency and value of payments

The value of the BISP transfer has steadily increased over the lifecycle of the BISP programme. As per the original design the value of the transfer per eligible family was PKR 1,000 per month. This increased to PKR 1,200 per month with effect from the 1st of July 2013 and then further increased to PKR 1,500 per month with effect from the 1st of July 2014.

However, given the relevant reference periods for the two follow-up evaluation surveys considered in this report the relevant per monthly transfers values are:

- PKR 1,000 per month for the 2013 evaluation survey; and
- PKR 1,200 per month for the 2014 evaluation survey

3.2.1 Number of payments received per beneficiary in last 12 months

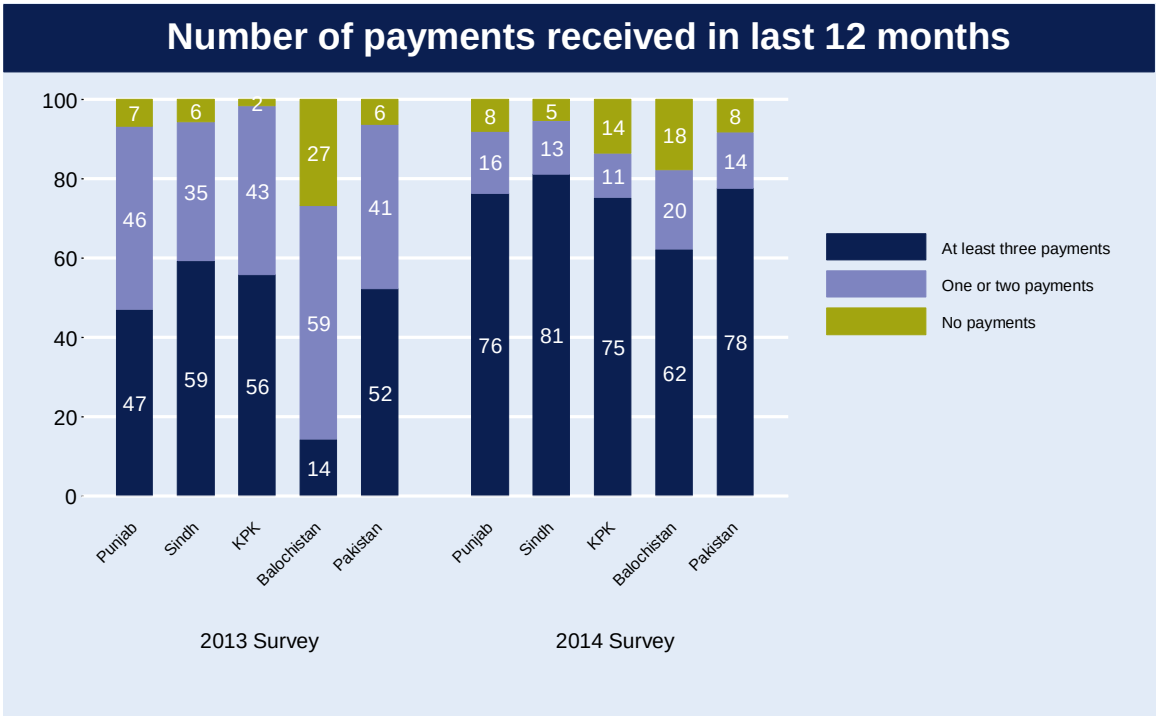
A critical feature of the BISP cash transfer is to provide income support to poor and vulnerable households in a frequent, regular and predictable manner. The **frequency and predictability of the BISP cash transfer is important** as this facilitates consumption smoothing, planning of expenditures and moderate risk-taking in anticipation of future payments (*Daidone et. al. 2015)*.

Payments to BISP beneficiaries are made quarterly. In the evaluation survey, beneficiaries were asked how many payments they received in the last 12 months. However, given that the timing of the survey may not precisely coincide with payment days, **payments are considered to be regular if beneficiaries reported receiving at least three payments in the last 12 months**.

Figure 5 demonstrates a **marked improvement in the regularity of payment delivery**. In 2014 78% of beneficiaries reported receiving at least three payments in the preceding 12 months, compared to just 52% of beneficiaries in the 2013 survey.

All provinces noted an improvement in the regularity of transfers, with **Balochistan demonstrating the greatest improvement** with the proportion of beneficiaries who received at least three payments increasing from just 14% in 2013 to 62% in 2014

Figure 5 Number of payments received by beneficiaries in 2013 and 2014



Source: BISP Impact Evaluation Surveys 2013, 2014

The qualitative research highlights that this improved payment predictability has resulted in returning confidence in the BISP programme, with beneficiaries expressing satisfaction in how the payments have become more regular since 2013:

"For the past one year, BISP cash comes after 3 to 4 months but before that there was a period when we thought that the program had shut down. So you can imagine how happy we were when we got to know that our money had finally arrived." (Beneficiary Household Men FGD, Urban Ziarat, Balochistan)

However, in line with the quantitative findings that payments irregularities persist in some areas, the qualitative research identified four communities were payments continued to be unpredictable (2 in Balochistan, 1 in KP and 1 in Sindh):

"There is no regular payment intervals for BISP cash. Sometimes, it comes after six months and at times arrives after three months." (Beneficiary Household Men FGD, Rural Tharparkar, Sindh)

3.2.2 Value of transfer received per beneficiary in last 12 months

Over the reference period of the 2014 survey each BISP beneficiary was **expected to receive four quarterly payments of PKR 3,600 for an annual total of PKR 14,400**.

However, given (as mentioned above) the timing of the survey and its 12 month recall period may not precisely coincide with the BISP payment schedule we would expect each beneficiary to have received **at least three quarterly payments for a total of PKR 10,800**.

Table 7 Value of transfer received per beneficiary in 12 months preceding survey

	Year	Punjab	Sindh	KP	Balochistan	*Pakistan*
Value of the transfer received in 12 months preceding survey	2014	11,713	11,663	10,422	9,501	***11,402***
Average percentage of transfer received in year preceding survey	2013	55	60	62	25	***57***
	2014	81***	81***	72***	66***	***79******

Source: BISP impact evaluation surveys (2013-2014). **Notes:** Asterisks indicate that an estimate is significantly different to the relevant comparator

Table 7 reports that in the 12 months preceding the 2014 evaluation survey on average **beneficiaries had received PKR 11,402** or 79% of the transfer based on self-reported receipts of the transfer. This finding is in line with beneficiaries self-reporting receipt of at least 3 quarterly payments and represents a **considerable improvement on the findings of the first follow-up report in 2013** which reported that only 57% of the transfer was received.

Despite this success two provinces, Khyber Pakhtunkhwa and Balochistan, perform poorer than the national average with beneficiaries self-reporting receipt of just 72% and 66% of the total annual value of the transfer respectively.

3.2.3 Per adult equivalent value of the transfer per household

The BISP cash transfer is targeted at female family heads[14] within households that have determined as eligible to receive the BISP cash transfer. Given that it is common 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**. 6% of BISP beneficiary households had more than one direct beneficiary, with an average of 1.07 beneficiaries living in a BISP beneficiary household.

Table 8 Value of transfer per household[15]

	Punjab	Sindh	KP	Balochistan	Pakistan
Average number of beneficiaries per household	1.03	1.10	1.11	1.02	1.07
Average value of payments received per beneficiary household in last 12 months (PKR)	11,936	12,663	11,561	10,063	12,094
Real per adult equivalent value of transfer per household, monthly (PKR)					
Actually received	152	150	141	117	148
Expected (if received full payments)	183	175	182	165	179
Expected value of transfer as proportion of baseline per adult equivalent consumption expenditure	11.1	10.1	9.8	11.9	10.5

Source: BISP impact evaluation survey (2014)

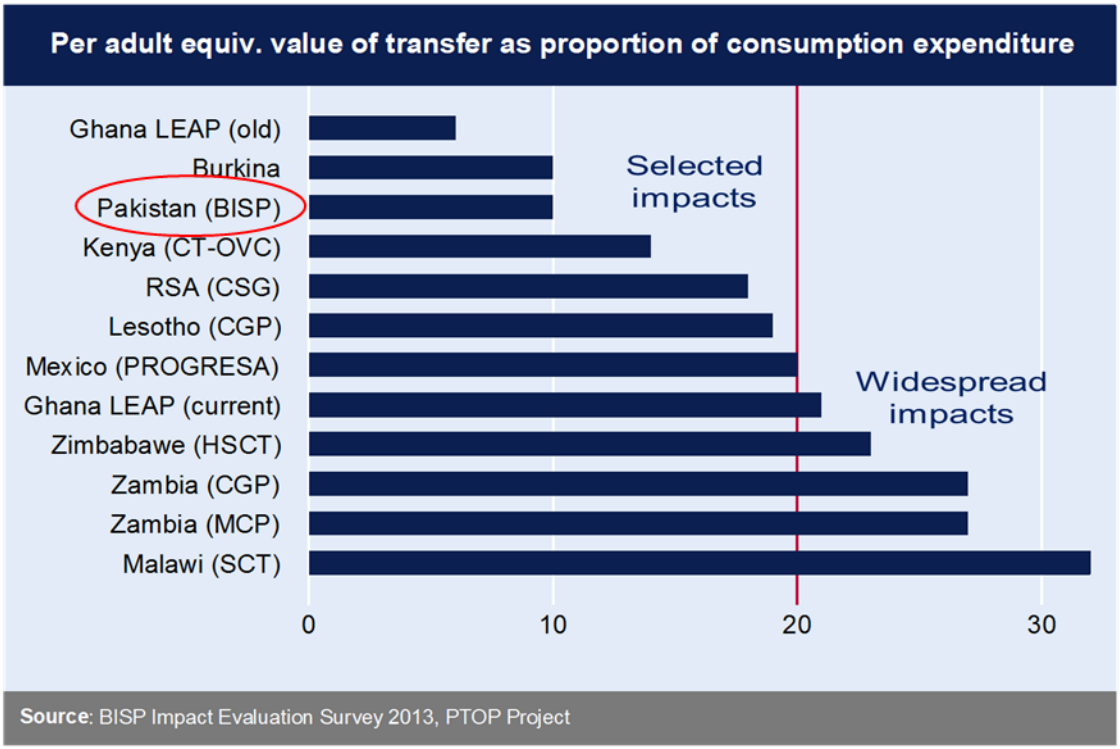
[14] I.e. Married women within a household

[15] This table differs from Table 7 as it presents the value of the transfer per household, rather than per beneficiary. There is a difference between these values as it is possible for more than one BISP beneficiary to live under the same roof and so to have more than one beneficiary in the same household.

The amount of money transferred to a beneficiary household is clearly a factor in the range and intensity of impacts that can be expected against key expected outcomes. A range of factors will determine the value of the transfer including the financial resources devoted to the cash transfer and the desired coverage of the programme.

The BISP cash transfer has a **relatively high level of coverage for a poverty targeted cash transfer** with the BISP poverty score eligibility threshold set to reach 20% of households in Pakistan. However, there is a trade-off in that the **value of the transfer is relatively low.** As a proportion of baseline consumption expenditure the per adult equivalent value of the transfer is just 11%[16], which is relatively low as compared to other cash transfers worldwide (see Figure 6).

Figure 6 Per adult equivalent value of transfer as proportion of consumption expenditure[17]



This is important as a larger transfer can drive larger impacts. In a comparison of the impact of cash transfers *Davis (2014)* notes that transfers that make up at least 20% of baseline per adult equivalent consumption expenditure tend to have widespread impacts, including on productive activities and human capital investments (such as education). Cash transfers with values below this threshold tend to have more selected impacts focused on poverty.

3.3 Mode through which the payment is received

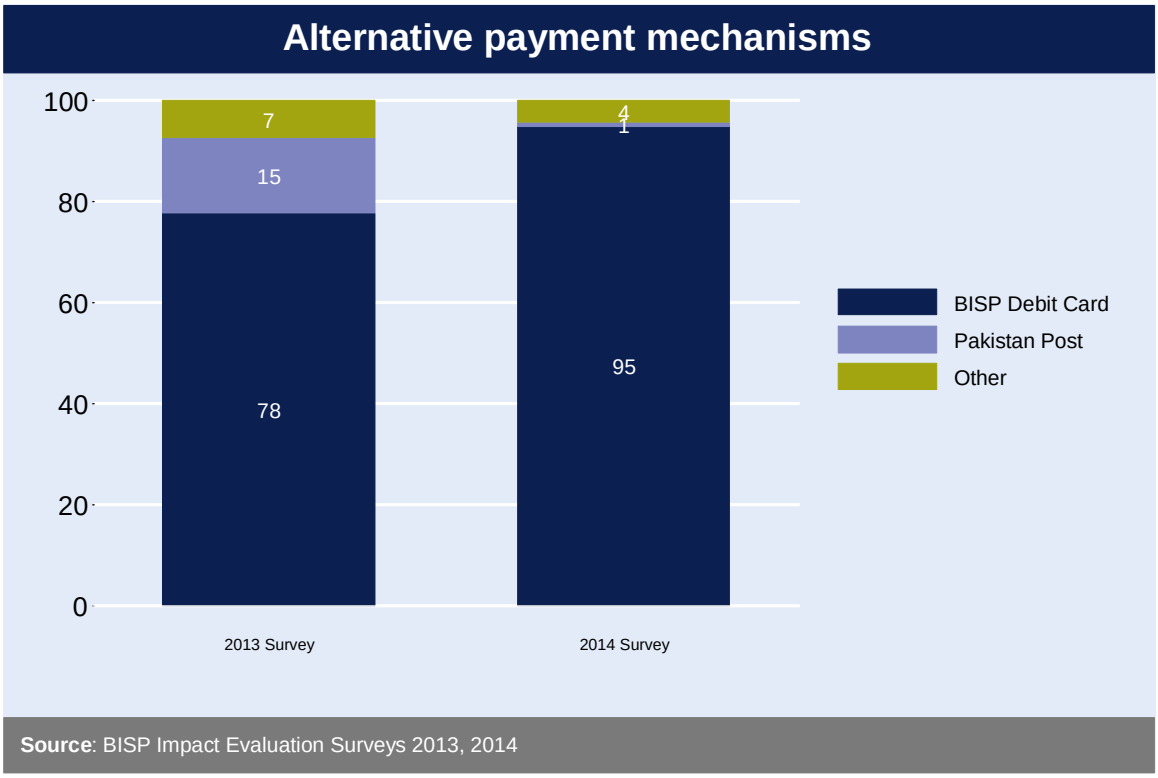
In its original design, BISP beneficiaries were paid money orders through the Pakistan Post who delivered the money to their doorstep. In 2013, this approach was already being phased out and replaced by the BISP Debit Card, while a BISP smart card and mobile money were also piloted (categorised as *Other* in Figure 7).

[16] At the current monthly value of the transfer of PKR 1,500 the per adult equivalent value of the transfer as a proportion of consumption expenditure would be 13%
[17] Adapted from *Davis (2014)*

Beneficiaries who use the BISP Debit Card can withdraw their cash transfer at any ATM in Pakistan. To further facilitate access to the transfer, the banks also provide branchless banking services, allowing BISP beneficiaries to withdraw their transfers from Point of Sale (POS) machines within a registered network of banking agents. The BISP debit card is managed by six partner banks[18]

Figure 7 shows how beneficiaries received their payments during 2014 compared to 2013. By the time of the second follow-up survey in 2014, almost all beneficiaries had migrated from the manual money order deliveries to receiving their cash transfers electronically through the BISP Debit Card. In 2013, remote, rural communities continued to receive the transfer through the Pakistan Post due to their limited access to ATMs or branchless banking facilities. Encouragingly, by 2014 a further 17% of beneficiaries (95% compared to 78%) had gained access to the Benazir Debit Card.

Figure 7 How beneficiaries receive their transfers



Source: BISP Impact Evaluation Surveys 2013, 2014

3.4 User costs related to the payment mechanism

Table 9 provides information on the user costs associated with collecting the BISP cash transfer, comparing estimates for 2014 and 2013. The estimates reported include the time taken to collect the transfer as well as the amount of 'fees' that beneficiaries unwillingly had to pay in order to receive the transfer – an indication of local level leakage of the transfer.

[18] United Bank Limited, Habib Bank Limited, Bank Alfalah, Tameer Microfinance Bank, Summit Bank and Sindh Bank

Table 9 Costs associated with collecting payments

	Punjab		Sindh		KPK		Balochistan		Pakistan	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Time taken to reach payment point (minutes)	36	43**	50	48	55	56	89	50*	47	47
Proportion of beneficiaries reporting paying a 'fee' to receive the transfer	22	5**	52	29**	26	17	10	18	35	17***
Average 'fee' paid by those who reported paying a 'fee' (PKR)	287	236	205	244	158	149	205	120	217	226

Source: BISP Impact Evaluation Surveys 2013, 2014. **Notes:** Asterisks (*) indicate that the estimate for 2014 is significantly different to that from 2013: *** p < .001; ** p < .05; * p < .10

The time taken to reach the payment point remained the same in 2014 as it was in 2013: beneficiaries travelled an average of 47 minutes. In Punjab, average transport times increased slightly (from 36 minutes to 43 minutes), while in Balochistan they decreased significantly (from 89 minutes to 50 minutes) to the extent that travel times in Balochistan were similar to those in the other provinces by 2014.

Encouragingly, **the proportion of beneficiaries who reported having to pay a 'fee' to receive their transfer decreased significantly from 35% to 17% across Pakistan**. In Sindh, 29% of beneficiaries reported having to pay a 'fee' to collect their transfer in 2014, compared to 52% in 2013. In Punjab, only 5% of beneficiaries were reporting having to pay a 'fee' in 2014, compared to 22% in 2013. This reduction in local level leakage might be explained by more beneficiaries migrating to the BISP Debit Card system in 2014. The 2013 survey showed that the BISP Debit Card is associated with significantly lower local level leakage of the transfer than payments made through Pakistan Post. However, for those beneficiaries who continued reporting having to pay a 'fee', the average amount of the 'fee' paid remained about the same in 2014 compared to 2013.

Respondents in the qualitative research substantiated the view that the BISP Debit Card system was more transparent than the payments through the Post Office. However, the qualitative research suggests that the BISP Debit Card system may also provide opportunities for corrupt practices to emerge. A large number of respondents reported lacking knowledge to use the ATMs. In such instances, beneficiaries reported having to pay 'fees' in order to get assistance. For instance men and women alike reported that bank guards in many areas 'charged' PKR 200 to 300 for helping out those who did not know how to use the ATMs. When beneficiaries are confronted with malfunctioning ATMs, the costs for beneficiaries may be even greater:

"No one helps unless you pay them. If anyone's card gets stuck in the machine they take days to return it unless one pays some bribe. At times people have paid Rs. 1,000 to 1,500 to the bank staff for reactivating the PIN code or returning the card." (Beneficiary Household Men, Rural Tharparkar, Sindh)

The qualitative research from the 2013 survey revealed high opportunity costs associated with the collection of the payment, because men often accompanied the female beneficiary to the collection point. This meant transport costs had to be paid for two people, and men 'wasted' time they could

have spent on other activities. Withdrawing the transfer from the ATM does not require the women to be physically present as long as her husband or family member knows the PIN code for the debit card. As a result, by 2014, beneficiaries reported that male household members were increasingly going alone to collect the money. As one beneficiary household member explains:

"I go to collect the BISP payment but then I hand it over to my wife as it is her money. I don't let her go because there are only two buses which pass through our village in a day so at times one has to wait for hours then the journey takes around one and a half hour, after which one has to walk 20 minutes to the bank. If the ATM is crowded it can take two to three hours. I don't want her to go through all this hassle and the crowd at the ATM is no place for a woman." (Beneficiary Household Men FGD, Rural Rahim Yar Khan, Punjab)

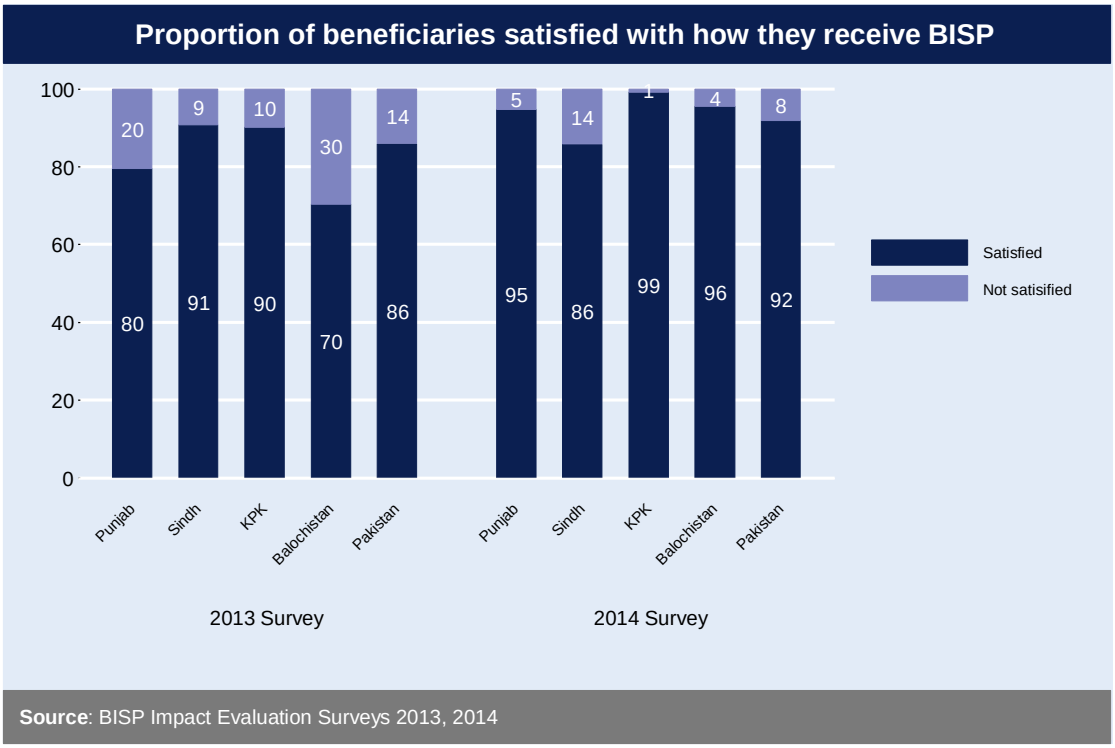
Women seemed more likely to collect the transfer themselves in urban areas, where access to ATMs tended to be easier and there seemed to be less restrictions on female mobility. However, there was no clear designation as to who collects the payment:

"Men and women both collect according to convenience. If my wife has time she goes and if I can manage then I go." (Beneficiary Households Men FGD, Urban Gujranwala, Punjab)

3.5 Satisfaction with payment mechanism

Figure 8 reports the proportion of beneficiaries satisfied with how they received the BISP transfer in 2013 compared to 2014. In 2013, the substantial majority of beneficiaries were already satisfied with how they received their payments. These figures improved further in 2014, with 92% of beneficiaries expressing satisfaction at how they received their transfer. The largest improvement in satisfaction occurred in Balochistan with 96% of beneficiaries being satisfied in 2014, compared to 70% in 2013.

Figure 8 Satisfaction with mode of payment



Source: BISP Impact Evaluation Surveys 2013, 2014

The qualitative research substantiates that most beneficiaries are satisfied with the way in which they receive their payments. The continued migration to electronic payment mechanisms as opposed to the manual cash delivery through the post office may have contributed to increased satisfaction rates. Beneficiaries had previously complained about the corruption of post office staff, but they now noted that the debit cards reduced opportunities for corruption. Most beneficiaries appreciated the benefits of the electronic payment mechanism:

"We definitely prefer the ATM system. It is transparent and there are less chances of losing money in the process. Now we are dealing with a machine which cannot fleece us, while before we had to deal with a human being who we could not trust." (Beneficiary Household Men FGD, Rural Gujranwala, Punjab)

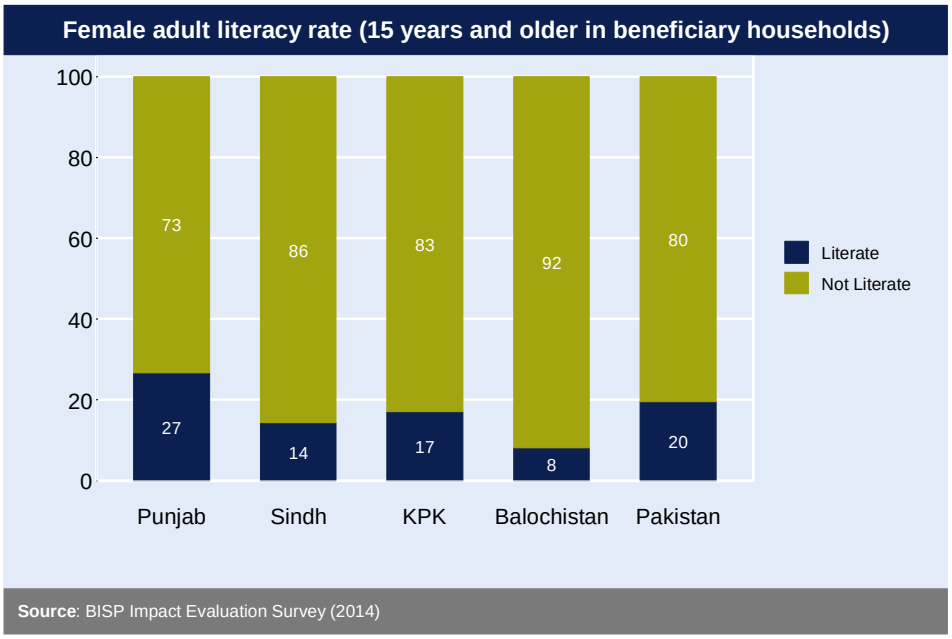
While beneficiaries in urban areas were largely satisfied with the debit card system, some beneficiaries in rural areas expressed difficulties with using the BISP Debit Cards. They reported having to travel considerable distances to reach an ATM or POS, and complained about overcrowding at ATMs and poor administration. A large number of respondents also expressed grievances about lacking the knowledge to use the ATMs:

"We preferred the postal system. No one has taught us to use this card and we are totally dependent on others for withdrawing our cash." (Beneficiary Woman Timeline Interview, Rural Mansehra, Khyber Pakhtunkhwa)

Therefore, whilst **the BISP Debit Cards have been well-received by beneficiaries** improvements in the financial literacy of beneficiary women would further increase their ease of accessing their transfers.

One factor that may well influence the ease with which women can adopt and confidently use the BISP Debit cards is very low rate of literacy[19] amongst women in beneficiary households. This may help to explain why some women have difficulties in using the BISP debit cards to withdraw the cash transfer.

Figure 9 Female adult literacy rates in beneficiary households



[19] As defined by the ability to both read and write

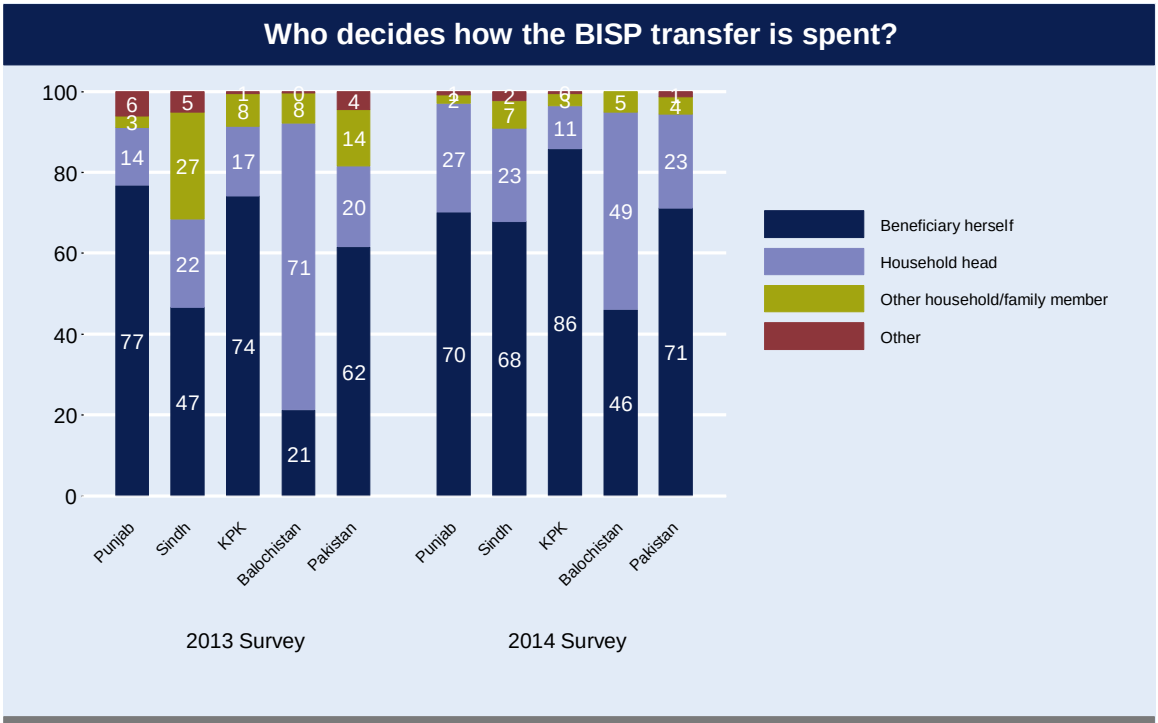
3.6 Control over the transfer

The beneficiary of BISP is any ever-married female in a household determined as eligible for the BISP cash transfer. Embedded in the program's theory of change is the goal to promote female empowerment through providing the cash transfer to female beneficiaries.

In order for the cash transfer to impact female empowerment, however, women must not only be the intended beneficiaries but should also retain control over the use of the money received from the transfer in practice. Figure 10 shows who in the household decides how the cash transfer is spent, comparing results from the 2014 survey to the 2013 survey.

In 2013, across Pakistan the majority of female beneficiaries (62%) were making the decisions about how the cash transfer was spent. There were however large regional differences, with only 21% of female beneficiaries in Balochistan having control over how the cash transfer was spent in 2013. **In 2014, the proportion of female beneficiaries who are able to decide how the transfer is spent increased further**; with 71% of women having control over the transfer across all regions. Notably, female beneficiaries' decision making power over the use of the transfer increased the most in those regions with the lowest proportions of females having control over the transfer in 2013 (Sindh and Balochistan). In Punjab, the proportion of beneficiaries who decide how to use the transfer decreased slightly from 77% in 2013 to 71% in 2014.

Figure 10 Decision making over use of the BISP transfer



Source: BISP Impact Evaluation Surveys 2013, 2014

Importantly**, women are retaining control over the use of the BISP transfer, even when men are collecting the payment**:

"BISP money belongs to my wife so I feel I don't have a right to control it. She spends it as she wishes and I don't question her because most of the time she spends it on family needs." (Male in-depth interview, Educated, Rural Mansehra, KPK)

Women expressed happiness at being able to determine the use of their transfer, and especially enjoyed being able to care for their children's needs. Beneficiary men tended to accept women's decision making over the use of the transfer, particularly when they felt that the money was usefully spent on household needs and childcare:

"I spend most of BISP cash on children's needs. I feel so happy because I can buy them things of my choice without being told by someone." (Woman In-depth Interview, Illiterate, Rural Tharparkar)

"I am very happy with BISP. After BISP my wife has become more independent and has her own cash which she can spend on her children and other household needs. It has definitely taken considerable stress off me." (Beneficiary Households FGD, Urban Gujranwala, Punjab)

When questioned about female control of the transfer a common response amongst male respondents in the qualitative research was to refer to the **small size of the transfer and its main use for household needs and children**.

Due to this, men explained there was no need for them to question women's control over the cash. This indicates that women's control over the BISP cash has been partly enabled by their decisions to use the money for 'domestic' expenditures over which women's influence is established and accepted. Indeed the relatively low value of the transfer (see Figure 6) facilitates this choice. Moreover, **men reflected on the way that BISP has reduced their wives dependence on them for money to cover household needs** and that this might help to explain the increased control over the cash transfer by beneficiary women, particularly in Balochistan:

"My wife spends the money very sensibly on food, children's education and other small needs of the family. She is actually helping me. It is not as if she is spending the money on frivolous things." (Beneficiary Households FGD, Rural Jhal Magsi, Balochistan)

"I am very happy with BISP. After BISP my wife has become more independent and has her own cash which she can spend on her children and other household needs. It has definitely taken considerable stress off me." (Beneficiary Households FGD, Urban Gujranwala, Punjab)

3.7 Use of the BISP cash transfer

Table 10 reports the proportion of beneficiaries who reported at least some expenditure on a range of items out of the BISP cash transfer, no matter how small the amount. As might be expected, and in line with the immediate goal of the BISP to cushion the negative effects of food price inflation on the poor, the majority of BISP beneficiaries report expenditure on Food, with 83% of beneficiaries reporting at least some expenditure on this item.

Other common expenditure items reported by beneficiaries included on health care, for which 54% of beneficiaries reported at least some expenditure and clothing, for which 27% of beneficiaries reported some expenditure.

Table 10 Reported use of the BISP cash transfer

	Pakistan	Punjab	Sindh	KP	Balochistan
% of households who reported at least some expenditure on…					
Food	83	83	81	85	80
Education	6	11	2	7	18
Health	54	48	56	60	62

Clothing	27	23	36	19	5
Loan	6	7	4	9	16
Saving	0	0	0	0	1
Investment	0	0	0	0	0

Source: **BISP Impact Evaluation Survey 2014.**

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 will be drawn from all beneficiary households in our evaluation sample and not just those in the RD treatment sample explored in the sections that follow:

- We find that poverty rates as measured in monetary and multi-dimensional terms remain high, but have fallen over the period between the baseline survey and 2014
- A high degree of poverty mobility observed
- BISP beneficiary households face a range of deprivations related to education, health and living standards
- High rates of primary aged children remain out of school, particularly for girls for whom only 49% are currently in school
- Rates of child malnutrition remain very high, at rates that are indicative of an on-going nutrition crisis
- Casual labour, vulnerable to cyclical and seasonal shocks, is the main source of income but its importance to BISP beneficiary households is decreasing

The purpose of this section is to provide a concise **situational analysis of all beneficiary households in the sample**, including BISP beneficiary households not in the RD treatment sample.

This will provide the reader with a snapshot of the experiences of the average beneficiary, given that the following sections focus on the impact of the BISP on beneficiaries within the evaluation RD bandwidth (i.e. those closest to the BISP poverty eligibility score).

4.1 High but falling rates of poverty

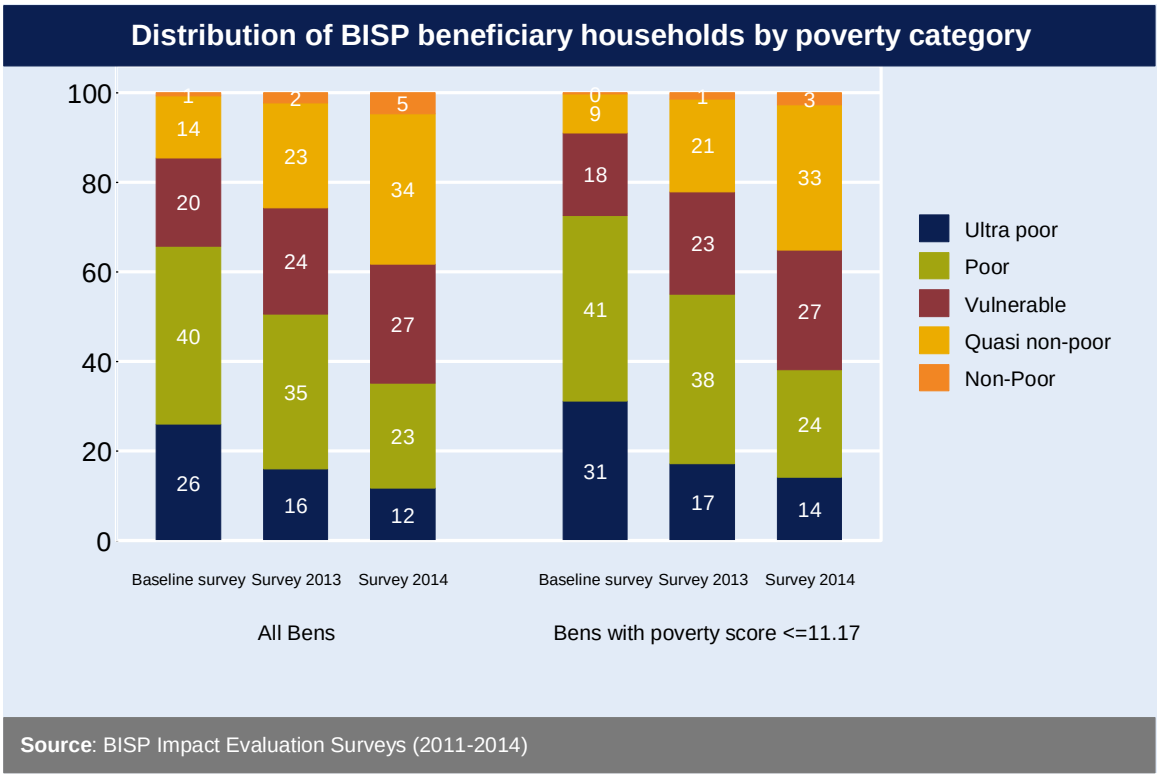
For an unconditional cash transfer to have an impact on poverty it must be sufficiently well targeted in order that it actually serves households that are amongst the poorest and most vulnerable. At baseline we find that **86% of BISP beneficiary households were either ultra-poor, poor or vulnerable to being poor**, with a further 13% defined as quasi non-poor by the standard monetary measures of poverty in Pakistan[20].

It is important to consider households that are vulnerable to poverty 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.

The high rates of poverty at baseline suggests that the **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.

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

Figure 11 Distribution of BISP beneficiary households by poverty category[21]



Source: BISP Impact Evaluation Surveys (2011-2014)

In line with impressive trends in overall national poverty reduction observed in recent years[22] we find that **proportion of BISP beneficiary households that were either ultra-poor, poor or vulnerable to being poor falls from 86% in 2011, to 75% in 2013 to 63% in 2014**. The impact of the BISP on poverty is explored in Section 5.1.

We see a similar experience for BISP beneficiary households with a BISP poverty score of less than 11.17, though the starting level of poverty is more severe, with 91% ultra-poor, poor or vulnerable to poverty at baseline. However, we see the difference between those with poverty scores less than 11.17 and all BISP beneficiary households narrowing over time, as the proportion of this group of BISP beneficiary households who are ultra-poor, poor or vulnerable to poverty falling to 78% in 2013 and then to 65% in 2014.

4.2 Poverty dynamics

Table 11 presents a poverty transition matrix based on the poverty categories described above and compares the poverty status of BISP beneficiary households at baseline to their status in the 2014 survey.

This reports a high degree of apparent mobility in between the two surveys. For example of the 86% of households that were identified as ultra-poor, poor or vulnerable to poor in the baseline survey, 36% of these households had moved into the quasi-poor or non-poor categories by the time of the 2014 survey. Conversely of the 14% of households that were identified as quasi-poor or

[21] *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.*
[22] The Pakistan Economic Survey (2014-15) noted that national poverty had fallen from 34.4% in 2000/01 to 12.4% in 2010/11

non-poor during the baseline survey 43% of these households had slipped into the ultra-poor, poor or vulnerable to poor categories by the time of the 2014 survey.

Table 11 Poverty Transition Matrix

		2014 Survey					
		Ultra-poor	Poor	Vulnerable	Quasi non-poor	Non-Poor	*Total*
Baseline survey	Ultra-poor	151 (5.4%)	229 (8.2%)	159 (5.7%)	186 (6.7%)	8 (0.3%)	***733 (26.3%)***
	Poor	146 (5.2%)	257 (9.2%)	299 (10.8%)	357 (12.8%)	43 (1.5%)	***1,102 (39.6%)***
	Vulnerable	16 (0.6%)	118 (4.2%)	161 (5.8%)	218 (7.8%)	38 (1.4%)	***551 (19.8%)***
	Quasi non-poor	21 (0.7%)	40 (1.4%)	103 (3.7%)	166 (6.0%)	42 (1.5%)	***372 (13.4%)***
	Non-Poor	0 (0%)	1 (0.1%)	6 (0.2%)	10 (0.4%)	6 (0.2%)	***24 (0.9%)***
	Total	***334 (12%)***	***646 (23.2%)***	***729 (26.2%)***	***937 (33.7%)***	***137 (4.9%)***	***2,782 (100%)***

Another way of considering the poverty dynamics of BISP beneficiary households is to attempt to decompose the poverty into its transient and chronic components, where chronic poverty is defined as being poor in every round of survey.

This is presented in Table 12 which considers the proportion of BISP beneficiary households by the number of surveys in which they are poor. We find that 20% of BISP beneficiary household are never poor (as defined by having a value of consumption expenditure below the poverty line), whilst 80% of BISP beneficiary households are poor in at least one of the survey rounds.

Table 12 Decomposition into Chronic and Transient Poverty (spells method)

Number of surveys	Proportion of BISP beneficiary households who are below poverty line (ultra-poor/poor) per number of surveys	
	All Beneficiaries	Beneficiaries with poverty score less than 11.17
Never poor (poor in 0 surveys)	20%	15%
Transient poor (poor in 1 survey)	29%	28%
Transient poor (poor in 2 surveys)	29%	34%
Chronic poor (poor in 3 surveys)	22%	23%
Proportion of poverty that is chronic[23]	*27%*	*27%*

Source: BISP impact evaluation surveys (2011 - 2014).

Of the BISP beneficiary households that are poor in at least one survey round, 22% of these are poor in all three rounds, and as such we can say that 27% of the poverty observed in BISP beneficiary households is chronic, highlighting the high degree of poverty mobility observed amongst BISP beneficiary households.

[23] % of those poor at least once across surveys, that are poor in all three survey rounds (2011,2013 & 2014)

For the group of BISP beneficiary households with poverty scores less than 11.17, we find that similar levels proportions of poverty is defined as chronic. However, of those who are transient poor in this category, more are likely to have been poor at the time of two survey rounds, as compared to poor in just one survey round. Furthermore more households in this group have experienced an episode of poverty at least once over the three rounds of survey.

4.3 Poverty as a multi-dimensional concept

Whilst the monetary based measures of poverty provide a useful overview into the situation of a BISP beneficiary household, multi-dimensional measures of poverty such as the **Multi-dimensional Poverty Index (MPI)** can provide rich insights for poverty policy.

The MPI recognises that **monetary based poverty is just one type of deprivation that households face**, with the MPI revealing the combination of various deprivations that afflict a household at the same time across **three dimensions: education; health; and living standards** each measured by different indicators reported in Box 1 below[24]. The MPI is particularly useful as it enables the reader to quickly understand both whether or not a household faces poverty but also to **determine which particular deprivations are driving this poverty**.

Figure 12 reports that a similar number of BISP beneficiary households were MPI poor or vulnerable to MPI poverty (85%) at baseline as compared to measures of monetary poverty presented above. However, we find that the rate of decline MPI poverty for BISP beneficiary households is less impressive than the decline in monetary poverty: with the proportion of households MPI poor or MPI vulnerable remaining high at 77% in 2014.

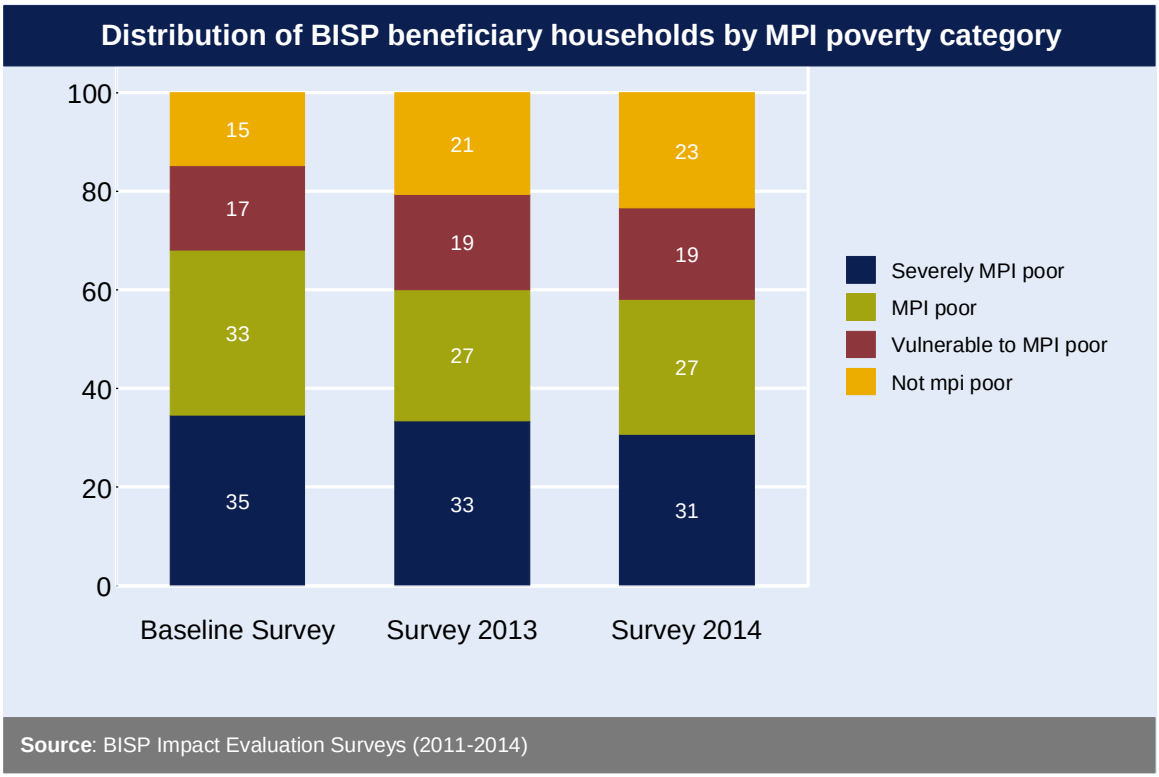
Box 1 Multi-dimensional poverty index

The MPI presented in this report has **3 dimensions, (education, health and living standards) and 11 indicators spread across the 3 dimensions**. Each dimension is equally weighted in the construction of the MPI. The dimensions, indicators and the criteria to be considered deprived are presented below, and a **household is considered multi-dimensionally poor if it is deprived in at least 33% of the weighted indicators**:

1. **Education** (each indicator weighted equally at (1/6)
    a. **Years of schooling:** deprived if no household member has completed 5 years of schooling
    b. **Child school attendance:** deprived if any school aged child is out of school in Grades 1 to 8
2. **Heath** (each indicator weighted equally at 1/9)
    a. **Child vaccinations:** deprived if any child aged 20-59 months is not vaccinated for DPT or measles
    b. **Child nutrition:** deprived if any child aged 0-59 months is malnourished
    c. **Household nutrition:** deprived if the household does not have acceptable food consumption[25]
3. **Living standards** (each indicator weighted equally at (1/18)
    a. **Electricity:** deprived if a household does not have electricity
    b. **Sanitation:** deprived if access to toilet does not meet MDG standard
    c. **Drinking water:** deprived if drinking water does not meet MDG standard
    d. **Flooring:** deprived if the floor is dirt, sand or dung
    e. **Cooking fuel:** deprived if household cooks with wood or charcoal
    f. **Assets:** deprived if household does not own more than one of : TV, bike, motorbike, refrigerator or radio and does not own a car

[24] Calculation of the MPI is based on the Oxford Poverty and Human Development Initiative Methodology and details are provided in Annex C
[25] As measured by the World Food Programme *Food Consumption Score* (*WFP, 2008*)

Figure 12 Proportion of BISP beneficiary households multi-dimensionally poor

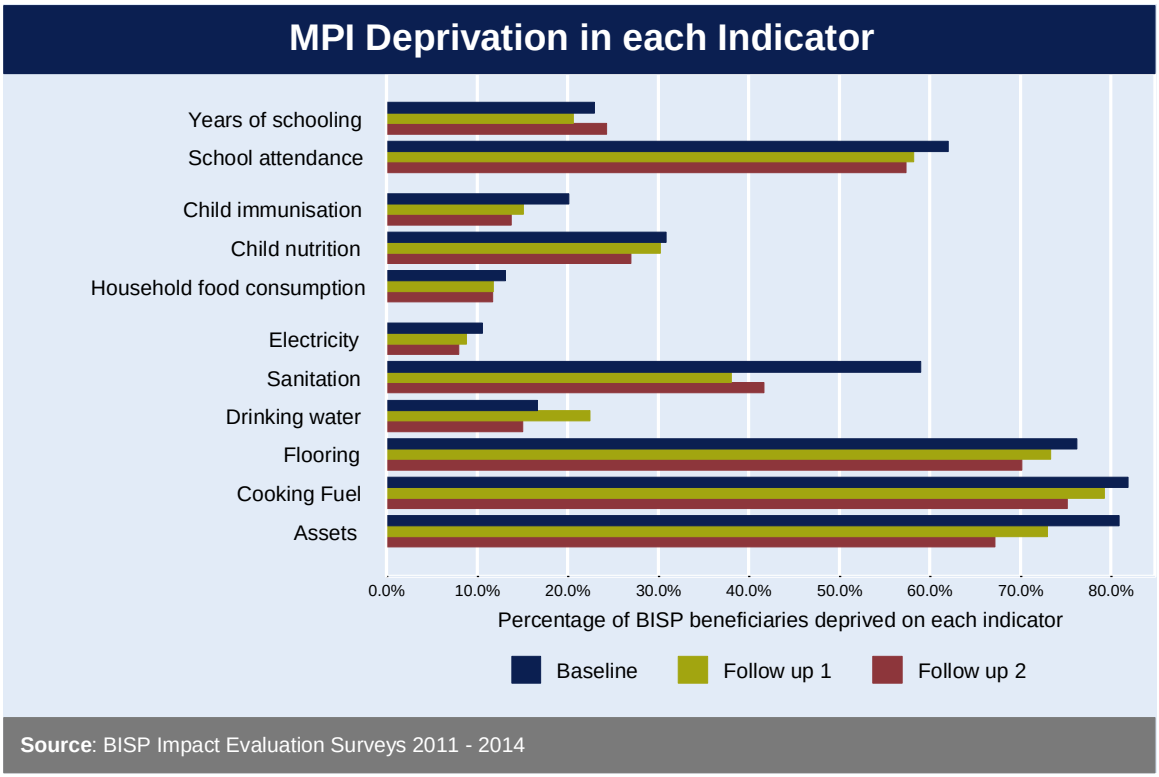


This demonstrates that BISP beneficiary households are poor not only in a monetary sense, but that they continue to face deprivations on a wide variety of dimensions, each of which is discussed in further detail below. Dissecting the MPI by each of its dimensions will allow the reader to gain an insight as to whether falling monetary poverty rates (see Figure 11) have translated to reduced deprivations in education, health and living standards.

4.4 Beneficiaries face multi-dimensional deprivations

In this section we discuss the various deprivations that are faced by BISP beneficiary households. These are presented Figure 13, which reports the proportion of BISP beneficiary households that are deprived in each indicator. For reference the definition of what is meant to be deprived against each indicator is provided in Box 1 above.

Figure 13 BISP beneficiary deprivations against each indicator



Source: BISP Impact Evaluation Surveys 2011 - 2014

4.4.1 Deprivations in education

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

Table 13 School attendance of children aged 5-12 years: beneficiary trends

	All BISP beneficiaries				BISP beneficiaries with poverty score <11.17			
	2011	2013	2014	N	2011	2013	2014	N
Proportion of children aged 5-12 years currently attending school								
Total	52	55	57***	6,491	42	47	48	3,617
Boys	56	61*	64***	3,412	45	52	56	1,863
Girls	47	49	49	3,079	39	40	40	1,754

Source: BISP impact evaluation surveys (2011 - 2014). **Notes**: (1) Asterisks (*) indicate that a change since baseline survey round is statistically significant: *** p < .01; ** p < .05; * p < .10

Figure 13 suggests that **school attendance** is a significant driver of MPI poverty, with almost 60% of beneficiary households containing at least one child who is not attending school in 2014. Table

13 confirms this as we find that **just 57% of children aged 5-12 years in beneficiary households are currently attending school**.

A **gender gap remains** with 64% of boys as compared to just 49% of girls attending school at the time of the 2014 survey. This gender gap appears to be growing: whilst the attendance rates of boys in beneficiary households in the evaluation sample increased over the period between the two surveys, we find that the attendance rates for girls have remained stagnant. The impact of the BISP on education is discussed in Section 8.

As would be expected children in households with lower BISP poverty scores have lower rates of school attendance with just 48% of such 5-12 year old children attending school at the time of the 2014 survey, with a similar gender gap remaining.

4.4.2 Deprivations in health

In terms of health, **child nutrition** is a particularly important driver of observed rates of MPI poverty, with just over a **quarter of households containing a malnourished child aged 0-59**.

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.

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))*

Table 14 Child nutrition: beneficiary trends

	All beneficiaries				BISP beneficiaries with poverty score <11.17			
	2011	2013	2014	N	2011	2013	2014	N
Proportion of children aged 0-59 months in beneficiary households stunted								
Total	45	52	47	2,007	47	54	49	1,191
Boys	44	52	44	1,020	51	57	45	592
Girls	45	51	49	987	44	50	53	599
Proportion of children aged 0-59 months in beneficiary households wasted								
Total	21	21	27***	2,007	23	22	28***	1,191
Boys	22	24	29***	1,020	25	26	32***	592
Girls	19	18	25***	987	21	18	23***	599
Proportion of children aged 0-59 months who have experience an episode of diarrhoea in last 30 days								

	All beneficiaries				BISP beneficiaries with poverty score <11.17			
	2011	2013	2014	N	2011	2013	2014	N
Total	36	38	41*	2,007	35	37	36	1,191
Boys	35	40	38	1,020	33	41	35	592
Girls	38	36	43*	987	38	34	39	599
Proportion of children aged 12-59 months fully immunised								
Total	71	73	79***	2,007	64	69	78***	1,191
Boys	71	72	79***	1,020	66	67	79***	592
Girls	70	74	80***	987	62	70	78***	599

Source: BISP impact evaluation surveys (2011 - 2014). **Notes**: (1) Asterisks (*) indicate that a change since baseline survey round is statistically significant: *** p < .01; ** p < .05; * p < .10

To explore this further Table 14 provides further insight into the **child nutrition dimension** indicating on-going high rates of both wasting and stunting amongst children aged 0-59. Indeed Table 14 indicates **wasting and stunting at levels the World Health Organisation would classify as signifying an on-going crisis in terms of child malnutrition**[26]. 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.

Given the role that child nutrition plays in the inter-generational transmission of poverty, the high rates of child malnutrition might be taken into account in the design of future programmes complementary to the BISP. Increasingly, social protection programmes and policies around the world are including components relevant to food security, health, education, gender and WASH to improve the overall well-being and nutrition of beneficiaries (*FAO, 2015*). This could, for example, include support to ante-natal care or nutrition behaviour change communication supported by the BISP.

Child nutrition is related to a number of factors that are captured by the MPI. This includes **child immunisation**, with Figure 13 demonstrating high rates of deprivation against this indicator with 14% of all BISP beneficiary households containing a child aged 20-59 months that had not been fully immunised against DPT or measles. Furthermore, Figure 13 reports high rates of deprivation against the **sanitation** and **drinking water** deprivations which are discussed further below, and are likely to be important factors given the high rates of children that have experienced an episode of diarrhoea in the last 30 days, reported in Table 14.

The impact of the BISP on child nutrition is discussed in Section 5.3.

4.4.3 Deprivations in living standards

Figure 13 reports that 42% of BISP beneficiary households are deprived in terms of **sanitation**, not having an improved toilet that meets MDG standards within their household, whilst 15% of BISP beneficiary households do not have access to adequate sources of clean **drinking water**. Poor sanitation and lack of access to safe drinking water can lead to disease particularly for vulnerable younger members of the households. For example *UNDP (2006)* estimates that a lack of access to

[26] 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).*

safe drinking water costs 443 million school days worldwide per year, whilst a deworming programme in Kenya boosted primary school participation by 7.5% in areas exposed to unsafe water (*Miguel and Kremer, 2004*)

Flooring reflects the quality of housing in which beneficiary households live, with a household being deprived in this indicator if the floor of the household is made of earth. Over 70% of beneficiaries are deprived in this indicator in 2014 providing a rudimentary indication of the poor quality of housing affordable to them. The large deprivations against **cooking fuel** are also indicative of the poor quality of housing. Furthermore, chronic conditions in children, like asthma, can result from exposure to unsafe cooking fuels (*WHO, 2006*).

4.5 Beneficiary households reduce reliance on casual labour

BISP beneficiary households continue to be characterised by a **high rate of dependence on casual labour** as the main source of income, with a third of beneficiary households reporting this as the main source of income.

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)*.

However, we find that this rate of dependence is falling, with over 50% of beneficiary households having been predominantly reliant on casual labour at baseline. We now find that beneficiary households are beginning to rely on other income generating activities including small businesses and the self-production of cash and food crops.

Table 15 Main source of income: beneficiary trends

	All beneficiaries				BISP beneficiaries with poverty score <11.17			
	2011	2013	2014	N	2011	2013	2014	N
Proportion of households whose main income source is								
Casual labour	51	47***	36***	2781	50	47*	37***	1676
Salary	16	15	16	2781	15	17	16	1676
Cash crop	9	8	7***	2781	12	10	9*	1676
Small business	8	11**	12***	2781	5	8**	10**	1676
Food crop	6	5	10***	2781	8	5	13	1676
Remittances	4	7***	9***	2781	3	5**	8***	1676
Petty/skilled trading	3	3	5***	2781	2	1	3	1676
Other	3	4	4	2781	5	7	4	1676

Source: BISP impact evaluation surveys (2011 - 2014). **Notes**: (1) Asterisks (*) indicate that a change since baseline survey round is statistically significant: *** p < .01; ** p < .05; * p < .10

The qualitative research notes that a vast majority of respondents asserted that real wages, particularly in casual labour had declined over time, which may help to explain this shift over the survey period. The cited that the demand for casual labour had fallen, causing a fall in real wages.

"Today we have inflation and unemployment - because of this we are getting poorer every day".
(Male beneficiaries, Livelihood Matrix, Lasbela, Balochistan)

Part D: Second Round Impact Evaluation Results

5 Poverty, nutrition and material welfare

In this section we present findings related to poverty, nutrition and material welfare the key findings are:

- We find that the BISP continues to have a statistically significant impact on reducing poverty for the RD treatment group
- We find some limited impact of the BISP on increased overall food consumption
- We find robust impact of the BISP on the frequency of consumption of specific food items
- We find that the BISP is having a statistically significant impact on lowering rates of long term malnutrition, but only for girls
- The BISP is having a positive impact on the ownership of some household assets in particular bicycles

Poverty and nutrition relate to the core objectives of the BISP, which was initially designed with the immediate objective to **cushion the negative effects of food inflation on the poor**. Additionally the programme has longer term objectives to provide a minimum income package to the poor to **protect the vul-nerable population against chronic and transient poverty**.

5.1 Poverty and household food consumption

5.1.1 Poverty

The BISP cash transfer is expected to reduce poverty by providing a regular and reliable cash injection that provides an additional source of household income. Income is difficult to measure accurately and is subject to short-term volatility relating to the availability of work and seasonality. As a result it is standard for surveys in Pakistan (such as the Pakistan Living Standards Measurement Survey) to estimate consumption expenditure instead, which gives **monthly household consumption expenditure per adult equivalent as the standard proxy for household welfare**[27].

We find that the **BISP cash transfer continues to have a statistically significant impact in terms of reducing poverty rates** observed amongst BISP beneficiary households in the RD treatment sample. Overall the RD results suggest that the BISP has led to the proportion of those households closest to the BISP eligibility threshold living underneath the poverty line to decline by 19 percentage points relative to the RD control group.

Across the provinces we find evidence that the BISP is **reducing poverty amongst BISP beneficiaries in the RD treatment group in Punjab** but not the other provinces. This, however, may be as a result of the reduced sample sizes across the Provinces as compared to the Pakistan (and indeed the Punjab) sample.

[27] We follow the Pakistan Bureau of Statistics method for the calculation of per adult equivalent monthly consumption expenditure. Details of this calculation are provided in Annex F.

Table 16 Household consumption expenditure and poverty: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Mean household consumption expenditure per adult equivalent							
Pakistan	1,943	2,437	1,235	1,928	2,393	1,370	156
Punjab	1,860	2,459	508	1,818	2,507	462	262
Sindh	2,040	2,546	342	2,003	2,373	435	324
KP	2,087	2,440	260	2,020	2,345	426	-161
Proportion of population below poverty line							
Pakistan	49	27	1,235	53	27	1,370	-19*
Punjab	54	27	508	59	23	462	-27*
Sindh	44	24	342	47	28	435	-21
KP	41	24	260	48	25	426	-6
Poverty gap (%)							
Pakistan	10	5	1,235	10	4	1,370	-3*
Punjab	11	5	508	12	3	462	-3**
Sindh	9	4	342	9	5	435	-4
KP	8	4	260	8	4	426	-2
Mean household consumption expenditure per adult equivalent (pre-ramadan sample)	1,953	2,417	1,063	1,931	2,359	1,135	192
Proportion of population below poverty line (pre-ramadan sample)	49	28	1,063	52	28	1,135	-16*

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

Whilst Table 16 suggests the expected direction of impact of the BISP on per adult equivalent consumption expenditure we do not find that this is statistically significant. This may be because the sample is underpowered to detect impact in relatively small shifts in consumption expenditure[28].

5.1.2 Household food consumption

The qualitative research reports that the BISP cash continues to be largely spent on increasing the quantity and quality of food intake in beneficiary households. It is interesting to note that many **BISP beneficiaries view the diet of BISP beneficiary households to be as good as an average household** in areas visited by the qualitative field teams.

"Food quality has definitely improved since BISP. My wife gives the children a more balanced diet which is also evident from the health of our family. She has also started to buy fresh milk for our

[28] Although these small shifts in consumption expenditure are sufficient to induce larger changes in poverty given that high proportions of beneficiaries who had baseline consumption levels just below the poverty line relevant to this survey of PKR 1,822 per adult equivalent per month

son, otherwise the poor fellow was growing up on black tea". (In-depth interview, Beneficiary Household Male, Rural Kohat, KPK)

"BISP is a major support for poor households. In our village, there were families who were so poor that they did not manage to eat three meals a day. Now they not only eat well but also look quite happy". (Non-beneficiary households men FGD, Rural Rahim Yar Khan, Punjab)

Most of the timeline respondents (19 out of 24 respondents) stressed that the transfer of BISP cash had brought out a significant improvement in their food intake. However, some respondents also stated that **increasing food prices were reducing the positive impacts of the BISP** and many beneficiaries were still struggling to make ends meet, in spite of the income support.

Table 17 provides some limited support for the findings of the qualitative research. We find that the **BISP has had a statistically significant impact on increased food consumption expenditure for beneficiaries in Punjab** in the RD treatment sample.

Overall whilst we do not find that the BISP has had a statistically significant impact on food consumption expenditure when the RD evaluation bandwidth is restricted to +/- 5 points around the eligibility threshold, once this is relaxed to larger bandwidths[29] we do find that an impact of the BISP for all BISP beneficiaries within the RD evaluation sample.

Table 17 Household food consumption: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Mean household food consumption expenditure per adult equivalent							
Pakistan	1,122	1,285	1,235	1,108	1,281	1,370	144 (NR)[30]
Punjab	1,075	1,255	508	1,047	1,289	462	271*
Sindh	1,204	1,399	342	1,177	1,331	435	148
KP	1,190	1,262	260	1,131	1,256	426	-131
Number of days in the last seven that the household consumed…							
Wheat	6.83	6.71	1,235	6.95	6.64	1,370	0.19
Rice	1.93	2.11	1,235	2.14	2.24	1,370	0.04
Maize	0.10	0.04	1,235	0.16	0.04	1,370	0.13
Fruit	0.58	1.01	1,235	0.53	1.07	1,370	0.71*
Vegetables	4.58	4.02	1,235	4.89	4,52	1,370	-0.40
Mutton	0.03	0.03	1,235	0.04	0.05	1,370	0.13*
Beef	0.24	0.25	1,235	0.27	0.27	1,370	-0.15
Chicken	0.45	0.45	1,235	0.35	0.45	1,370	0.68
Fish	0.14	0.08	1,235	0.12	0.08	1,370	-0.02
Milk	6.02	6.10	1,235	6.23	6.28	1,370	-0.16
Egg	0.87	1.05	1,235	0.78	0.86	1,370	0.72
Mean household food consumption expenditure per adult equivalent (pre-ramadan sample)	1,128	1,276	1,063	1,112	1,268	1,135	164 (NR)

[29] Of +/-6.5 points and higher – see Table 30 in Annex B

[30] We suggest that there is weak evidence of an impact on food consumption expenditure as whilst we do not find a statistically significant impact at a bandwidth of +/- 5 points, we do find statistically significant impacts at larger RD bandwidths – see Table 30 in Annex B

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

Furthermore we do find that the BISP has had a **statistically significant impact on the frequency of consumption of two food items: mutton and fruits**. This suggests that the BISP is playing some role in allowing beneficiary households to consume foods that they would otherwise not.

5.1.3 Components of non-food consumption

To further investigate whether there is an impact on consumption expenditure Table 18 presents the estimates of impact on the major components of non-food consumption expenditure. This analysis suggests that the BISP is only having a statistically significant positive impact on one item of non-food consumption *Housing Expenses*, which includes an imputation of the value of rent, as well as expenditures on repairs and general maintenance to the household.

Table 18 Non-food per adult equivalent consumption expenditure: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Total per adult equivalent consumption expenditure on … (PKR)							
Health	61	112	1,235	67	115	1,370	-10
Education	34	57	1,235	33	62	1,370	3
Housing expenses	202	181	1,235	202	209	1,370	56*
Transport	56	129	1,235	60	121	1,370	-3
Cleaning	89	93	1,235	90	88	1,370	8
Apparel	104	147	1,235	102	150	1,370	-3
Recreation	4	7	1,235	4	5	1,370	-2

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

This impact was also noted during the first impact evaluation report, and may be explained by the way in which the cash transfer is delivered in quarterly payments, which may facilitate expenditure on “lumpy” items.

5.2 A note on seasonality

Unavoidably the 2014 survey was interrupted during the holy month of Ramadan. Ideally all fieldwork would have been completed before Ramadan. However, in the event this was not possible and it was necessary to complete 14% of the sample in August/September of 2014 after the Eid festival.

This can be problematic as the accurate measurement of food consumption expenditure over time requires that the various rounds of survey be conducted at the same time of year. This is because

consumption expenditure can vary depending on the season. Thus if the same surveying schedule is not adhered to it can become difficult to distinguish between the effects of an intervention such as the BISP and effects of a change in seasons.

To account for this we also report the impact of the BISP on consumption expenditure and food consumption expenditure for only the pre-Ramadan sample. These are reported in Table 16 and Table 17 as well as the sensitivity tables presented in Annex B. We find that the reported results remain robust to the restriction to just households in the pre-Ramadan sample.

5.3 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.

Given that Section 4.4.3 reports that beneficiary households continue to face deprivations in some of these indicators it is unsurprising that we find in Table 19 **levels of wasting and stunting at levels the WHO would classify as signifying an on-going crisis in terms of child nutrition**[31]

Table 19 reports that the BISP is having a statistically significant **impact reducing the proportion of girls in the RD treatment sample who are stunted**. Stunting is a measurement of chronic (long-term) nutrition status, and thus for the BISP to have an impact on this indicator it must support improved nutrition outcomes for a child over a long period of time. Given that 56% of BISP beneficiary children (those aged 36 months and younger at the time of the 2014 survey) have grown up their entire lives living in BISP beneficiary households it is not surprising that we see an impact on this indicator.

Table 19 Child nutrition: impact estimates

	Control			Treatment			RDD impact estimate (cross-section)
	2011	2014	N	2011	2014	N	
Proportion of children aged 0-59 months stunted							
Total	37	43	1470	43	40	1838	-2.6
Male	34	43	740	39	41	959	-1.4
Female	41	43	730	42	43	879	-4.4*
Proportion of children aged 0-59 months wasted							
Total	16	23	1470	18	21	1838	1.4
Male	17	23	740	20	22	959	0.3
Female	15	24	730	16	21	879	2.7
Proportion of children aged 0-59 months underweight							
Total	32	39	1470	37	39	1838	0.3
Male	30	39	740	34	38	959	0.4
Female	34	38	730	40	41	879	0.2

[31] 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).*

	Control			Treatment			RDD impact estimate (cross-section)
	2011	2014	N	2011	2014	N	

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

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.

5.4 Material welfare

In addition to spending income on food consumption and child nutrition BISP beneficiary households also can spend money on the purchase of household assets. During the quantitative survey we asked households whether they owned a range of different household assets including those presented in Table 20.

Table 20 Household assets: impact assets

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of households that own at least one…							
TV	35.7	42.3	1,235	32.0	42.6	1,370	-4.4
Sewing machine	27.1	37.5	1,235	27.3	37.3	1,370	6.2
Bicycle	27.0	24.9	1,235	25.6	25.9	1,370	1.4***
Cooking stove	18.9	24.9	1,235	17.5	22.4	1,370	-0.9
Washing Machine	22.2	35.6	1,235	23.1	36.1	1,370	-3.4

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

We find that the BISP has had a **positive effect on the proportion of BISP beneficiary households in the RD treatment sample that own a bicycle**. Bicycles are a particularly important type of household asset as they are an important means of transportation and can in some cases facilitate productive activities.

6 Women's empowerment

This section explores the potential role of the BISP cash transfer in enabling female empowerment. It draws mostly from qualitative data collected from empowerment research exercises (participatory FGDs) with beneficiary and non-beneficiary women; as well as other interviews with men and women in sampled communities.

Key findings

- Female respondents viewed a supportive family, stable income, assets and education as key determinants of empowerment.
- Our data suggests an overall positive impact of BISP on female empowerment:
  - Traditional roles and responsibilities for females have not changed; but beneficiary women are accorded higher status and greater respect inside and outside the household.
  - The impact on female mobility is mixed – a switch to ATMs has reduced the need for women to step outside, although this holds more strongly for rural areas.
  - Beneficiary women report greater bargaining power in household decision making, higher mobility, and more control over household expenditure.
  - Our data suggests that beneficiary women's greater agency enabled them to better access health and education services compared to non-beneficiary women.

6.1 Understanding empowerment

Female empowerment is understood here as a process of transformation in the 'structures' that affect women's possibilities, and an associated strengthening of women's capacities to express their agency (see Kabeer, 2001). Alsop and Heinsohn (2005) also emphasise the importance that such acts of agency culminate in desired outcomes for women. The literature describes

- **Agency** as a process of making strategic choices and actions. Agency is commonly[32] understood as underpinned by as set of asset endowments: social assets (relationships, networks, collective action, etc.), human assets (knowledge, skills, imagination, etc.), economic assets (land, finance, capital, etc.) and psychological assets (confidence, self-esteem, trust, etc.).

- **Structure** as constituted by the formal and informal institutions that prevail in situated contexts, such as social norms (discourses and practices around gender), legal frameworks and public sector entitlements. These structures frame women's capacities for agency, including their access to the asset endowments outlined above. Such structures also affect the possibility of using one's agency to achieve desired outcomes (Alsop & Heinsohn, 2005).

As this suggests, *structure and agency are interrelated processes*. Expressions of agency, particularly when they confront dominant social norms, can gradually transform social structures. Conversely, transformations of structures (such as questioning of social norms or development of new legislation that promotes gender equity) can enhance women's possibilities and enable their expression of agency.

[32] For example Kabeer 2002, and the World Bank framework for measuring empowerment (Alsop and Heinsohn 2005).

We hypothesise that an UCT such as the BISP **will increase female empowerment through its potential effects on agency and structure if:**

- The BISP may lead to **changes in asset endowments** which determine agency:
  - Increases in **economic assets** – as money is saved or spent on household and individual asset accumulation controlled by women;
  - Increases **human assets** – as money is spent on improving skills and girls' education as well as greater food intake and better health care for women; and
  - Increases **psychological assets** – as being named a beneficiary improves social status and controlling cash improves self-esteem

- The BISP may lead to **changes in (opportunity) structures** which condition female agency:
  - Changes **family relations** – either positive (if cash eases financial burdens) or negative (if men retaliate against perceived independence);
  - Changes in **social norms around mobility** – either positive (if it is culturally appropriate for women to collect cash themselves) or negative (if collecting case reinforces perceptions of 'bad character' women leaving the home); and
  - Changes in **women's roles and responsibilities** – either positive (if women are seen as contributors to household income) or negative (if cash induces a double burden of child care and financial responsibility).

Changes in asset endowments and structures are **mutually reinforcing** – greater economic assets for example can improve martial relations. The intended positive impact on female empowerment is manifested in improved outcomes for women, including greater access to resources, greater bargaining power and improved education (for girls), health and psychological well-being.

6.2 How BISP affects agency through asset endowments

If the BISP Is to affect agency of women, then a key first assumption is that **women retain control over the cash transfer** itself. This first condition appears to be mostly satisfied with Section 3.6 reporting that almost three quarters of women are the key decision makers over how the cash is spent, though there is regional variation in this finding.

The data from the qualitative research suggests that the **cash transfer has increased the freedom of choice of women with regards to personal expenditure**. In some cases the BISP cash appeared to be used to increase the scale of economic activities; however, this only appears to be applicable to women who were economically active *before* becoming BISP beneficiaries.

6.2.1 Access to and the use of cash

Here we explore the access to and use of money from a gendered perspective. In the first instance Table 21 suggests that the BISP has had a **positive impact on the ability of female beneficiaries to easily access cash up to amounts of PKR 600** as compared to non-beneficiaries. This reinforces the notion that the majority of beneficiaries have retained control over how the cash that is transferred by BISP is actually spent (see Section 3.6)

Table 21 Women's access to money: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of women who report that they can easily access…							
PKR 100	68	86	1,099	66	87	1,379	15.2*
PKR 200	68	86	1,099	66	87	1,379	27.5**
PKR 400	40	55	1,099	33	59	1,379	36.1***
PKR 600	28	46	1,099	24	49	1,379	20.5*
PKR 800	22	41	1,099	18	43	1,379	13.1
PKR 1,000	20	40	1,099	17	41	1,379	11.7

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

Meeting personal needs: A large number of female beneficiaries stated that they had complete control over the BISP cash and only gave the money to their husbands or other family members in times of crisis. This was in stark contrast to non-beneficiaries (who were not economically active) as they were completely dependent on their husbands for giving them cash for meeting personal needs (mostly buying clothes, shoes, and other articles of daily need).

This increased women's freedom of choice with regards to spending their money and also provided them with a personal source of income: the latter is especially relevant in scenarios where women were prohibited from working for cash. Moreover, a number of respondents were also spending the money to seek treatment for various ailments.

"We have started to enjoy our lives after getting BISP money. We spend the cash on buying clothes and shoes. We give the money to our husbands only if they need it. This is our money."
(Woman IDI Respondent, Thatta, Sindh)

Meeting household and children's needs: Raising children and looking after their needs was described as the primary responsibility of women by almost all the respondents. Therefore, it is **understandable that a significant number of BISP beneficiaries were using their money to meet their children's needs**. In this regard, most of the money was spent on children's medical treatment, paying school fees, pocket money (for school going children), and buying stationery and books.

BISP beneficiaries were also able to buy food items for their children which they could not afford in the past. For instance, a participant from Thatta informed us that during her last visit to the market she was able to buy mangoes for her children and family. She further revealed that she was not able to buy fruit for her children in the past because her husband barely earned enough to meet basic nutrition needs of the family. Similarly, a discussion group from Nawabshah added that after becoming BISP beneficiaries their responsibilities towards their children had multiplied as men had stopped giving them money to meet children's educational needs.

"When we get the cash and spend it on our children then this makes our husbands and children happy. It also increases our status and respect in the community. If we do not do this then people will say; Look! Now they have money and they are hiding it…even from their families."
(Empowerment Exercise Participant, Tharparkar, Sindh)

The additional support provided to women appears to have had an inter-generational effect in terms of nutrition. Section 0 describes that the receipt of BISP cash has led to a statistically significant decrease in the proportion of children who suffer from chronic malnutrition.

6.2.2 Expansion of economic ventures

Expansion of economic ventures: In some cases, women who were economically active (before becoming BISP beneficiaries) used the cash for expanding their economic activities. For instance, women in Thatta had started making *chatais* (mats) to earn money and supplement their household income. After becoming BISP beneficiaries, these respondents had begun to invest their cash in buying more raw materials for the mats which consequently helped them in making more money.

However, it should be noted that Section 7 does not find any evidence that the BISP cash transfer has increased the likelihood of women becoming economically active.

6.3 Has the BISP changed structures affecting female agency?

6.3.1 Norms around household roles and responsibilities

It is widely asserted that women in Pakistan, especially those in rural areas, live their lives in a patriarchal set-up characterized by a strict dichotomy between male and female roles (ADB, 2000). In this regard, female roles are mostly confined to the domestic sphere whereby their mobility and economic activities are regulated by male family members. Even within predominantly agrarian communities, there is a clear division of roles by gender in farming and livestock rearing see (see Box 2).

Box 2 Division of roles between genders in agriculture

Women from Tharparkar said that agricultural activities in their area started after the start of the rainy season. During this time, women were asked by their men to help them out with agricultural activities. A similar pattern of female work was reported by respondents in Mansehra whereby women were involved in supporting their men in agricultural activities whenever extra labour was required.

The strict dichotomy of male and female roles is exemplified by cattle sharing in rural Nawabshah. Cattle were bought by a family on a sharing basis. Women were responsible for looking after the cattle; after the sale of the cattle, head women were given a share of the profit in return for their services. In fact, women regarded cattle sharing as a distinctly female activity because of their involvement in livestock rearing. However, in spite of considerable female engagement, the selection of the animal and the monetary transactions for buying or selling the animal were done by the males in the family. This neatly divided the male and female roles between domestic and outside spheres and was therefore an extension of the patriarchal family structure instituted in Pakistan.

Our data supports these widely held views: female research participants spoke of their adherence to the dominant patriarchal framework. In line with Pakistani culture and norms, women in BISP communities are largely bound by traditional roles and responsibilities assigned mostly by gender. When asked about their daily roles and responsibilities, female respondents (both beneficiaries and non-beneficiaries) mostly listed domestic chores (cleaning, cooking) and child care as their primary responsibilities.

It is interesting to note that the majority of the tasks mentioned by the women did not require them to step out of the domestic space, while tasks that did require women to step out of their homes often required their husband's permission before going out of the house (we discuss the issue of women's mobility later).

The qualitative research did not find evidence that BISP has contributed to changes women's household roles or responsibilities per se. However, as we explain below, the cash transfer has often helped to enhance female beneficiaries' influence over household decision making, including expenditures.

6.3.2 Women's status in the family and community

Although, women's roles and responsibilities remained more or less the same for beneficiary and non-beneficiary women, there was a notable change in the status of female beneficiaries in the family and community. **This change in status was recognised by almost all respondents, and was directly attributed to their receipt of the BISP cash transfer**.

"BISP women are definitely given more importance in their families. Who does not like to hold a hand which has cash in it? These women bring home cash so everyone looks up to them." (Non-Beneficiary Households Men FGD, Rural Rahim Yar Khan, Punjab)

"Now I am given more importance in the family because I receive BISP money. My husband and in-laws see the change that has come after BISP and my children show me more love because I have money which I spend on their needs." (Beneficiary Female Respondent IDI, Rural Nawabshah, KPK)

These quotes highlight that where women's have experienced a change in status, this has been has been underpinned by their access to money (through BISP). Status is in itself a psychological and social asset, which is both indicative of and enables women's empowerment in relation to their husbands and wider household members. For some women, moreover, these assets have helped to enhance their influence over household decisions, which we discuss in the section below.

6.3.3 Social norms around women's mobility

The structural constraints on many women's capacity to make decisions on BISP expenditure beyond traditional female spheres (as outlined above) to some degree relates to constraints on female mobility.

The qualitative research findings suggest that BISP has (in some locations) increased women's mobility at the community level. While the shift to the ATM system for BISP disbursement has often promoted male collection of the cash transfer; many women beneficiaries explained that their redefined status, control over cash, wider exposure and confidence has made a difference to their mobility.

This change was particularly indicated in interviews with men: in most communities, **men from beneficiary households appeared to be more accepting compared to non-beneficiary men towards women going out of the house**. In Sindh and Punjab, there were even indications that this acceptance has started to extend to non-beneficiary women: men from non-beneficiary households explained that thdeir wives sometimes accompany beneficiary women when they go out (of villages) for cash collection or shopping.

"BISP women are more mobile as they have to go out of the house to collect their money. People in the area don't mind because we know that it is part of the programme." (Non-Beneficiary Household Men FGD, Rural Nawabshah, Sindh)

On the other hand, the shift from post office disbursement to Debit cards has rarely promoted women's mobility directly: but rather a trend of men travelling to collect the cash

transfer, especially in remote rural areas. This implies that while there are some positive externalities of the debit card system for women's mobility (as outlined above) the BISP disbursement mechanism no longer presents a direct opportunity to increase female mobility.

6.4 Has the BISP led to positive outcomes for women?

6.4.1 Household decision making

In discussion of changes in women's influence over household decision making over the period since BISP commenced, **the qualitative research found a notable difference between female beneficiaries and non-beneficiaries**.

Respondents indicated that a significant number of **female beneficiaries had gained greater bargaining power in the family after they had started to receive BISP cash**. They explained that this is because BISP has provided them with an independent source of money, which has both enhanced their status in the household, and provided them with a form of income (financial asset) over which they have a level of control. As a result, the research found that beneficiary women were in a much stronger position as compared to non-beneficiaries to assert themselves regarding decisions on food consumption, the education of children and family health needs. This suggests that by providing women with an independent source of money, BISP has contributed to a change in women's capacity to exercise their agency at the household level.

Moreover, this finding suggests that the **BISP has contributed to a shift in *informal institutions* (gendered norms) in beneficiary households**, such that women's relational possibilities (influence, status) have changed to some degree. This change in informal institutions was particularly clear in discussions with male beneficiaries: a number of husbands expressed their growing trust in their wives' capabilities with regard to household decision making, including on children's education and health. This male recognition and trust in their wives' capacities for decision making is a particularly clear indication of institutional change, and suggests a form of empowering change that may be sustained beyond the duration of BISP. In a few instances, men explained that they have gradually started to hand over their own income to their wives, after assessing her positive management of BISP cash.

"Now I give my income to my wife as well because she is the one who runs the house and knows better than me where to spend the money appropriately." (Male In-depth Interview, Urban Chakwal, Punjab)

6.4.2 Intra-household relations

The qualitative research suggests that **BISP cash transfer has had a significant role in transforming beneficiary women's status in the household** including their relationships with their husbands, children, in-laws and other extended family members. Data from both beneficiary households' men and women indicates lesser domestic disputes. Husbands of beneficiary women in noticeable number of focus groups said that after BISP money their wives were less demanding resulting in lesser arguments and disputes.

"Now my wife fights less with me. Most of the time, domestic disputes in poor families like ours are mostly because of money. After BISP she has her own money and doesn't bother me that much." (Focus Group Discussion, Men Beneficiary Households, Rural Kohat, KPK)

Many men participants from beneficiary households also felt that **BISP cash transfer had decreased their economic pressures and improved the home environment** as their wives and children were happier, therefore they were relatively stress free compared to before.

"After BISP my wife and children are happier because their needs are being fulfilled to quite an extent. So I also feel happier and more relaxed." (Focus Group Discussion, Male Beneficiary Household, Rural Nawabshah, Sindh)

Qualitative data also indicates beneficiary women's improved relations with their in-laws and children. In-depth interviews with BISP beneficiary women reveal that children gave more importance and respect to their mothers as they spent money for their specific needs. Similarly, in majority cases respondents said that their in-laws were also more accepting and supportive because BISP cash was mostly spent on household food and other needs which benefited everyone.

6.4.3 Voting

Pakistan has low political participation of women, with most women casting their votes on the choice of their husbands and other male family members. In all 24 communities visited during the qualitative research most respondents noted that ***female*** **voter participation was much higher in the 2013 general elections, partly because of the BISP**.

Women must be in possession of a valid CNIC to access the BISP, which is also required to vote in elections. Whether it is through the channel of the BISP cash or the requirement for a CNIC to access the BISP Table 22 indicates that the BISP is having a statistically significant **impact in terms of reducing the proportion of BISP beneficiary women in the RD treatment sample who report that they never vote**.

Table 22 Women's ability to vote: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of women who report that they never vote							
Pakistan	41	24	1,099	41	14	1,379	-19.5**
Punjab	35	19	412	36	7	418	-31.5**
Sindh	31	21	284	24	9	472	-6.4
KP	68	39	253	67	29	432	-23.4

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

In KIIs and FGDs male participants indicated that this higher political participation of BISP beneficiaries resulted from higher awareness level and exposure to the 'outside world'. Several women in Punjab, Sindh and parts of KP indicated that they voted because they wanted to support a political party of their choice rather than the choice of male family member. This is significant as it relates to how BISP has affected female agency within households.

"BISP beneficiary women vote more than non-beneficiary women, because not only are they more aware, but also because they want to show their support and appreciation for a particular political party." (Beneficiary Household Men FGD, Rural Rahimyar Khan, Punjab

7 Livelihoods

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

- Casual labour continues to be the main livelihood source, a strategy characterised by low-returns and vulnerability to cyclical and seasonal fluctuations
- There is no evidence overall that the BISP is contributing to a significant shift in the type of livelihood strategy in which household engage, although there is some evidence of a substitution of male labour away from casual labour
- There is evidence the BISP is supporting the purchase of livestock
- There is no evidence that the BISP is supporting beneficiary households in their saving activity, nor is it supporting households to either decrease debt or take on new loans

Livelihoods refer to the capabilities, assets and activities required to generate a means of living or 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. In this section we focus on the human (in terms of labour), physical (in terms of livestock) and financial capital (in terms of savings). Individuals and households leverage these assets in income generating activities, or let other people use them, generating a return.

As is explored below households continue to rely on casual labour as the main source of household income, though this is declining. Casual labour is usually characterised as an activity that provides low returns and is vulnerable to cyclical and seasonal fluctuations:

"These days you don't get enough casual work and one has to go to far-away places and cities to find such work". (Male beneficiaries, Livelihood Matrix, Mansehra, KPK)

The extent to which a cash transfer, such as the BISP, can act as an agent of change to reduce this dependency depends on a number of factors including: the size of the transfer; the capabilities of the beneficiaries themselves; as well as interactions with the markets for labour, inputs, outputs and finance.

7.1 Main livelihood strategies

The **main livelihood strategy followed by households in the evaluation sample continues to be casual labour**, though the reliance has decreased in the period between the 2011 and 2014 surveys as demonstrated in Table 23.

Table 23 Household main livelihood source: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of households by main livelihood source							

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Casual Labour	48.9	39.3	1,235	51.1	33.8	1,370	-9.9
Salary	19.7	20.1	1,235	16.9	21.6	1,370	-2.1
Small business	7.1	12.0	1,235	7.0	11.8	1,370	5.3
Cash crop	6.5	6.4	1,235	6.8	6.1	1,370	-2.1
Food Crop	6.4	6.7	1,235	5.9	8.0	1,370	7.2
Remittance	5.0	7.3	1,235	5.4	10.2	1,370	5.0
Trading	2.2	4.7	1,235	3.3	4.2	1,370	-5.0

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

Overall, however, we find **no evidence that receipt of the BISP cash transfer has had an appreciable impact on the type of livelihood strategy adopted by the household**. Although unconditional cash transfers are hypothesised to facilitate market development and create entrepreneurial activity (through saving and productive investment opportunities); their impact is often limited by the size and frequency of the transfer.

When asked about the BISP's impact on the productive potential of households during the qualitative research a **majority of respondents stated that the cash transfer was not sizeable enough to facilitate entrepreneurial activities**. The money was primarily spent to meet the day to day domestic requirements of the beneficiaries and in most cases was expended immediately.

"We would have started a business if we had 50,000 or 100,000 rupees. How can you start a business with 3600 rupees?" (Female Key Informant, Rural Gujranwala, Punjab)

"There has been no change in labour and livelihood patterns in our area after the BISP cash transfer. Men get the money and give it to women who spend it as they want…… they spend the money to buy things for personal and family use or to meet their children's needs." (Male Key Informant, Rural Lasbella, Balochistan)

Whilst noting the considerable improvements made recently in the frequency of the transfer (see Section 3.2) some respondents in the qualitative research (in a few communities) also pointed out that the irregularity in the cash transfer prevented it from having a major impact on livelihoods

"What difference will this meagre amount make in terms of livelihoods? We only get 1000 rupees in one instalment and don't know when the next instalment will come. I don't think there has been any impact of BISP in terms of increasing livelihood opportunities or changing livelihood patterns. The money barely meets our regular household needs." (Male Key Informant, Rural Thatta, Sindh)

7.2 Labour participation

In addition to asking households about their main source of income the BISP evaluation surveys examined the labour participation rates[33] of all adult individuals within the household. We find **large gender discrepancies in participation in economic activities**, with over 80% of the men in both treatment and control groups economically active in 2014 as compared to just under a quarter of women. This reflects the norms around household roles and responsibilities identified in Section 6.3.

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

Table 24 Labour participation: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of working age adults (18-64) engaged in economically productive activities							
Total	59	59	4,738	59	54	4,981	-11.3*
Male	84	84	2,283	83	82	2,366	-18.6**
Female	25	24	2,455	27	23	2,615	-5.8
Proportion of prime working age adults (18-49) engaged in economically productive activities							
Total	60	61	3,308	54	55	3,764	-9
Male	87	90	1,614	82	85	1,807	-10.6
Female	32	34	1,694	30	29	1,957	-5.1
Proportion of working age men (18-64) who are engaged in….							
Self-employed	11	17	2,283	11	16	2,366	17.5*
Employee	21	21	2,283	18	24	2,366	5.0
Unpaid family helper	5	6	2,283	5	6	2,366	-3.3
Casual labourer	52	43	2,283	54	39	2,366	-26.2**
Owner-cultivator	2	4	2,283	2	3	2,366	2.1
Share-cropper	7	6	2,283	7	8	2,366	-3.9
Proportion of working age women (18-64) who are engaged in….							
Self-employed	23	31	2,455	23	27	2,615	-2.2
Employee	10	16	2,455	9	14	2,615	5.2
Unpaid family helper	18	5	2,455	21	5	2,615	-11.6
Casual labourer	44	40	2,455	39	41	2,615	27.9
Owner-cultivator	1	0	2,455	1	1	2,615	6.5
Share-cropper	3	3	2,455	3	3	2,615	-13.2

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

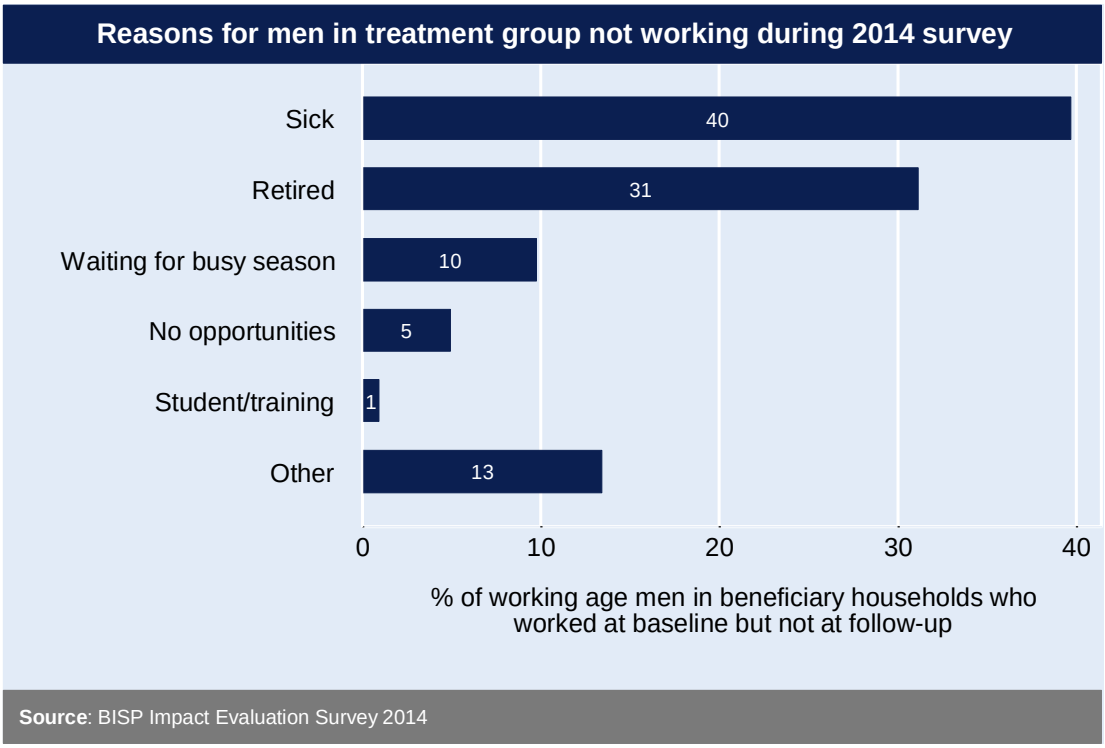
We find that the BISP has had a statistically significant effect on reducing the propensity of working age men in the RD treatment group to participate in the labour force, though this effect is not observed amongst working age women.

To understand the channels through which this observation might work it is useful to consider the self-reported reasons given by men in beneficiary households who were economically active at the time of the 2011 survey, but who were not working at the time of the 2014 survey. These reasons are reported in Figure 14.

By a distance the major self-reported reasons **given by men in beneficiary households for stopping labour participation across survey rounds are *sick* (40%) and *retired* (31%)**. This suggests that the BISP cash transfer may be enabling more vulnerable members of the household to reduce their labour participation.

To investigate whether this might have meaningful consequences for the measurement of impact of the BISP on male labour force participation we also **restrict the analysis to the sub-set of men who are of prime working age** (18-49 years old). When this sample of men is isolated we do not find that the BISP has a statistically significant effect on reducing labour force participation.

Figure 14 Reasons for working age men not working in 2014



Another potential channel observed in the qualitative research is the common observation by a vast majority of respondents that **real wages, especially in casual labour, had declined over time**.

"Today we have inflation and unemployment – because of this we are getting poorer every day" (Male beneficiaries, Livelihood Matrix, Lasbela, Balochistan)

In Sindh, respondents noted that the effects of the 2010 floods on the labour market still persisted in 2014. Due to the influx of displace people, the supply of labour, especially casual labour, had increased and wages have consequently declined.

"After the floods, many people migrated here so now there are more people willing to do casual labour but fewer opportunities" (Livelihood mapping, Male beneficiaries, District Thatta, Sindh)

Consequently the receipt of the BISP cash transfer into a household may have the effect of reducing the opportunity cost of not accepting casual labour in a climate of reducing real wages, particularly amongst the more vulnerable members of the household.

7.2.1 Male substitution between labour types

The results presented in Table 24 suggest that the **BISP has had the effect of inducing substitution away from casual labour towards self-employment for men 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 businesses or trading, or start to support existing household businesses. Indeed the qualitative research noted that in **a few cases the BISP cash had been used as**

working capital for small scale, artisanal activities or very small scale business activities such kiosks

The sustainability of such small scale activities, however, remains to be seen and explain why Table 23 does not see the BISP having a similar substitution effect on the dependence on casual labour at a household level.

Furthermore the analysis presented Table 23 suggests that casual labour continues to play an important role in generating income in BISP beneficiary households, as we do not find that the BISP has a statistically significant effect on reducing the dependence on casual labour as the main source of income for the household. Nonetheless the BISP does appear to be supporting some individual household members to move away from casual labour.

7.3 Livestock ownership

Despite the limited impact of the BISP in generating new livelihood opportunities at the community level the qualitative research noted that there were indications of investment in existing livelihoods. The qualitative research particularly highlighted the agrarian communities of Tharparkar, Nawabshah and Rahim Yar Khan where **men and women respondents reported buying livestock from BISP cash**. This can be seen as a productive investment as respondents in these communities relied on livestock rearing as their main source of income.

Table 25 Livestock ownership: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of households that own livestock							
Pakistan	45.7	43.9	1,235	45.8	47.4	1,370	15.5*
Punjab	51.5	42.5	508	46.1	45.0	462	22.3*
Sindh	35.3	45.4	342	43.9	52.1	435	-3.5
KP	46.0	41.8	260	46.4	45.2	426	-5.5
Mean value of livestock (Tropical Livestock Unit)							
Pakistan	0.46	0.45	1,235	0.40	0.48	1,370	0.13
Punjab	0.58	0.50	508	0.44	0.49	462	0.32*
Sindh	0.30	0.51	342	0.38	0.53	435	-0.09
KP	0.43	0.38	260	0.37	0.44	426	0.01

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

Table 25 validates this finding, demonstrating that the receipt of the BISP has had an impact in terms of **increasing the proportion of beneficiary households in the RD treatment group that own livestock in the Pakistan and Punjab samples**.

Closer inspection of Table 25 reveals that the proportion of households in the RD control sample who own livestock actually fell across survey rounds in both in the Pakistan and Punjab samples, whilst the proportion of households in the RD treatment sample that owned livestock saw only marginal increases in the Pakistan sample, and a slight decrease in the Punjab sample. This **suggests that the positive impact of the BISP cash transfer on ownership of livestock seems to reflect that the transfer had an asset protection function**, given the significant declines in ownership in the RD control group (particularly in Punjab).

This is significant both as livestock is both a productive investment, but also a store of value in the context of households with low financial access.

7.4 Finance

There is **potential for the BISP to have a significant impact on financial access**. The majority of BISP 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.

7.4.1 Savings

Savings enable households to cope with future household needs and unexpected shocks, as well as enabling productive investments. Poor households often lack the access to a secure means of saving contributing to them struggling to build up stores of welfare improving productive physical and human capital.

The results presented in Table 26 suggest that **there is a general trend for increased levels of saving over the evaluation period, but this is not attributable to the BISP**. This trend is observed across the provinces with the exception of Khyber Pakhtunkhwa.

Table 26 Finance: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of household with savings							
Pakistan	12	18	1,235	12	20	1,370	3.0
Punjab	10	16	508	12	20	1,370	5.1
Sindh	17	26	342	16	32	1,370	21.2
KP	10	11	260	9	8	1,370	-14.4
Proportion of household with current loans							
Pakistan	39	36	1,235	35	32	1,370	0.9
Punjab	44	39	508	39	33	462	-7.8
Sindh	33	33	342	33	33	435	-0.7
KP	40	36	260	33	31	426	21.5
Proportion of household who purchase on credit from shops							
Pakistan	35	44	1,235	41	50	1,370	-1.3
Punjab	28	45	508	33	53	462	-3.3
Sindh	33	38	342	39	41	435	14.7
KP	41	50	260	54	56	426	-18.8

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

7.4.2 Borrowing and purchases on credit

The receipt of a cash transfer could affect a households' financial behaviour in two ways:

- It could provide a safeguard in the case of negative shocks and protect households from the need to borrow in order to withstand the shock and consequently from the risk of falling into a vicious cycle of debt, where households take on expensive loans; or

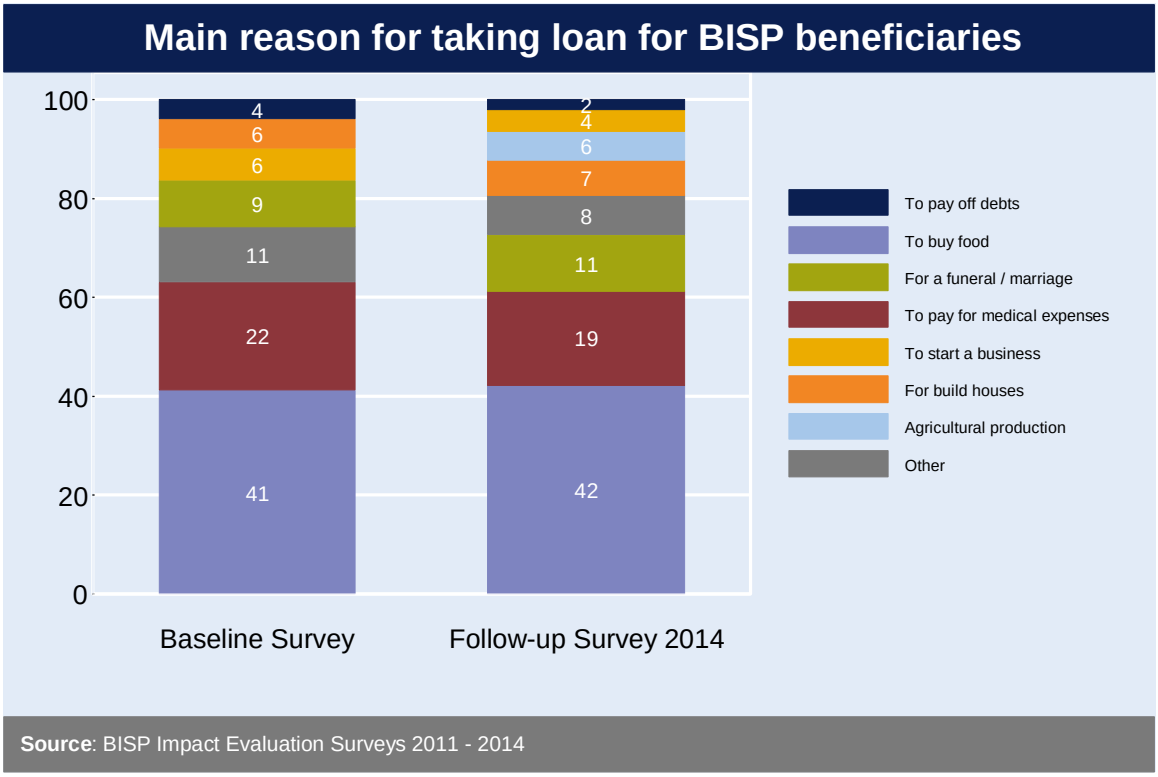
- Conversely the cash transfer because of its predictability could potentially be seen as collateral, enabling poor households to gain more access to credit which could afford them to make productive investments otherwise impossible to afford.

We find that the level of loan debt has remained fairly static over the evaluation period, whilst the proportion of households both in the RD control and treatment samples purchasing on credit has increased. Furthermore we find **no evidence that the BISP transfer is having an impact either on propensity to borrow or the propensity to purchase on credit**.

Figure 15 presents the main reasons why beneficiary households are taking on debt, and it is clear that the majority of beneficiary households appear to be continuing to use debt to finance current consumption. Whether this is **to buy food** or to **pay for medical expenses**.

Only a small proportion of households are using debt for productive purposes with just 4% of beneficiary households using debt to start businesses, and 6% of beneficiary households who use debt to finance agricultural production

Figure 15 Main reason for taking a loan or credit



Source: BISP Impact Evaluation Surveys 2011 - 2014

8 Education

In this section we present findings related to the impact of the BISP on education. The key findings are

- The qualitative research suggests that the majority of parents want education for their children, both boys and girls
- There is some evidence from the qualitative research that some parents are using the BISP cash transfers to support education for their children
- Overall we do not find that the BISP had led to an increase in the proportion of primary school aged children attending school
- The cost of education remains high relative to the value of the transfer
- Other supply side factors are also important in determining access to education, including those that cannot be addressed by a unconditional (or conditional) cash transfer

Education and the acquisition of skills are strongly influenced by both household-level factors and the wider environment, including the affordability of education, the access to and quality of education and the market demand for child labour.

Low education amongst children with poor parents has been found to be the single most important factor in the persistence of poverty. In many countries education correlates strongly with adult income and other markers of socio-economic status (*Aldaz-Carroll and Moran, 2001*). This is because education improves cognitive skills and can increase individual and productivity (*Aldaz-Carroll and Moran, 2001*).

The **qualitative research indicates that most respondents irrespective of their backgrounds were becoming aware of the importance of education, including female education**. This meant that the majority of respondents had expressed a keen interest in educating their children to facilitate the upward mobility both in social and economic contexts. A majority of respondents seemed to indicate that education was equally important for boys and girls:

"Education is a woman's jewellery. An educated woman can make the right choices for herself and her children. Educated women find good jobs in time of need". (Beneficiary Female Respondent, IDI, Mardan, KPK)

In some cases respondents noted that some BISP beneficiaries had begun to use the BISP cash to educate their children:

"Some BISP beneficiary household children now attend school. Before their parents just could not afford to send them to school because they did not have money to buy uniforms, shoes and books. It is very good and we are happy for them". (Non-beneficiary Male FGD, Rural Mardan, KPK)

"There has been a change in the way we spend BISP cash now. Before we would spend most of the money on food and clothes for the children. Now my wife plans where she will spend the money. She spends more on children's education needs and also saves a small amount for emergencies". (Beneficiary Households Men FGD, Rural Gujranwala, Punjab)

Table 27 Education: impact estimates

	Control			Treatment			RDD impact estimate (diff in disc)
	2011	2014	N	2011	2014	N	
Proportion of children aged 5-9 years old currently attending school							
Male	62	71	1,546	63	71	2,029	9.2
Female	59	67	1,393	56	62	1,740	-10.6
Proportion of children aged 5-12 years old currently attending school							
Male	66	74	1,546	68	75	2,029	1.7
Female	61	69	1,393	57	64	1,740	-6.1

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) Point estimates are weighted using triangular weights based on a bandwidth of +/- 5 points around threshold

However, despite the obvious desire for education amongst BISP beneficiaries Table 27 reports that **the BISP does not cause an increase in school enrolment** amongst children in BISP beneficiary households in either the 5-9 year old or 5-12 year old age group. In addition we find significant proportions of children in both age categories in the RD treatment sample, and particularly for girls who are not currently enrolled in school[34].

The potential for an unconditional cash transfer such as the BISP to have an impact on school enrolment depends crucially on two 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.

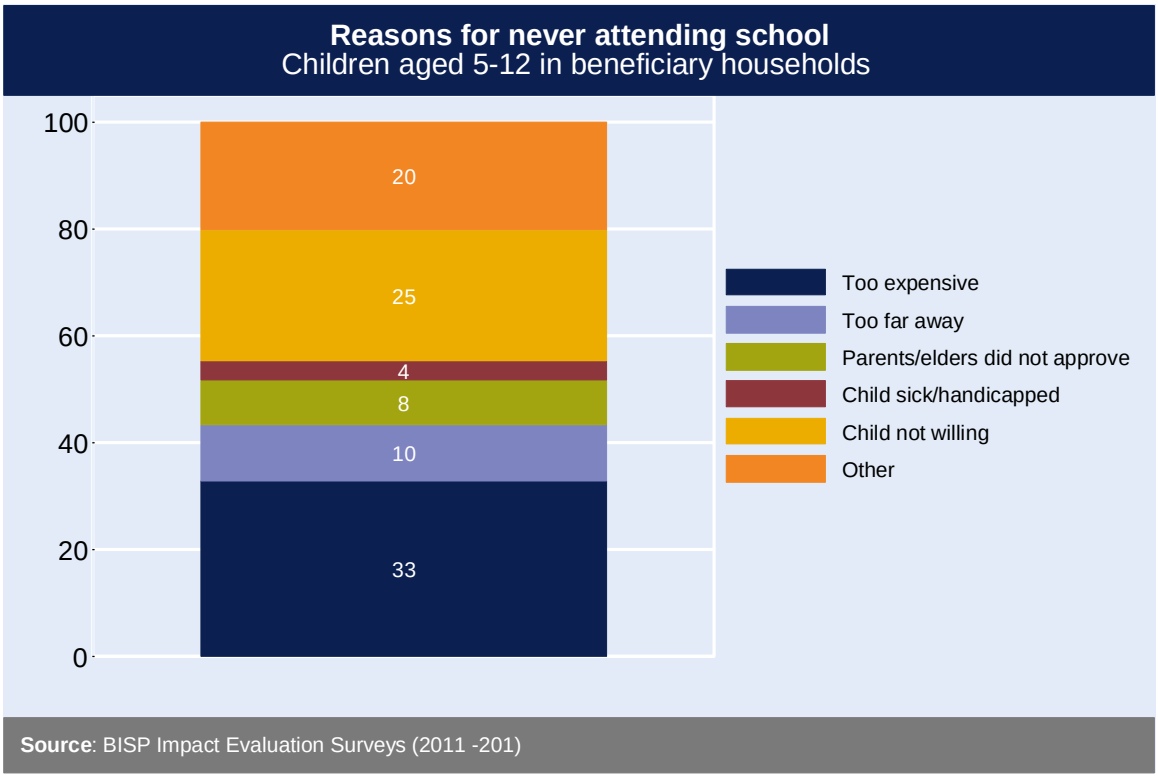
We demonstrate in Section 3.2.3 that the **value of the BISP cash transfer is relatively low** (a necessary consequence in the desire to ensure high coverage). Indeed *Pakistan Bureau of Statistics (2013)* notes that the average monthly expenditure per pupil on education for children attending government schools in rural areas was PKR 106[35], which would account for 59% of the per adult equivalent value of the transfer if the full amount is received in a year.

Figure 16 suggests that the **expense of education** remains the most common reason given by parents of beneficiary children for their non-enrolment in education, suggesting that the UCT component of the BISP has yet to alleviate this constraint on the demand for education.

This highlights the importance of complementary interventions such as the **Waseela-e-Taleem Programme** a Conditional Cash Transfer programme which began as a pilot in 5 districts 2012 and is since 2015 operational in 30 districts of Pakistan. The programme 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.

[34] The average for all beneficiary children in the 5-12 year old age group (i.e. not just those in the RD treatment sample) is even higher – 43% out of school (see Section 4.4.1)
[35] Expenditure includes on fees (admission, tuition, registration, examination, etc) as well as expenditure on uniforms, books and supplies, private tuition, transport, etc

Figure 16 Reasons given for children not attending school



However, it is well documented that Pakistan has historically **low allocations of expenditure towards the education sector**, with the Pakistan Education for All Report (*GoP, 2015)* noting that budgetary allocations were just 2% of GDP. The report notes that this has led to a **range of supply side weaknesses**, including:

- Shortage of schools especially for girls and in remote and far flung areas;
- Shortage and high absenteeism of teachers;
- A lack of qualified and trained teachers;
- Missing facilities such as water, toilets and boundary walls; and
- Weak supervision.

Furthermore, the report also highlights a host of other out-of-school factors such as insecurity and lawlessness; poverty; a series of natural disasters (including recent episodes of flooding and earthquakes which cause damage to school infrastructure); and the adjustment of bureaucratic systems to the requirements of the devolution of power to the provinces as a result of the 18th Amendment passed in 2011.

Neither an unconditional nor a conditional cash transfer in isolation can hope to overcome these constraints to improve the quantity (let alone quality) of education received by BISP beneficiary children. This highlights the importance of complementary investments by the Government of Pakistan if children in BISP beneficiary households are to have improved education outcomes, such as those made under the Chief Minister's Roadmap for Education in Punjab.

Given the range of supply side constraints faced in the delivery of education, it would seem appropriate to focus future development of education focussed complementary programmes, such as the Waseela-e-Taleem, in areas where the education sector has the absorptive capacity to take on new students from BISP beneficiary households.

Part E: Conclusion

9 Conclusion

A rigorous evaluation of the BISP is underway and this report represents its second 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 36 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 a second 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 Significant improvements in beneficiary experience with transfer

We find **significant improvements in the regularity and predictability of the BISP cash transfer in the period 2013-2014**, with beneficiaries now receiving what would be expected (noting that the evaluation survey cycle might not perfectly align with the BISP payment cycle). However, it should be noted that performance in Balochistan continues to lag behind the other provinces, despite the dramatic improvement observed there.

Furthermore we observe a dramatic **decline in the proportion of beneficiaries who report having to pay a fee to receive the cash transfer** down to just 17% of beneficiaries in 2014 as compared to 35% in 2013. However, those that continue to pay fees are reportedly doing so because of a **lack of knowledge of how to use the ATMs**, resulting in beneficiaries or their proxies having to pay a bank guard to support them.

Given the high rates of female illiteracy amongst beneficiaries this would suggest that providing outreach support to women beneficiaries in terms of how to use the ATMs would further reduce this cost to beneficiaries.

9.2 BISP continues to contribute 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.

We continue to find evidence that the **BISP is reducing both the incidence and depth of poverty** with the BISP inducing both the headcount ratio and the poverty gap amongst BISP beneficiary households in the RD treatment group.

Furthermore we find **weak evidence that the BISP is increasing food consumption expenditure** and **strong evidence that the BISP has reduce long-term malnutrition amongst girls** (aged 0-59 months) but not boys. Despite this success, however, we find rates of malnutrition amongst young girls and boys that are indicative of **a continued malnutrition crises**. These findings are consistent with the causes of child malnutrition being multi-dimensional, and chimes well with the findings of Section 4.4 that BISP beneficiary households face significant deprivations in access to adequate sanitation and drinking water.

We also find some **limited evidence of improvements to material welfare** with an increase in the proportion of BISP beneficiary households that own bicycles.

9.3 Some evidence of changing livelihoods

A consistent story over both the first and second impact evaluation reports of the BISP has been that the **BISP appears to be supporting adult male members to shift away from casual labour towards self-employment**. This is particularly encouraging as casual labour tends to be a livelihood strategy that is vulnerable to cyclical and seasonal fluctuations and can keep households locked in a cycle of poverty. We also find that the **BISP has increased the proportion of households that own livestock**, which the qualitative research would suggest is linked to this observed shift away from casual labour.

However, despite this the **BISP continues to not have an impact on increased savings or increased propensity to borrow** two activities that are usually closely linked with undertaking of higher risk but higher reward activities.

This is likely to relate to two factors: (1) the value of the transfer is set purposively low at 10% of per adult equivalent consumption expenditure; and (2) the low levels of access to financial services. Whilst the first factor would require significant additional investment on behalf of the government of Pakistan, the second factor could potentially be overcome by converting the BISP Debit Card accounts such that they could be used to deposit as well as withdraw cash. Combined with financial literacy training, potentially productive savings could be encouraged.

9.4 Still no impact on education

The potential for an unconditional transfer such as the BISP to have an impact on school enrolment depends crucially on two factors: (1) the **value of the transfer** relative to the cost of schooling; and (2) the **level of education service provision**. We have already seen that the value of the transfer is set fairly low, as we note in Section 8 that the average cost of educating a child in a government school would account for 59% of the per adult equivalent value of the transfer.

Given the importance of education in reducing the inter-generational transmission of poverty, it is therefore encouraging that the BISP is also engaging in a **Conditional Cash Transfer known as the Waseela-e-Taleem** which seeks to provide an additional stipend to children aged 5-12 years, conditional on their attendance at a government school.

However, the BISP should also be cognisant of the second crucial factor, the level of education service provision. As noted by the Pakistan Education for All Report (*GoP, 2015*) there are a range of supply side weaknesses in the education sector in Pakistan such as: shortage of school; shortage of teachers; lack of qualified teachers; missing facilities. In some provinces there are heavy investments in education, particularly in Punjab through the Chief Minister's Road Map for Education.

Nonetheless, the BISP should carefully consider supply side considerations in the role out of the Waseela-e-Taleem so as not to dilute the expected impact on education of this complementary programme and focus on areas in which the education sector has the absorptive capacity to take on new students from BISP beneficiary households.

9.5 Continued gains to women's empowerment

The qualitative research clearly indicates a **change in the status of women in beneficiary households**, with almost all women interviewed reporting that they are now being given more importance in the household as a direct result of the BISP.

Furthermore we find that the **majority of women continue to retain control over the transfer**, with 71% of women in 2014 deciding how the cash transfer is spent, up from 62% in 2013. This has contributed to women being given greater involvement in household decision making as well as increased control over how cash is spent for the household.

A new finding in the 2014 round is that the **BISP is increasing women's easy access to cash** of amounts up to PKR 600. This increased access to cash has been reported as facilitating women meeting both their own personal needs as well as supporting the needs of children and households, reducing dependence on their husbands for support.

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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 whilst in the main body of the report we present the results of just one bandwidth (+/- 5 points around the cut-off) we present the estimates of the discontinuity observed with a variety of bandwidths. This is presented in 0.

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 0:

- We test sensitivity of results to the choice of bandwidth. Results reported in the main report are based on a bandwidth of +/- 5 points around the cut-off. In 0 we also report estimates of the discontinuity at a variety of other bandwidths.
- 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 0 we report 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

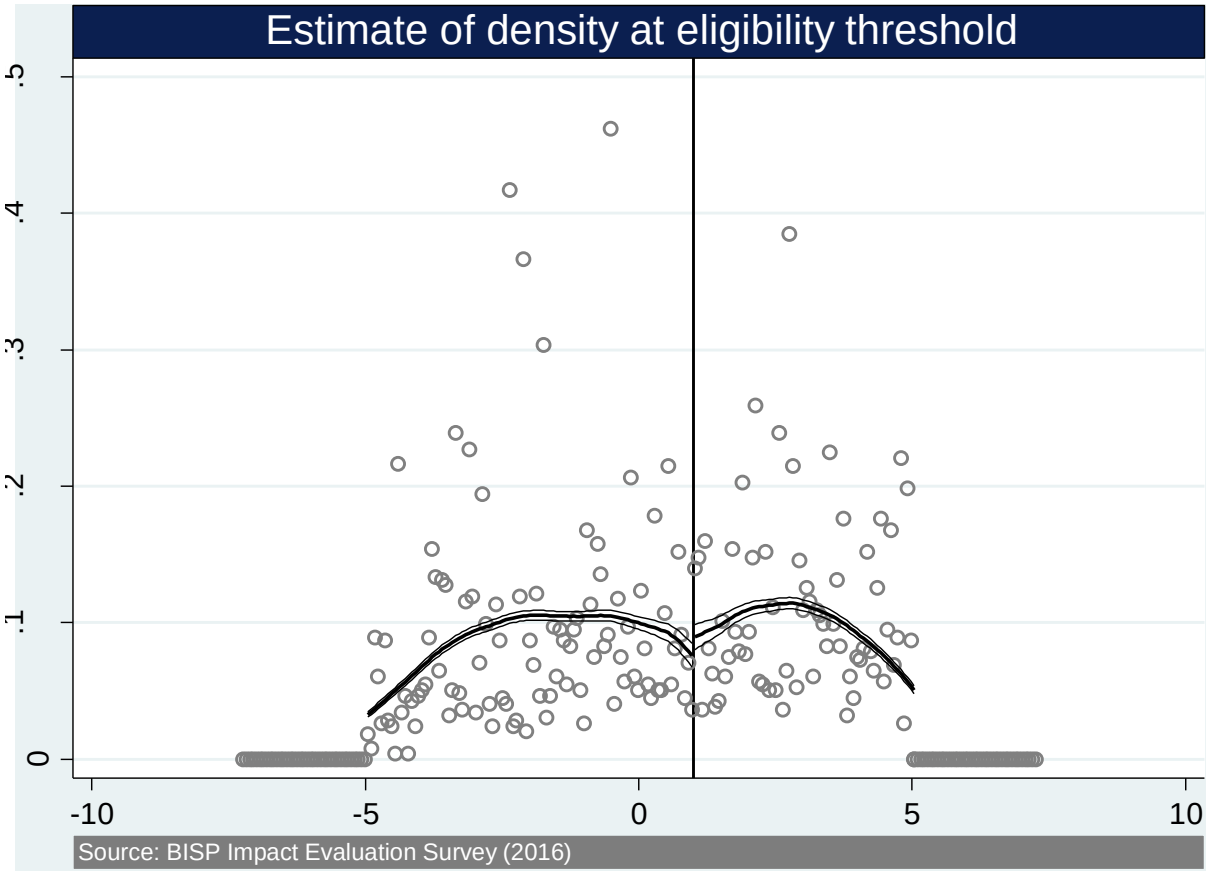
probability of receiving the BISP treatment. In order for this to hold we need to satisfy five assumptions, which are presented below:

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 17 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 17 Density of BISP poverty score at eligibility threshold (matched MIS scores)[36]



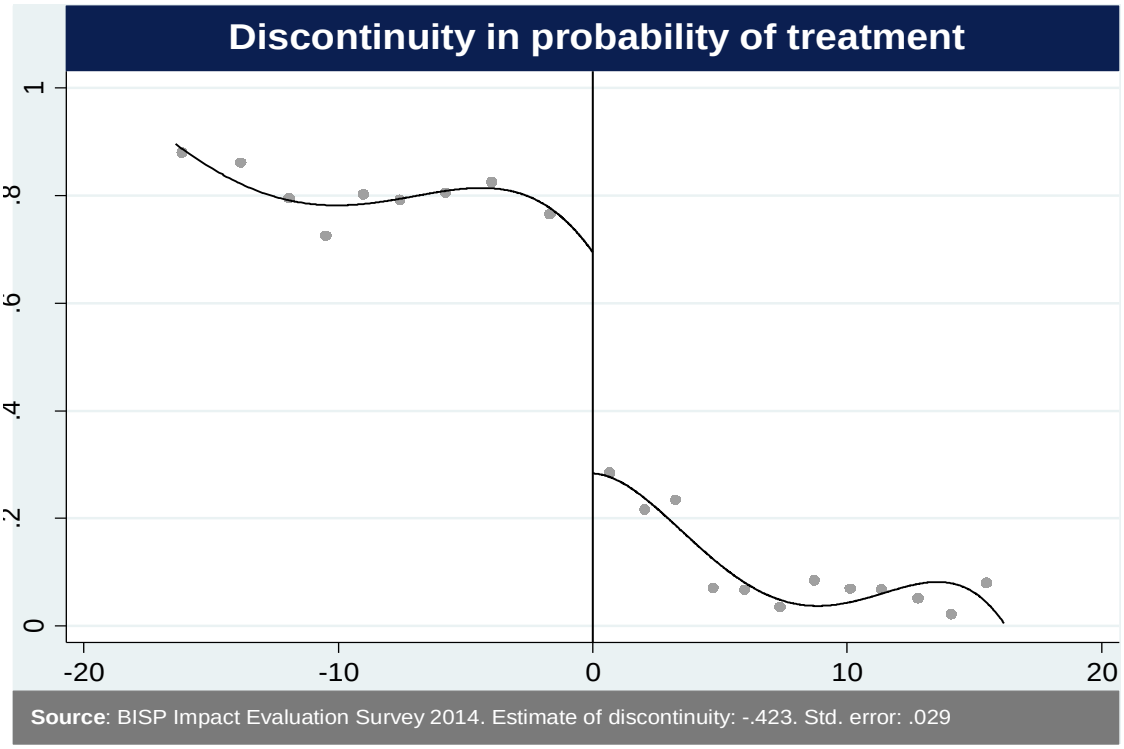
The results of this test suggest that there is a not a statistically significant jump in the marginal density at the eligibility threshold, suggesting that we have satisfied *Assumption 2.*

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 18 presents this analysis.

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

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 18 Discontinuity in probability of treatment[37]



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 28 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 28 Baseline discontinuities

	Optimal bandwidth	Double bandwidth	Half bandwidth
Household composition			
Household size	-0.0273	0.202	-0.419

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

	Optimal bandwidth	Double bandwidth	Half bandwidth
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
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. Although the main body of the this report describes the estimate of impact at a bandwidth of ± 5 points around the eligibility threshold Annex B presents the sensitivity of this result to a range of bandwidths
- 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 B we report the estimate of the discontinuity at a point ±1 away from the eligibility threshold.

Table 29 RD table: Household consumption expenditure and poverty

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Mean household consumption expenditure per adult equivalent																
Pakistan	137	156	150	141	142	143	144	144	135	124	113	102	1,235	1,370	0.7388	0.7388
Punjab	231	262	259	271	273	269	275	284	287	286	281	277	508	462	0.5499	0.5499
Sindh	343	324	266	195	182	179	171	174	158	136	115	96	342	435	0.5348	0.5348
KP	-203	-161	-114	-92	-61	-40	-33	-45	-49	-57	-65	96	260	426	0.6109	0.6109
Proportion of population below poverty line																
Pakistan	-18*	-19*	-19*	-19*	-18**	-18**	-19**	-18**	-18**	-17**	-16**	-15**	1,235	1,370	0.9159	0.9159
Punjab	-25	-27*	-28*	-28*	-27	-26*	-26*	-26*	-25*	-24*	-23*	-22*	508	462	0.5590	0.5590
Sindh	-19	-21	-20	-19	-20	-20	-20	-20	-20	-19	-18	-17	342	435	0.2767	0.2767
KP	-7	-6	-6	-6	-7	-7	-7	-7	-7	-6	-5	-17	260	426	0.6230	0.6230
Mean household consumption expenditure per adult equivalent (pre-ramadan sample)	184	192	171	149	144	140	131	124	112	98	85	74	1,063	1,135	0.6113	0.6113

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of population below poverty line (pre-ramadan sample)	-15	-16*	-16*	-16*	-16*	-17*	-17*	-17*	-16*	-15*	-14*	-13*	1,063	1,135	0.7375	0.7375

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 30 RD: table: Household food consumption

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Mean household food consumption expenditure per adult equivalent																
Pakistan	130	144	149	147	151*	152*	154*	150*	141*	132*	123*	113*	1,235	1,370	0.8104	0.8104
Punjab	252	271*	269*	272*	271*	261*	254*	2498	239*	229*	217*	205*	508	462	0.4455	0.4455
Sindh	141	148	138	114	117	125	129	132	124	113	103	95	342	435	0.2684	0.2684
KP	-155	-131	-102	-88	-62	-41	-23	-24	-25	-30	-37	95	260	426	0.9326	0.9326
Food consumption score	1.5	1.2	1.0	0.8	1.1	1.2	1.3	1.3	1.1	1.1	1.0	0.9	1,235	1,370	0.5585	0.5585
Number of days the following consmued																
Wheat	0.30	0.19	0.11	0.03	-0.01	-0.04	-0.06	-0.06	-0.08	-0.09	-0.10	-0.11	1,235	1,370	0.5838	0.5838
Rice	0.02	0.04	0.08	0.11	0.13	0.16	0.17	0.15	0.14	0.14	0.12	0.10	1,235	1,370	0.9310	0.9310
Maize	0.13	0.13	0.13	0.12	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.06	1,235	1,370	0.8778	0.8778
Fruit	0.77*	0.71*	0.63*	0.54*	0.49*	0.45	0.41	0.37	0.33	0.30	0.28	0.26	1,235	1,370	0.5448	0.5448
Mutton	0.13	0.13*	0.13*	0.13*	0.13*	0.13*	0.13*	0.13**	0.13**	0.12**	0.12**	0.11**	1,235	1,370	0.6718	0.6718
Beef	-0.12	-0.15	-0.17	-0.18	-0.08	-0.03	0.00	0.01	-0.01	-0.01	-0.02	-0.03	1,235	1,370	0.5024	0.5024
Chicken	0.63	0.68	0.71	0.74	0.76	0.77	0.79	0.79	0.77	0.76	0.75	0.73	1,235	1,370	0.5890	0.5890
Fish	0.00	-0.02	-0.03	-0.03	-0.01	0.00	0.01	0.02	0.03	0.03	0.04	0.04	1,235	1,370	0.7951	0.7951
Milk	-0.18	-0.16	-0.10	-0.09	-0.09	-0.09	-0.08	-0.09	-0.11	-0.11	-0.11	-0.11	1,235	1,370	0.5532	0.5532
Egg	0.78	0.72	0.66	0.59	0.55	0.50	0.47	0.44	0.42	0.41	0.39	0.37	1,235	1,370	0.5095	0.5095

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Mean household food consumption expenditure per adult equivalent (pre-ramadan sample)	163	164	157	144	141	137*	133*	125*	114*	104*	95	87	1,063	1,135	0.6611	0.6611
Food consumption score (pre-ramadan sample)	-2.1	-2.3	-2.3	-2.2	-1.4	-1.1	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	1,235	1,135	0.6230	0.6230

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 31 RD table: Child nutrition

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of children aged 0-59 months stunted																
Male	-1.6	-1.4	-1.1	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.2	-1.1	-1.1	740	959	1	1
Female	-4.6*	-4.4*	-4.1*	-3.9*	-3.8*	-3.8*	-3.8*	-3.7**	-3.7**	-3.7**	-3.7**	-3.7**	730	879	1	1
Proportion of children wasted aged 0-59 months wasted																
Male	0.5	0.3	0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5	740	959	0	0
Female	2.8	2.7	2.5	2.1	1.6	1.2	1.1	0.8	0.6	0.4	0.3	0.3	730	879	1	1

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 32 RD table: Women's empowerment

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of women who report that they never vote																
Pakistan	-19.2**	-19.5**	-20.0**	-20.9***	-20.7***	-20.2***	-19.8***	-19.1***	-18.2***	-17.3***	-16.7***	-16.1***	1,099	1,379	0.7643	0.7643
Punjab	-31.4**	-31.5**	-30.9**	-31.4**	-31.5**	-30.8***	-30.5***	-30.1***	-29.2***	-28.4***	-28.3***	-28.1***	412	418	0.9481	0.9481
Sindh	-5.1	-6.4	-7.4	-8.1	-7.4	-6.0	-4.8	-3.8	-2.9	-2.1	-1.5	-1.0	284	472	0.5443	0.5443
KP	-22.1	-23.4	-26.1	-28.2	-28.1	-28.1	-27.6	-26.5	-24.3	-22.7	-20.9	-19.0	253	432	0.5335	0.5335
Proportion of women who report that they can easily access…																
PKR 50	8.3	8.3	8.7	8.8	9.3	9.7	10.2	10.6	9.9	9.3	9.3	9.3	1,099	1,379	0.7522	0.7522
PKR 100	14.	15.2*	16.1*	15.8*	16.4*	16.9*	17.2**	17.3**	16.8**	15.9**	15.5**	15.2**	1,099	1,379	0.7666	0.7666
PKR 200	26.0**	27.5**	29.0***	28.5***	29.5***	29.9***	30.0***	29.7***	28.8***	28.0***	27.5***	27.0***	1,099	1,379	0.7864	0.7864
PKR 400	35.0***	36.1***	36.9***	36.0***	36.0***	35.7***	35.5***	34.6***	32.7***	30.9***	29.6***	28.5***	1,099	1,379	0.7575	0.7575
PKR 600	18.0	20.5**	22.6**	23.5**	24.5**	25.0**	25.2***	24.8***	23.9***	23.0***	22.4***	21.8***	1,099	1,379	0.7569	0.7569
PKR 800	11.5	13.1	14.8	16.2	17.5	18.3*	18.7*	18.5**	17.8**	17.2**	17.0**	16.7**	1,099	1,379	0.7571	0.7571
PKR 1,000	10.0	11.7	13.2	14.4	15.5	16.0	16.2	15.9	15.2	14.6	14.2	13.8	1,099	1,379	0.7579	0.7579

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 33 RD table: main income source

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of households by main livelihood source																
Salary	-2.9	-2.1	-0.9	-0.4	0.5	1.4	2.1	2.7	2.9	3.1	3.1	2.8	1,235	1,370	0.4807	0.4807
Casual Labour	-10.3	-9.9	-9.6	-8.8	-8.3	-8.1	-7.7	-7.7	-7.5	-6.9	-6.8	-6.7	1,235	1,370	0.8850	0.8850
Trading	-5.2	-5.0	-4.7	-4.5	-4.5	-4.7	-4.7	-4.7	-4.7	-4.7	-4.4	-4.1	1,235	1,370	0.8865	0.8865
Cash crop	-1.7	-2.1	-2.4	-2.7	-2.8	-2.8	-2.7	-2.5	-2.5	-2.4	-2.2	-2.0	1,235	1,370	0.5418	0.5418
Food Crop	7.7	7.2	6.2	5.6	5.0	4.3	3.9	3.3	3.1	2.8	2.5	2.2	1,235	1,370	0.5216	0.5216
Small business	5.4	5.3	4.7	4.0	3.0	2.6	2.1	1.9	1.9	1.8	1.7	1.9	1,235	1,370	0.5086	0.5086

Remittance	5.1	5.0	5.0	5.1	5.4	5.6	5.4	4.8	4.5	4.2	3.9	3.8	1,235	1,370	0.6351	0.6351

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 34 RD table: Labour

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of working age adults (18-64) engaged in economically productive activties																
Male	-19.7**	-18.6**	-17.1*	-15.2*	-12.9	-11.3	-10.7	-10.3	-9.5	-8.8	-8.5	-8.1	2,283	2,366	0.7680	0.7680
Female	-5.2	-5.8	-5.4	-5.3	-4.8	-4.4	-4.2	-3.8	-3.4	-3.4	-3.3	-3.2	2,455	2,615	0.7734	0.7734
Proportion of working age men (18-64) who are engaged in….																
Self-employed	19.1*	17.5*	15.3*	13.1*	10.7	9.0	7.6	6.5	5.4	4.4	3.6	3.1	2,283	2,366	0.7087	0.7087
Employee	5.3	5.0	4.6	4.6	4.5	4.4	4.5	4.9	5.3	5.6	5.6	5.6	2,283	2,366	0.7435	0.7435
Unpaid family helper	-4.0	-3.3	-2.9	-2.3	-1.7	-1.3	-1.0	-0.7	-0.8	-0.9	-0.8	-0.6	2,283	2,366	0.8067	0.8067
Casual labourer	-28.0**	-26.2**	-23.1*	-19.9*	-16.7	-15.3	-14.7	-14.8	-14.3	-13.8	-13.4	-13.5	2,283	2,366	0.9402	0.9402
Owner-cultivator	2.3	2.1	1.6	1.3	1.3	1.6	2.0	2.4	3.0	3.4	3.7	4.0	2,283	2,366	0.8839	0.8839
Share-cropper	-3.8	-3.9	-4.2	-4.7	-5.4	-5.7	-5.5	-5.2	-4.7	-4.5	-4.2	-3.9	2,283	2,366	0.9063	0.9063
Proportion of working age women (18-64) who are engaged in….																
Self-employed	-0.3	-2.2	-2.5	-2.7	-3.5	-5.2	-6.0	-6.7	-6.1	-5.4	-4.5	-3.6	2,455	2,615	0.6777	0.6777
Employee	1.8	5.2	8.7	11.9	12.6	11.7	9.9	7.8	6.6	6.2	6.1	6.1	2,455	2,615	0.6676	0.6676
Unpaid family helper	-11.5	-11.6	-12.0	-12.1	-10.9	-9.9	-8.9	-8.1	-8.1	-8.2	-8.6	-9.1	2,455	2,615	0.7087	0.7087
Casual labourer	29.7	27.9	24.6	20.7	17.9	18.0	18.5	19.2	18.6	17.4	16.3	15.3	2,455	2,615	0.7375	0.7375
Owner-cultivator	6.2	6.5	6.7	6.2	5.4	4.8	4.5	4.2	4.0	3.9	3.8	3.8	2,455	2,615	0.9779	0.9779
Share-cropper	-14.6	-13.2	-12.0	-10.9	-9.8	-8.8	-8.3	-7.8	-7.5	-7.2	-7.0	-6.7	2,455	2,615	0.7183	0.7183

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 35 RD table: Livestock

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of households that own livestock																
Pakistan	15.4*	15.5*	16.3*	15.8*	15.2*	14.5*	14.2*	13.6*	12.3*	11.5*	11.1*	11.0*	1,235	1,370	0.6380	0.6380
Punjab	21.5	22.3*	23.6*	24.2*	23.8*	23.3*	22.7*	22.0*	21.3**	21.0**	20.6**	20.2**	508	462	0.7177	0.7177
Sindh	-2.2	-3.5	-2.7	-3.0	-3.1	-2.8	-1.8	-1.2	-1.1	-0.8	-0.3	0.2	342	435	0.8861	0.8861
KP	-7.5	-5.5	-4.2	-3.7	-2.9	-2.4	-1.5	-1.0	-1.8	-1.9	-1.4	-0.6	260	426	0.4164	0.4164
Mean value of livestock (Tropical Livestock Unit)																
Pakistan	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1,235	1,370	0.7795	0.7795
Punjab	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	508	462	0.7744	0.7744
Sindh	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	342	435	0.8709	0.8709
KP	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	260	426	0.4124	0.4124

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 36 RD table: Finance

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of household with savings																
Pakistan	2.73	3.04	3.15	3.17	3.36	3.71	4.10	4.78	5.18	5.51	5.90	6.00	1235	1370	0.9038	0.9038
Punjab	4.49	5.15	4.26	3.39	2.65	2.22	2.10	2.41	2.86	3.51	4.18	4.49	508	1370	0.9038	0.9038
Sindh	21.50	21.15	20.48	19.61	19.06	19.60	19.94	20.27	20.07	19.80	19.52	18.92	342	1370	0.9038	0.9038
KP	-14.21	-14.45	-13.91	-13.83	-13.59	-13.97	-13.86	-12.83	-12.24	-11.87	-11.33	-10.72	260	1370	0.9038	0.9038
Proportion of household with current loans																
Pakistan	1.74	0.93	1.42	3.81	6.51	8.50	9.57	10.15	11.10	11.78	12.00	11.94	1235	1370	0.5118	0.5118
Punjab	-5.33	-7.84	-9.95	-10.56	-9.19	-7.80	-7.21	-6.58	-4.66	-2.57	-1.05	0.09	508	462	0.5450	0.5450
Sindh	2.49	-0.73	-1.05	0.09	0.92	1.59	2.27	3.18	4.38	5.14	5.59	6.01	342	435	0.4079	0.4079

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
KP	18.10	21.46	26.14	32.97	38.45	41.68	43.26	42.87	42.04	41.09	39.79	38.16	260	426	0.5396	0.5396
Proportion of household who purchase on credit from shops																
Pakistan	-2.24	-1.31	-1.82	-3.66	-5.61	-6.20	-6.12	-5.87	-6.37	-6.59	-6.56	-6.40	1235	1370	0.5276	0.5276
Punjab	-7.09	-3.30	-0.77	0.87	0.94	1.35	2.28	3.12	3.03	2.38	1.91	1.57	508	462	0.5405	0.5405
Sindh	11.92	14.69	14.60	12.93	12.42	11.77	9.97	7.92	4.39	2.07	0.60	-0.14	342	435	0.6395	0.6395
KP	-14.07	-18.79	-24.69	-31.57	-36.50	-38.67	-38.37	-36.35	-33.96	-31.75	-29.71	-27.90	260	426	0.7022	0.7022

Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Table 37 RD table: Education

	Estimate at Bandwidth												Sample size at bw = 5		p-value of estimate at bw = 5	
	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	NC	NT	Cut-off +1	Cut-off -1
Proportion of children aged 5-9 years old currently attending school																
Male	10.0	9.2	7.9	7.0	7.1	7.6	8.0	8.1	8.5	8.3	7.7	7.0	1,546	2,029	0.8179	0.8179
Female	-8.9	-10.6	-12.9	-13.0	-12.2	-11.4	-11.1	-10.3	-9.1	-8.7	-8.2	-8.2	1,393	1,740	0.7566	0.7566
Proportion of children aged 5-12 years old currently attending school																
Male	2.3	1.7	0.3	-1.0	-0.9	-0.3	0.2	0.5	1.7	2.1	2.0	1.6	2,563	3,326	0.7479	0.7479
Female	-4.1	-6.1	-8.7	-9.2	-8.6	-8.2	-8.2	-7.6	-6.2	-5.7	-5.3	-5.5	2,300	2,916	0.9355	0.9355

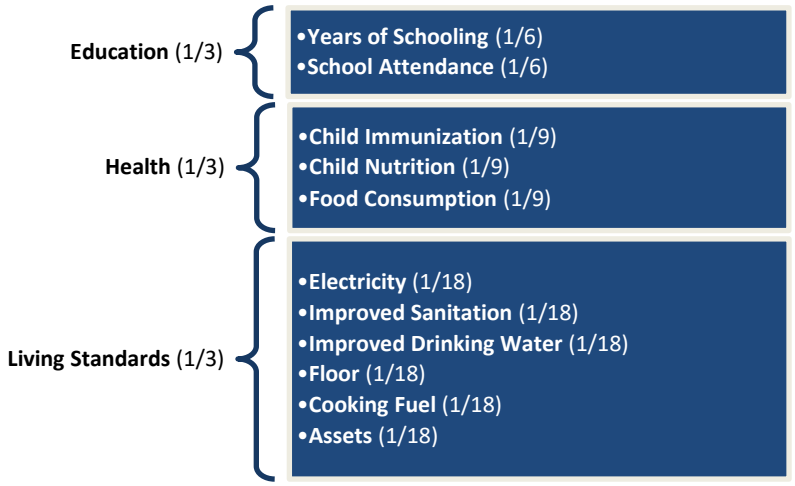
Source: BISP impact evaluation surveys (2011 - 2014). **Notes:** (1) Asterisks (*) indicate that an RD estimate is statistically significant: *** p < .01; ** p < .05; * p < .10. (2) Samples sizes are given for bandwidth of +/- 5 points around the cut-off. (3) NC = sample size control NT = sample size treatment

Annex C Multidimensional Poverty Index (MPI): technical appendix

The methodology for constructing the Multidimensional Poverty Index for BISP beneficiaries was adapted from the Oxford Poverty and Human Development Initiative (OPHI) Global Multidimensional Poverty Index. The Global MPI has been constructed and calculated by OPHI for 108 developing countries using data mostly from the Demographic Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS). The Global MPI is contains ten indicators over three dimensions - Education, Health and Standard of Living – and is constructed to capture a set of direct deprivations that affect an individual or household at the same time. It was constructed through a rigorous technique for multidimensional measurement created by Sabina Alkire and James Foster (the Alkire Foster method)[38].

The MPI presented in this report differs slightly from that developed by OPHI. It contains eleven indicators over the dimensions of Education, Health and Living Standards. Indicated in the diagram below, each dimension is equally weighted and each indicator within a dimension is also equally weighted.

Figure 19 Construction of the BISP MPI



The variations between the MPI constructed for BISP beneficiaries and that used by OPHI are a result of minor discrepancies between the BISP and DHS survey questionnaires. The key differences include:

- A Child Immunization indicator has been substituted for the Child Mortality indicator because data on child mortality was not collected in the BISP survey.
- The Nutrition indicator contains data on child nutrition only, as data on adult nutrition is not available in the BISP survey.
- A Food Consumption indicator has been added to the health dimension to add analytical depth and supplement the indicators on child health with one that applies to adults as well.

Table 38 documents the definitions and weights of each indicator included in the index and indicates where there are differences between the BISP MPI and the OPHI MPI.

[38] More information can be found here: *www.ophi.org.uk/wp-content/uploads/ophi-wp38.pdf*

Table 38 Dimensions of MPI poverty

Dimension	Indicator	Deprived if…	Divergence from OPHI MPI Indicator	Weight
Education	**Years of Schooling**	There no household member who has completed five years or more of schooling.		1/6
	Child School Attendance	There is at least one school-aged child (up to class 8)[39] who is not attending school.		1/6
Health	**Child Immunization**	At least one child in the household between the ages of 20 and 59 months is not fully immunized[40].	Replaces indicator on child mortality.	1/9
	Child Nutrition	Any child for whom there is nutritional information is malnourished[41].	Does not include data on adults.	1/9
	Food Consumption	The household does not have an acceptable level of food consumption (either poor or borderline).	Not included in OPHI MPI.	1/9
Living Standards	**Electricity**	The household has no electricity.		1/18
	Improved Sanitation	The household's sanitation facility is not improved (as defined by the Pakistan Bureau of Statistics)[42].	Sanitation categorised by Pakistan Bureau of Statistics, not the WHO's JMP definitions.	1/18
	Improved Drinking Water	The household does not have access to improved drinking water[43], or safe drinking water is located more than a 30-minute roundtrip from home.		1/18
	Floor	The household's floor is made of dirt, sand, or dung.		1/18
	Cooking Fuel	The household uses dung, wood or charcoal to cook.	Indicator inferred from reported expenditures, rather than a direct question.	1/18
	Assets	The household does not own more than one (combined) of a radio, TV, bicycle, motorbike, or refrigerator, and nor does its members own either a car or a truck.	Telephone not included in list of assets.	1/18

[39] Considered to be between the years of age 5 and 12 in Pakistan.
[40] Children are considered to be fully immunized if they have received both DPT 3 and measles vaccinations.
[41] Children are considered malnourished if their z-score of weight-for-age is below minus two standard deviations from the median of the reference populations. This data exists in the BISP survey for children under 5-years-old.
[42] Based on JMP/ Pakistan Bureau of Statistics, sanitation facilities classified as 'improved' include flush connected either to public sewerage, a pit, or an open drain. A household is considered to have 'unimproved' sanitation facilities if they have a dry raised latrine or dry pit latrine, or there is no toilet in the household.
[43] Water sources classified as 'improved' include piped water, hand pumps, tube wells, and closed wells. 'Unimproved' water sources include open wells, ponds, rivers, springs, and other sources.

Adopted from OPHI's methodology, a person is considered to be multi-dimensionally poor (MPI poor) **if they are deprived in one third or more of the weighted indicators**. The proportion of the population that lies below this poverty threshold represents the incidence of poverty or the headcount ratio (H), and the average proportion of weighted indicators in which those who fall below this threshold are deprived is defined as the intensity of poverty (A).

The overall MPI is computed by multiplying these two indicators (MPA = H x A), and therefore reflects both the share of people in poverty and the degree to which they are deprived. Persons deprived in the range of 20-33.3% of the weighted indicators are considered 'vulnerable to poverty' and those deprived on half or more of the weighted indicators are considered to be in 'severe poverty'.

Although the BISP MPI statistics are reported at the level of the individual (ex. the proportion of individuals who are MPI poor), deprivations are calculated at the household level. As such, an individual is considered to be deprived on an indicator if they live in a household that is deprived on that indicator. For example, if a household has three school age children, two of whom are in school and one of whom is not in school, all members of the household, including the two children who are in school are considered deprived on School Attendance. Some indicators (e.g. School Attendance, Child Immunization and Child Nutrition) are not applicable across households because not all households contain members of the indicator's reference populations (school-aged children or children under 5 years of age, for example). In line with OPHI's methodology, a household is considered not deprived on an indicator in cases where the household does not contain any members of the indicator's reference population.

Annex D Sampling: technical appendix

D.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)**[44] 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.

D.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:

[44] 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:

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

D.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 7,759 households with completed interviews which is presented in Table 39 below.

We estimate an attrition rate of 5.6% since the first follow-up survey conducted in 2013 which is within acceptable international standards. 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 39 BISP impact evaluation 2014 survey sample size

	Total completed Interviews	Refused	Non-contact	Total attempted interviews	Baseline sample size	Follow-up 1 sample size	Attrition rate since FU1
Punjab	2,819	79	152	3,050	3,162	3,017	6.6%
Sindh	2,254	76	125	2,455	2,334	2,327	3.1%
KPK	1,831	22	108	1,961	2,054	1,908	4.0%
Balochistan	855	25	115	995	1,125	969	11.8%
Total	***7,759***	***202***	***500***	***8,461***	***8,675***	***8,221***	***5.6%***

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 such as age, sex and possession of a CNIC are statistically significant determinants of the likelihood of response.

A commonly used approach to demonstrate whether non-response is indeed non-random is to compare the baseline means of various household characteristics across responders and non-responders and to test for statistically significant differences in each variable individually. *Bruhn and McKenzie (2008)* present a discussion of why this is often not a sensible approach. In particular it is wrong to infer from a lack of statistical significance that the variable in question did not affect the outcome of interest, since a small imbalance in a variable highly correlated with the outcome of interest can be far more important than a large and significant imbalance in a variable uncorrelated with the outcome of interest. Furthermore tests on individual variables might reveal that none are individually significant, but if differences are all in the same direction then responders and non-responders may still be systematically different from each other.

As such we check balance between responders and non-responders through a joint orthogonality test. Such a test investigates whether all variables are jointly different across responders and non-responders. To perform this test we run a probit regression of response to the 2014 survey on a set of household characteristics, in the model presented in Table 40. We then test the joint hypothesis that the coefficients on each variable included in the probit regression are jointly equal to zero.

This is tested through a chi-squared test. If we reject the null-hypothesis then we can say that there are non-random differences between responders and non-responders. The results of this test are presented in the last row of Table 40, which suggests that there are non-random differences between responders and non-responders.

Table 40 Test of balance between responders and non-responders: results

Dependent variable: response in 2014 survey	Results of probit model for full baseline sample
Sex of household head	0.002*
	(0.00)
CNIC Possession of household head	0.002*
	(0.00)
Age of household head	0.005*
	(0.00)
Number of ever married women	-0.047
	(0.05)
Household Size	0.020
	(0.02)
Total per adult equivalent monthly consumption expenditure	-0.000
	(0.00)
Main source of income casual labour	0.001
	(0.00)
Beneficiary status	-0.003**
	(0.00)
Household has flush toilet	0.002
	(0.00)
Household has fridge, freezer, washer	0.001
	(0.00)
Household has cooker	-0.002
	(0.00)
Household has air cooler	-0.000

Dependent variable: response in 2014 survey	Results of probit model for full baseline sample
	(0.00)
Household has TV	0.001
	(0.00)
Household has motorcycle	-0.000
	(0.00)
Household has cow	-0.001
	(0.00)
Household has agricultural land	0.001
	(0.00)
Punjab	0.001
	(0.00)
Sindh	0.005***
	(0.00)
Khyber Pakhtunkhwa	0.003**
	(0.00)
Urban	-0.003*
	(0.00)
Constant	-0.046
	(0.32)
N	8675.000
p-value on chi-squared test	0.0002
Notes: (1) * p<0.05 ** p<0.01 *** p<0.001; (2) Standard error in parentheses	

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

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

Annex E 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 0of 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 F 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:

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

F.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.

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

F.3 Poverty line

To calculate the headcount rate or proportion of households that live in poverty once must calculate the proportion of households that live below the poverty line. The poverty line in Pakistan is set such that it allows household sot consume a basic basket of goods. To calculate the poverty line we have used the poverty line set by the Pakistan Bureau of Statistics, adjusted for inflation. The relevant poverty line for this evaluation is PKR 1,822.

Annex G RD provides Local Average Treatment Effect

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**[45]**,** 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.

Table 41 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 41 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.

Table 41 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

[45] Table 28 in Annex A presents the baseline discontinuities to demonstrate internal validity

	Average of all beneficiaries in sample	Average of beneficiaries in RD treatment sample (bw +/-5)
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[46] 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 42 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 42 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 BISP MIS, when it is considered that amongst the poorest 10% of households in Pakistan[47] 5% own motorcycles and 28% own TVs suggesting a certain level of underreporting in the BISP MIS.

[46] 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.
[47] As per PSLM 2008/09, with the poorest 10% of households measured by per adult equivalent consumption expenditure

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.

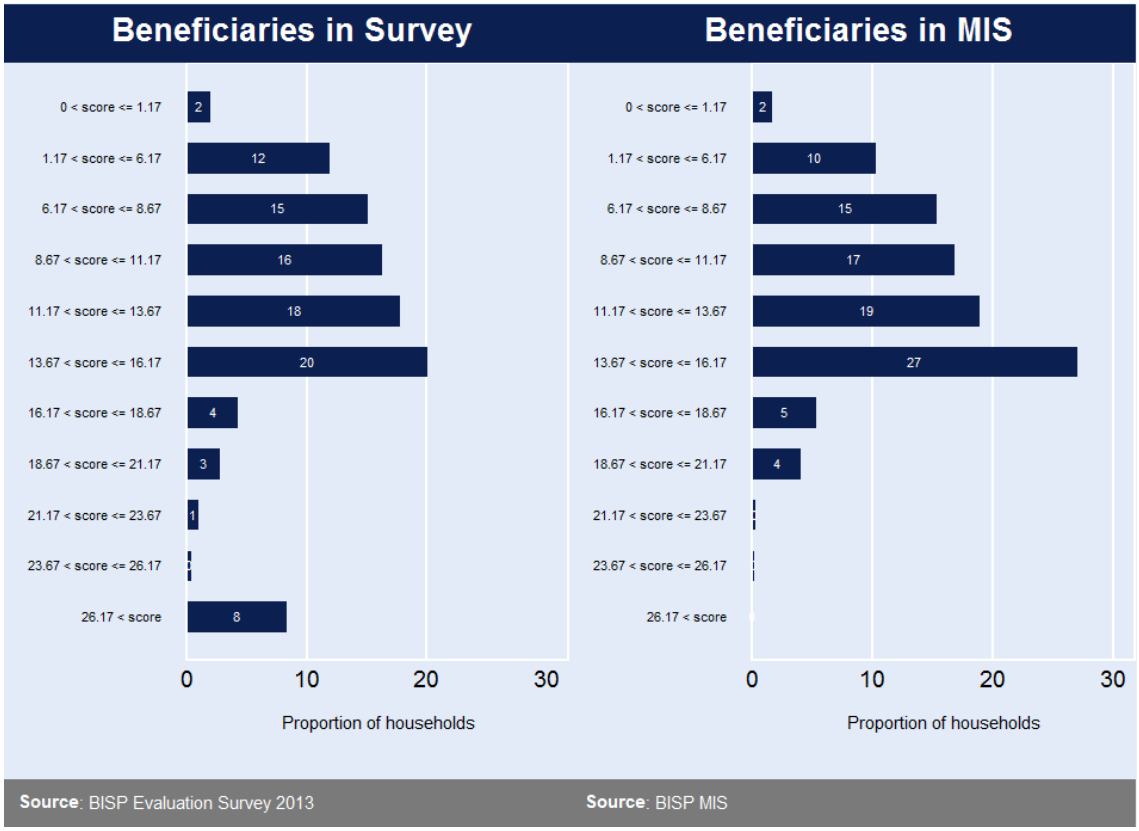
It is difficult to make a concrete conclusion on the basis of the limited information available, but Table 42 suggests that the evaluation sample of beneficiaries is slightly more educated and may have slightly higher levels of welfare has proxied by their asset ownership. Differences between the evaluation 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 20 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[48] 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.

Figure 20 Distribution of poverty score comparing survey to administrative data



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

Annex H Districts visited for quantitative survey

Table 43 Districts visited for quantitative survey

Province	District
Punjab	ATTOCK
	BAHAWALNAGAR
	BHAKKAR
	BHAWALPUR
	CHAKWAL
	D.G.KHAN
	FAISALABAD
	GUJRANWALA
	GUJRANWALA CANTT
	GUJRAT
	HAFIZABAD
	ISLAMABAD
	JHANG
	JHELUM
	KASUR
	KHANEWAL
	KHUSHAB
	LAHORE
	LODHRAN
	MANDI BAHAUDDIN
	MUZAFFARGARH
	NAROWAL
	OKARA
	R.Y. KHAN
	RAJANPUR
	RAWALPINDI
	SAHIWAL
	SARGODHA
	SHEIKHUPURA
	SIALKOT
	T.T.SINGH
	VEHARI
Sindh	BADIN
	DADU
	GHOTKI
	HYDERABAD
	JACOBABAD
	KARACHI CENTRAL
	KARACHI EAST
	KARACHI SOUTH
	KARACHI WEST
	KHAIRPUR
	LARKANA

Province	District
	NAUSHAHRO FEROZE
	NAWABSHAH
	SHIKARPUR
	SUKKUR
	THATTA
Khyber Pakhtunkhwa	ABBOTTABAD
	BANNU
	BUNER
	CHARSADA
	CHITRAL
	D.I.KHAN
	HARIPUR
	KOHAT
	KOHISTAN
	LOWER DIR
	MALAKAND AGCY
	MALAKAND PROTECTED AR
	MANSEHRA
	MARDAN
	NOWSHERA
	PESHAWAR
	SHANGLA
	SWABI
	SWAT
	UPPER DIR
Balochistan	BARKHAN
	BOLAN/KACHHI
	CHAGHI
	JAFFARABAD
	JHAL MAGSI
	KALAT
	KHARAN
	KHUZDAR
	KILLA ABDULLAH
	KOHLU
	LASBELA
	LORALAI
	MASTUNG
	NASIRABAD/TUMBO
	PISHIN
	QUETTA
	SIBI
	ZHOB
	ZIARAT